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| Abstract | <p>Corporate social responsibility (CSR) involves activities carried out by businesses based on the principles of transparency, ethical, moral and environmental values. Despite the growing interest in this area of study, there is no universally recognised definition, which, in turn, affects the measuring of these activities. The aim of this research is to analyse the dimensions of CSR, through a valid and trustworthy measuring scale of co-operativism in Ecuador. The research questionnaire was developed from the theoretical analysis of the construct and it was given to 2042 individuals, among them managers, employees and members of Ecuadorian co-operatives. In order to determine and evaluate the factorial structure, convergent validity and to discriminate the measuring scale, an exploratory and confirmatory factorial analysis was conducted with covariance-based structural equation modeling (CB-SEM). The results show that the suggested scale is reliable and consistent with the pursued goals. In this sense, and in relation to the viability of the factorial analysis performed, 86.2% of the correlations have a score greater than 0.3. Because of this, it can be confirmed that CSR can be measured in the four dimensions analysed: Economic, Legal, Ethical and Philanthropic.</p> | |
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1 ORIGINAL RESEARCH



2 **Analysis of the Dimensions of Corporate Social**
3 **Responsibility: Study Applied to Co-operativism in Ecuador**

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8 **Abstract**

9 Corporate social responsibility (CSR) involves activities carried out by businesses based
10 on the principles of transparency, ethical, moral and environmental values. Despite the
11 growing interest in this area of study, there is no universally recognised definition, which,
12 in turn, affects the measuring of these activities. The aim of this research is to analyse
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22 can be confirmed that CSR can be measured in the four dimensions analysed: Economic,
23 Legal, Ethical and Philanthropic.

AQ1

24 **Keywords** Corporate social responsibility · Measuring scale · Co-operativism · Ecuador

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25 1 Introduction

26 In recent years, Corporate Social Responsibility (CSR) has taken on a special relevance in
27 the management of businesses on a global level. This interest has developed in businesses
28 as well as in the field of research (Dahlsrud 2008; Fernández-Feijoo et al. 2014; Aguinis
29 and Glavas 2012; Kolk 2016) and involves the current business managers and leaders con-
30 sidering the assessment of the legal, ethical, moral and social consequences of their deci-
31 sions (Montazeri et al. 2017). The organisations will be those responsible, not only for
32 the supply of goods and services but also for satisfying the needs of internal and external
33 interest groups, as well as ensuring that their operations do not harm future generations
34 (De Witte and Jonker 2006). This reality is no different for the co-operative sector, given
35 that its performance is guided by values such as mutual assistance and interest in the com-
36 munity (Bollas-Araya and Seguí-Mas 2014). Accordingly, it works on the premise that the
37 maximisation of value does not only come from wealth but also from the simultaneous
38 creation of social and economic value.

39 The co-operative sector on a global level has homogeneous financial structures with less
40 financial profitability but, at same time, with fewer risks than traditional commercial com-
41 panies, as a result of the resilience of its organisational model (Challita et al. 2014). For
42 its part, CSR contributes to the notoriety of a business in the market and the growth of its
43 competitiveness while, at the same time, favouring the creation of conditions for sustain-
44 able social and economic development (Dyczkowska 2015), which is also considered to be
45 a very valuable management instrument from a strategic perspective (Porter and Kramer
46 2007).

47 Much academic work has developed their theories regarding CSR in different publica-
48 tions (Wan-Jan 2006; Dahlsrud 2008; Wood 2010; Schrepf-Stirling et al. 2016; Jamali
49 and Karam 2018). However, in the face of a lack of a generally-accepted definition of CSR,
50 Alamer et al. (2015), have suggested a classification of the construct in two general schools
51 of thought. The first bases its approach on the maximisation of earnings within the law,
52 with minimal ethical restrictions (Levitt 1958; Friedman 1968); while the second, where
53 we can categorise the co-operatives, stresses the obligations towards the company (Bowen
54 1953; Carroll 1979, 1998, 1999, 2000; Schwartz and Carroll 2003). Other authors, such
55 as Aguinis and Glavas (2012), mention that the challenge for every business is not under-
56 standing the definition but determining how to socially consolidate it within a specific con-
57 text and how to bear this in mind when developing business strategies.

58 Although co-operatives are a type of social organisation and CSR is based on principles
59 generally aimed at the ethical and responsible management of an organisation, it is certain
60 that both are guided by a common social and humanist aim. Because of this, CSR in the
61 popular and solidary economy can be understood as a way to give the required compliance
62 to a large part of the co-operative principles (Uski et al. 2007). These principles for per-
63 formance state that the management of the organisation should be social, where aspects of
64 transparency, democratisation, co-operation and environmental management, among oth-
65 ers, prevail (Fernández et al. 2018). All of this leads us to analyse whether the bases of the
66 CSR are inherent or parallel to the social management of co-operatives.

67 In this context, literature regarding CSR suggests that one of the most important and
68 most difficult tasks is the measuring of its dimensions (Orlitzky et al. 2003; Alvarado-Her-
69 rera et al. 2017). Given that CSR is a complex and multi-dimensional concept, there arises
70 the need to determine if each dimension is quantifiable and appropriate for the type of
71 organisation (Ehsan et al. 2018). Because of this, some research has tried to offer emerging

72 models which reflect social corporate performance, from different perspectives and dimen-
73 sions (Amini and Dal Bianco 2017). For their part, Porter and Kramer (2007) emphasise
74 that the most effective models for measuring begin by considering the social questions
75 directly relevant to business activity.

76 In this case, it is considered appropriate to conduct a study of CSR in the specific area
77 of co-operativism in Ecuador, given the importance of the study of these practices in spe-
78 cific sectors of the social economy, specifically in developing countries (Lund-Thomsen
79 et al. 2016; Fernández et al. 2017; Jamali and Karam 2018), with a serious lack of research
80 in this area. Co-operatives form an important part of the popular and solidary economy on
81 a global level, thus these organisations generate partial or total employment of 250 mil-
82 lion people in the world and invoice around 2.2 trillion dollars per year (Roelants et al.
83 2014). Because of this, it is stressed that these institutions require a generic measuring
84 scale for their CSR practices, in which the particularities of each one of them is included
85 (Ehsan et al. 2018). In Ecuador, the co-operatives are subject to the official control of the
86 Superintendence of Popular and Solidary Economy, which classifies them into two groups:
87 (1) financial types, sub-divided, by segments 1 to 5, in accordance with its amount of capi-
88 tal; and (2) non-financial, which considers the wide range of groupings by activities, these
89 being: services, production, housing and consumption.

90 With this idea as a starting point, the main goal of this research is to develop the scien-
91 tific knowledge regarding CSR and analyse the dimensions that form it, through the valida-
92 tion of an instrument which allows us to measure their social performance in the co-oper-
93 ativism of Ecuador. This scale corresponds to the adaptation of the dimensions by Carroll
94 (1979), the same which have been considered by diverse authors (among others, Lee et al.
95 2013; Kim et al. 2016; Montazeri et al. 2017). To achieve this goal, this article is divided
96 into five main sections, in addition to this introduction. In this way, the literature review
97 begins, which constitutes the fundamental basis for focusing this research area; the second,
98 presents the methodology referring to the field work and the measuring scale; continuing
99 with the results and their discussion and, ending with the final section, through the conclu-
100 sions which frame the main advances of the study and the future lines of research.

101 2 Matherial and Methods

102 2.1 Survey Design

103 The aim of this research is to advance the scientific knowledge of CSR and, in turn, iden-
104 tify and validate its dimensions and measuring instrument, specifically, in the co-operatives
105 of Ecuador. To comply with this aim, a quantitative analysis was conducted to measure the
106 perception of the internal and external stakeholders (with different functions and roles),
107 regarding the introduction of CSR in these businesses of the Ecuadoran social economy.

108 Aggregate data and simple language was used for the surveyees, for the purposes of
109 determining the application of the construct and the dimensions that are being researched,
110 which allows for the comparative analysis to be conducted or for the monitoring of long-
111 term results to be done. During the design of the research questionnaire, it was initially
112 reviewed by experts in the study area. The survey used questions with yes/no type answers,
113 questions with open and closed answers and questions which used a Likert scale of 5
114 points.

115 2.2 Data Collection

116 The questionnaire was carried out by a team of researchers from the Eloy Alfaro Lay Univer-
117 sity of Manabí in Ecuador. Beforehand, the pre-selection of surveyors who did the field work
118 was conducted and they were given training. This training dealt with the application strate-
119 gies and the criteria for validating the information received. Afterwards, selection tests were
120 applied to validate the knowledge received and choose only those people considered ideal for
121 the intended survey.

122 The research instrument was prepared in Spanish and the answers were obtained through
123 visits co-ordinated with the previously identified stakeholders. The application period of the
124 questionnaires was between the 1st of February and the 15th of March 2018. The estimated
125 time to complete the questionnaire was 20 min, with the surveyees being informed beforehand
126 of what the study was looking for, as well as the importance of the results. For representative-
127 ness in the research, a sample by quotas in terms of the financial co-operatives and the sec-
128 tors of the non-financial co-operatives was used, in accordance with the grouping provided by
129 the Superintendence of Popular and Solidary Economy, a public organism belonging to the
130 Function for Transparency and Social Control of the Ecuadorian government. It was not strati-
131 fied by sex, age, education, nationality or any other variable as there were no previous studies
132 which supported this stratification. A total of 2137 surveys were collected, of which only 95
133 (4.4%) were rejected due to incomplete or absent data.

134 2.3 Sample and Sampling Error

135 The specific framework of this research focuses on the stakeholders of the co-operatives in
136 Ecuador, with the population that is the subject of this study consisting of 6,509,311 indi-
137 viduals (data from the 31st of December 2017, according to the Superintendence of Popular
138 and Solidary Economy), which includes registered members who, in turn, in these institutions,
139 have multiple roles (member, employee, manager, provider, customer/user or member of the
140 board of directors or surveillance). The final sample was composed by 2042 individuals. Con-
141 sidering the previously-supplied data, the error sample reaches 2.2% for a confidence level of
142 95%. In Table 1, the characterisation of the sample is presented.

143 2.4 Data Analysis

144 For the statistical tabulation and handling of the data resulting from the research, the SPSS
145 v23 and Amos Graphics v23 software programmes were used, where the statisticals were
146 determined in order to evaluate the consistency, trustworthiness and validity of the question-
147 naire applied. This analysis was completed in two parts: first, an exploratory factorial analy-
148 sis was completed, to determine the number of correlations that are presented in the measur-
149 ing scale provided and, this way, collect the dimensions that each variable tries to explain.
150 Afterwards, an analysis was done on the confirmatory factor analysis which presents structural
151 equations to confirm the adaptation of the model proposed.

Table 1 Sample characteristics.
Source: Own elaboration

| Variable | N | % | Mean (SD) |
|--|-------|------|-------------|
| Age | | | 37.7 (10.9) |
| Sex | | | |
| Woman | 714 | 35.0 | |
| Man | 1328 | 65.0 | |
| Education | | | |
| Post-compulsory secondary education or lower | 1084 | 53.1 | |
| Professional technician | 246 | 12.0 | |
| Diploma | 94 | 4.6 | |
| Degree | 574 | 28.1 | |
| M.Sc. or Ph.D. | 44 | 2.2 | |
| Internal stakeholder | | | |
| Shareholder | 726 | 35.5 | |
| Employee | 1.199 | 58.7 | |
| Manager | 56 | 2.7 | |
| Shareholder and employee | 53 | 2.6 | |
| Shareholder and manager | 10 | 0.5 | |
| External stakeholder | | | |
| Provider | 106 | 14.5 | |
| Customer/user | 537 | 73.6 | |

152 3 Theory

153 CSR involves activities that go beyond the legal framework and economic profit, requiring
 154 the achievement of long-term objectives in accordance with society and the environment
 155 (Baumgartner 2014; Mohr et al. 2015), as well as the management of reports for regulatory
 156 and stakeholder institutions (Braum and Peeters 2017). Because of this, on many occasions,
 157 leaders/managers tend to confuse it with the idea of sustainability development (Sarvaiya
 158 and Wu 2014), given that both are wide-ranging and multi-dimensional constructs, whose
 159 difference comes from the temporary vision and environment of application. It could be
 160 considered that CSR is a voluntary compromise of immediate application to satisfy the
 161 needs of stakeholders, while sustainability development has a long-term perspective, even
 162 considering the preservation of the planet, in such a way that the resources of future gen-
 163 erations can be protected (Baumgartner and Rauter 2017). This is how it has been argued
 164 that the meaning of CSR differs in relation to the type of business and its stakeholders
 165 (Campbell 2007), by which literature regarding this construct indicates the inconsistency
 166 in the application of the term (Gárriga and Melé 2004) and, in the absence of a universal
 167 definition, the multiple debates regarding its importance have given place to consider the
 168 measuring of its dimensions as one of the most difficult and necessary aspects to address
 169 (Nicolassi et al. 2014).

170 As has been indicated, measuring CSR continues to be a challenge due to the lack
 171 of unanimity in relation to the practices recommended by the organisations (Gallardo-
 172 Vázquez and Sanchez-Hernandez 2014). In this sense, a considerable increase in empiri-
 173 cal studies that try to explain the relationship between socially-responsible activities

174 and long-term business results has been observed (Godfrey et al. 2009). The pioneer-
175 ing work in this field developed measuring scales based on the annual reports of large
176 American businesses (Abbott and Monsen 1979; Ullman 1985), however the data pub-
177 lished in business reports may be different to the activities that were actually under-
178 taken (McGuire et al. 1988). In this case, many researchers have focused their study on
179 measuring the CSR, with the purpose of having instruments which help to quantify the
180 social activities of the businesses and the relationship, in general terms, regarding their
181 sustainable economic results (Orlitzky et al. 2003; Hopkins 2005; Turker 2009; Saeidi
182 et al. 2015; Alvarado-Herrera et al. 2017). As such, the matter of whether there is a pos-
183 itive, negative or neutral association between CSR practices and economic performance
184 is a crucial one (Nicolassi et al. 2014), but given that the socially-responsible activities
185 cover many aspects, the implementation of tools which combine the economic part with
186 the legal and social part becomes essential (Amor-Esteban et al. 2018).

187 In an attempt to develop CSR assessment models that include the economic aspects
188 and social management, some businesses have introduced what is known as a Balance
189 Score Card, which helps an organisation define its strategic objectives and their efficient
190 establishment, classified in four perspectives: financial, customer, process and growth
191 (Kaplan and Norton 1996). In any case, this model is weak in relation to the quantifi-
192 cation of CSR scores, in terms of the qualification procedure as well as the weighting
193 process of the criteria chosen for the study (Panayiotou et al. 2009).

194 Other studies suggest the use of performance indicators such as the Global Reporting
195 Initiative (GRI). This indicator is considered an instrument for disclosing information
196 related to the CSR practices, addressing the vision, strategy, profile, structure of govern-
197 ment and management systems, as well as the three pillars of sustainability: economic,
198 environmental and social. However, Hopkins' (2005) research, which theoretically anal-
199 yses the indicators which allow for the measurement of advances in CSR, within which
200 the study of GRI is done more in-depth, reaches the conclusion that a lack of coherence
201 exists among the indicators which determine the same and the management of the busi-
202 nesses, by which a sufficient model is constituted for the following and assessment of
203 CSR. In this sense, its main weakness comes from simply proposing a reporting frame-
204 work, with this not being enough to offer a whole image of the risks and opportunities
205 that a company may face nor its real value for the interest groups.

206 Similarly, the indicators of Kinder, Lydenberg and Domini are those which tradition-
207 ally use the businesses of Canada and the United States to analyse their socially respon-
208 sible practices (Barnett and Salomon 2012). The results derived from its application
209 support the hypothesis that the CSR and the financial results have a statistically signifi-
210 cant relationship. However, these measuring tools do not include contextual factors that
211 can influence the practices and measuring of CSR, something which is necessary, know-
212 ing that each country or sector has its own social, political, economic and institutional
213 context which should be taken into account in the measuring instrument that is applied
214 (Ehsan et al. 2018).

215 For her part, Claydon (2011) has completed a wide analysis of the different CSR mod-
216 els proposed over the years, the following of which stand out: Carroll's pyramid (1991),
217 the sustainable development model of Aras and Crowther (2009), Visser's CSR 2.0 double
218 helix model (2010) and, finally, a new model called consumer-driven corporate responsi-
219 bility (CDR), developed by the aforementioned researcher. This last model is only focused
220 on fulfilling the needs and expectations of the customers and, through this, obtaining prof-
221 its which help meet the social and environmental responsibilities of the businesses. How-
222 ever, this is considered to be restricted in terms of analysing the practices of CSR in the

223 co-operative sector in particular, considering the different roles that stakeholders have
224 within these organisations in the social economy.

225 The most recent pieces of research (among others, Lee et al. 2013; Kim et al. 2016;
226 Montazeri et al. 2017) propose their own measuring scales, using the theories of Carroll
227 (1979) focused on the multi-dimensionality of CSR or those of Freeman (1984) based on
228 stakeholders, because of this their results are valid with the application of surveys to admin-
229 istrators and workers; considering the most important stakeholders that may be affected or
230 can be seen to be affected by business performances (customers or users). Definitely, the
231 literature review shows the existence of different methods and techniques to conduct the
232 measuring of socially-responsible activities. However, many of these present limitations
233 and, in this case, it is necessary to prepare a scale that allows us to measure CSR from the
234 perceptions of all the stakeholders and that addresses all its dimensions at the same time.

235 In this context, this research has taken the conceptual model of social performance
236 developed by Carroll (1979). In an initial analysis of this model, it may be considered to
237 be somewhat appropriate for the co-operative sector, given its apparent difficulty to explain
238 the complex relationships among the businesses, society and the environment, given that
239 its basis is the economy (Claydon 2011). However, the reality is that the co-operative phi-
240 losophy is consistent with the basic approach of this model, in which a commercial organi-
241 sation responsible is concerned, not only regarding economic demands but also the ethi-
242 cal demands of society. All of this is aligned with co-operatives as in their operations and
243 businesses they should address the needs of their stakeholders (Uski et al. 2007). With this
244 being even more so considering the activities and types of existing co-operatives, which
245 include the financial, consumption and services areas, among others. Definitely, if they
246 truly are non-profit institutions, they should be economically and socially profitable in
247 order to fulfil the principle of fair distribution of profits or surpluses.

248 Additionally, we should highlight the importance that dialogue with stakeholders has
249 when applying CSR strategies (O’Riordan and Fairbrass 2008). In this sense, in co-opera-
250 tives many of the stakeholders have the specific characteristic of playing different internal
251 and external roles at the same time (Gijssels 2009), which may be: member, employee,
252 manager, provider, customer/user or a member of the board of directors or surveillance.
253 For this matter, Montazeri et al. (2017) determine that other models include aspects which
254 cannot be assessed by external users, given that it is difficult for them to obtain information
255 regarding the internal measures that the institution introduces in relation to CSR. All of
256 these arguments support the conclusions of previous research which determine that Car-
257 roll’s model (1979) is adaptable to diverse sectors or types of business (among others, Lee
258 et al. 2013; Kim et al. 2016; Montazeri et al. 2017; Alvarado-Herrera et al. 2017).

259 This model prepares four dimensions of CSR: economic, legal, ethical and philan-
260 thropic. The economic dimension is the basis of CSR, given that without it the businesses
261 could not contribute to society (Carroll 1991); this dimension addresses the activities that
262 create the lucrative assets, services and results that are the product of the operations of
263 the organisation in a community (Xia et al. 2018). Despite the co-operatives not being
264 purely commercial, they are aimed at the market and the search for results, in a way that
265 guarantees their economic and financial stability. Because of this, it can be concluded that,
266 although they are non-profit institutions (given that their goal is not to make profits for its
267 distribution to capital owners), they pursue sufficient profitability that allows them to be
268 competitive from a social and economic point of view (Bernardi 2007).

269 For their part, the legal dimension implies complying with legal and regulatory provi-
270 sions (Kim et al. 2016), in this case Cavalcanti and Barlow (2013) emphasise that gov-
271 ernments should publish and ensure compliance with these regulations, given that the

272 businesses tend not to perform in a proactive manner when it comes to social and environ-
273 mental topics. From this point of view, the co-operative sector is based on a wide regula-
274 tory framework, both generally and specifically. Due to this, directors should adjust to this
275 legal framework, in a way that provides legitimisation to the operations that they perform
276 (Roessl 2010), giving the organisation the necessary legal stability at the same time.

277 The ethical dimension involves the application of moral behaviours of doing the right
278 and reasonable thing, with the aim of preventing the damage caused by businesses, which
279 should be respected, protected and safeguarded by the compliance of human rights (Kolk
280 2016). This is how, in co-operatives, ethical aspects related to transparency in management
281 and behaviour based on humanising principles make their stakeholders generate confi-
282 dence and, at the same time, develop the appropriate feeling of belonging to the institution
283 (Roessl 2010).

284 Finally, the philanthropic dimension considers the voluntary activities of a business and
285 represents an opportunity for the business sector to help, in an altruistic way, the develop-
286 ment of other sectors and areas of society (Aakhus and Bzdak 2012). The importance of
287 this dimension in the sector of the popular and solidary economy is related to the participa-
288 tion of co-operatives in the daily life of people (Uski et al. 2007).

289 These CSR dimensions focus their attention on the stakeholders. However, responsibili-
290 ties towards the environment should also be considered as being within ethical and legal
291 dimensions (Bodhanwala and Bodhanwala 2018). All of this leads to management that is
292 environmentally and socially responsible. This allows for the long-term subsistence of the
293 co-operative organisation and future generations, in addition to complying with the co-
294 operative principle of reciprocity (Battaglia et al. 2015). These reasons lead to an important
295 CSR contribution to sustainable development, whose social, economic and environmental
296 aspects should be supported by a sustainable business culture (Baumgartner 2014), where
297 the contextual factors and levels of management of strategic and operational regulations of
298 the organisation are highlighted (Moon 2007).

299 4 Results

300 4.1 Design of the Measuring Scale

301 The bibliographical review of the construct around which the study problem revolves,
302 allowed for establishing the items that contribute the required information in an appropri-
303 ate way. The questions managed to focus on two aspects: Socio-demographic situation and
304 purpose of the survey with the CSR approach. The demographic structure allowed us to
305 also determine, within the study area, the difference of CSR actors (member, employee,
306 director), with their respective characterisation of age, sex, educational level and economic
307 dependence of the co-operative institution. Besides, the additional role of each one of them
308 was considered, which could be: customer/user or supplier; and the details that identify
309 the position: type of contract, working day, department, length of service, level of author-
310 ity, work shift, range of income, among others. In order to determine the CSR approach,
311 the methodology proposed by Churchill (1979) and used by Montazeri et al. (2017), was
312 followed for the development of research measures and instruments, which includes seven
313 steps.

314 The first step consists of specifying the domain of construct, so literature review was
315 performed, taking into account the research which presented appropriate modelling for the

316 pursued goals. On this basis, the CSR approach was determined through the analysis of
317 the four dimensions of corporate responsibility of Carroll's model (1979): economic, legal,
318 ethical and philanthropic; where the questionnaires of Lee et al. (2013), Kim et al. (2016),
319 and Montazeri et al. (2017).

320 The second step consists of generating a sample of items. In this study, 25 of them
321 were selected. Afterwards, with the aim of removing the elements that are inappropriate or
322 that are not directly related to CSR, a group of experts collaborated: Three of these were
323 researchers in the area of CSR and the other two were academics with experience in co-
324 operativism. Finally, after various brainstorming processes, they decided to apply a scale of
325 15 items which were adapted to the co-operative sector in a timely manner.

326 The third and fourth steps consist of collecting data and purifying measures, by which
327 a pre-test was applied to 30 stakeholders of the co-operatives in different sectors, with
328 the purpose of getting comments and suggestions which avoid the use of language which
329 could, among others, condition the survey respondent, indicating the expectations of the
330 study. This step becomes highly important for identifying errors or inconsistencies which
331 may be presented in the study of the full scale. In order to advance with the purifying
332 measures, an exploratory factorial analysis was performed in order to determine the right
333 number of common factors so as to group the variables which are meant to be measured.

334 As a result of this, a measuring scale of 15 items was suggested, evaluated through
335 a Likert scale of 5 points, in which 1 means "completely disagree" and 5 means "com-
336 pletely agree". In the following, each dimension adapted for the questionnaires mentioned
337 is described: (1) Economic CSR (Eco), tries to measure the activities developed by the
338 co-operative from its economic activity and which also makes profits for its shareholders;
339 (2) Legal (Leg), collects information regarding the compliance of legal provisions in gen-
340 eral and the creation of internal regulations which allow for the development of activities,
341 with respect to the legality in force; (3) Ethical (Eth), intends to collect information regard-
342 ing the practices of ethical business in the co-operatives, considering the creation of ethics
343 codes and committees; and (4) Philanthropic (Phil), looks to analyse the degree of partici-
344 pation of these institutions of popular economy, through its involvement and contribution
345 to solidary causes with society in general.

346 The final three steps (fifth, sixth and seventh) consisted of collecting data, assessing
347 reliability and assessing validity. For this, the questionnaire was applied to the chosen
348 sample and the confirmatory factorial analysis was given with covariance-based structural
349 equation modeling (CB-SEM), which are described in the following section.

350 4.2 Validation of the Measuring Scale

351 Having achieved and tabulated the data, an exploratory factorial analysis was conducted
352 using the Main Components method with Varimax rotation to determine the appropriate
353 number of common factors and discover whether the variables suggested are appropri-
354 ate (Table 1). The feasibility of the factor analysis is evaluated with the matrix of cor-
355 relations described in Table 2 (86.2% of the correlations with a value higher than 0.3);
356 the sampling adequacy measure of Kaiser Meyer-Olkin (KMO), whose result was 0.921;
357 the result of Bartlett's sphericity test showed that the variables were not independent (χ^2
358 (105)=8773.86, $P < 0.001$). The values for the Measures of Sampling Adequacy (MSA)
359 were found to be above 0.86.

360 The number of factors generated in this study was determined through the latent root
361 criterion (factors with self-values greater than 1) being, as such, four factors, which

AQ2

Table 2 Correlation table of the items. *Source:* Own elaboration

| | CSR1 | CSR2 | CSR3 | CSR4 | CSR5 | CSR6 | CSR7 | CSR8 | CSR9 | CSR10 | CSR11 | CSR12 | CSR13 | CSR14 | CSR15 |
|--------------------------|------|-------|-------|-------|-------|--------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| CSR1. Products | 1 | 0.498 | 0.315 | 0.425 | 0.609 | -0.055 | 0.575 | 0.617 | 0.015 | -0.034 | -0.421 | -0.410 | 0.391 | 0.080 | 0.307 |
| CSR2. Quality | | 1 | 0.523 | 0.368 | 0.351 | -0.339 | 0.670 | 0.461 | 0.478 | -0.391 | -0.329 | 0.529 | 0.631 | -0.306 | 0.486 |
| CSR3. Prices | | | 1 | 0.415 | 0.597 | 0.311 | 0.386 | 0.354 | 0.315 | -0.011 | 0.013 | 0.350 | -0.399 | 0.368 | 0.449 |
| CSR4. Economic growths | | | | 1 | 0.549 | 0.413 | 0.415 | 0.084 | 0.580 | 0.095 | 0.501 | 0.303 | -0.006 | 0.049 | -0.520 |
| CSR5. Regulations | | | | | 1 | 0.425 | 0.446 | 0.403 | 0.611 | 0.326 | 0.418 | 0.502 | 0.606 | 0.359 | 0.560 |
| CSR6. Employment laws | | | | | | 1 | 0.405 | 0.413 | 0.322 | 0.541 | 0.317 | 0.331 | 0.038 | 0.397 | -0.325 |
| CSR7. Reports | | | | | | | 1 | 0.351 | 0.486 | 0.386 | 0.545 | 0.343 | 0.400 | 0.443 | 0.437 |
| CSR8. Rules of procedure | | | | | | | | 1 | 0.584 | 0.472 | 0.692 | 0.455 | 0.325 | 0.461 | 0.081 |
| CSR9. Environment | | | | | | | | | 1 | 0.350 | 0.328 | 0.331 | 0.468 | 0.482 | -0.360 |
| CSR10. Ethics guidelines | | | | | | | | | | 1 | 0.675 | 0.577 | 0.592 | 0.362 | -0.006 |
| CSR11. Ethics committee | | | | | | | | | | | 1 | 0.711 | 0.341 | 0.495 | 0.472 |
| CSR12. Ethics practices | | | | | | | | | | | | 1 | 0.406 | 0.398 | 0.471 |
| CSR13. Ethics business | | | | | | | | | | | | | 1 | 0.523 | 0.396 |
| CSR14. Beneficial causes | | | | | | | | | | | | | | 1 | 0.372 |
| CSR15. Donations | | | | | | | | | | | | | | | 1 |

explains 64.78% of the total variance (Table 3). The first factor, explains 21.56% of the total variance and it has heightened and positive correlations with items 1, 2, 3 and 4, so this factor will be known as Economic—CSR (Eco); the second factor, explains 18.58% of the total variance and it has positive correlations with items 5, 6, 7 and 8, so this factor will be known as Legal—CSR (Leg); the third factor explains 13.98% of the total variance and it has positive correlations with items 9, 10, 11, 12 and 13, so this factor will be known as Ethical—CSR (Eth); and finally, the fourth factor, explains 10.66% of the total variance and it has positive correlations with items 14 and 15, so this factor will be known as Philanthropic—CSR (Phil).

In order to confirm the appropriateness of the measuring scale proposed in the exploratory study, a confirmatory factor analysis was conducted using covariance-based structural equation modeling (CB-SEM), and with this the trustworthiness was assessed through the method of maximum likelihood estimation. This estimation method may be applied when the univariate normality of the items is fulfilled, proven according to the criteria of Curran et al. (1996) and whose results are shown in Table 4. The breach of the multivariate normality does not affect the ability of the method to estimate the model parameters in a non-biased way.

Thus the appropriateness of the model obtained was confirmed, composed by 4 dimensions and 15 items in total. The estimated parameters were statistically significant ($P > 0.05$) and the factorial loads presented values greater than 0.5, by which it can be identified that all the indicators saturate satisfactorily with each one of the latent variables. Given that the co-variance among the factors was not greater than 0.5, the model proposed did not present any problems with collinearity, which also indicates evidence of a discriminant validity (Fig. 1).

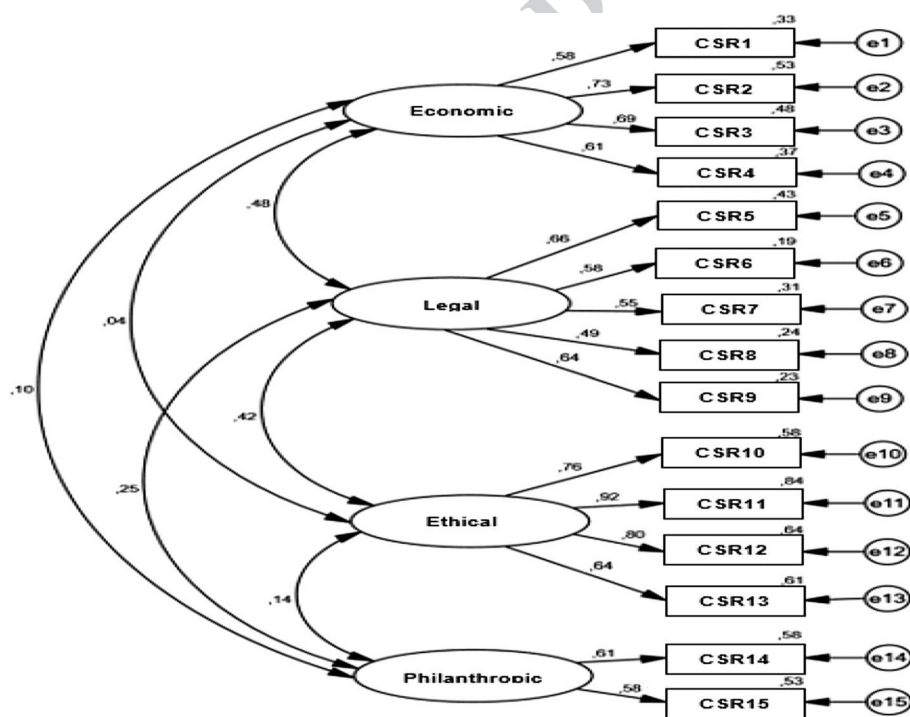
With the purpose of determining the merit of the model adjustment, the models used were the Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normed of Fit Index (NFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI) and Root Mean Square Error of Approximation (RMSEA), where the confidence intervals of

Table 3 Exploratory factor analysis: questionnaire CSR.
Source: Own elaboration

| Items | Dimension | | | |
|--------------------------|--------------|--------------|--------------|--------------|
| | Eco | Leg | Eth | Phil |
| CSR1. Products | 0.665 | 0.174 | -0.117 | 0.208 |
| CSR2. Quality | 0.821 | 0.12 | -0.101 | 0.107 |
| CSR3. Prices | 0.806 | 0.014 | 0.114 | -0.054 |
| CSR4. Economic growths | 0.364 | 0.218 | 0.257 | -0.102 |
| CSR5. Regulations | 0.207 | 0.731 | 0.212 | 0.012 |
| CSR6. Employment laws | 0.066 | 0.691 | 0.801 | -0.211 |
| CSR7. Reports | 0.110 | 0.788 | 0.037 | 0.114 |
| CSR8. Rules of procedure | 0.120 | 0.737 | -0.021 | 0.143 |
| CSR9. Environment | 0.161 | 0.241 | 0.567 | -0.119 |
| CSR10. Ethics guidelines | -0.072 | 0.072 | 0.847 | 0.147 |
| CSR11. Ethics committee | -0.051 | 0.005 | 0.795 | 0.305 |
| CSR12. Ethics practices | 0.041 | 0.095 | 0.767 | 0.371 |
| CSR13. Ethics business | -0.15 | 0.288 | 0.568 | 0.121 |
| CSR14. Beneficial causes | 0.103 | 0.115 | 0.149 | 0.503 |
| CSR15. Donations | 0.095 | 0.017 | 0.117 | 0.792 |

Table 4 Descriptive statistics for corporate social responsibility (CSR). *Source:* Own elaboration

| Items | Min | Max | Skew | SE skew | Kurtosis | SE kurtosis |
|--------------------------|-----|-----|--------|---------|----------|-------------|
| CSR1. Products | 1 | 5 | -2.813 | 0.054 | 6.56 | 0.108 |
| CSR2. Quality | 1 | 5 | -2.531 | 0.054 | 6.234 | 0.108 |
| CSR3. Prices | 1 | 5 | -1.811 | 0.054 | 4.155 | 0.108 |
| CSR4. Economic growths | 1 | 5 | 2.964 | 0.054 | 5.518 | 0.108 |
| CSR5. Regulations | 1 | 5 | -2.348 | 0.054 | 5.965 | 0.108 |
| CSR6. Employment laws | 1 | 5 | 1.513 | 0.054 | 3.902 | 0.108 |
| CSR7. Reports | 1 | 5 | -2.302 | 0.054 | 5.959 | 0.108 |
| CSR8. Rules of procedure | 1 | 5 | -2.524 | 0.054 | 4.612 | 0.108 |
| CSR9. Environment | 1 | 5 | -1.689 | 0.054 | -0.819 | 0.108 |
| CSR10. Ethics guidelines | 1 | 5 | -1.499 | 0.054 | -1.297 | 0.108 |
| CSR11. Ethics committee | 1 | 5 | 0.959 | 0.054 | 5.295 | 0.108 |
| CSR12. Ethics practices | 1 | 5 | -1.352 | 0.054 | -1.177 | 0.108 |
| CSR13. Ethics business | 1 | 5 | -1.328 | 0.054 | 1.158 | 0.108 |
| CSR14. Beneficial causes | 1 | 5 | -0.649 | 0.054 | -0.651 | 0.108 |
| CSR15. Donations | 1 | 5 | -1.47 | 0.054 | -0.963 | 0.108 |

**Fig. 1** CFA second-order structure with covariance based SEM for corporate social responsibility (CSR). *Source:* Own elaboration

390 90% were included. The adjustment for the theoretical beginning model scale is height-
 391 ened, resulting in values of the GFI, CIFI, and TLI being greater than 0.94; and AGFI
 392 and NFI being greater than 0.94 (Table 5). To finish, the internal consistency of the
 393 dimensions was analysed through Cronbach's alpha coefficient ($\alpha_{\text{Economic}}=0.808$;
 394 $\alpha_{\text{Legal}}=0.843$; $\alpha_{\text{Ethical}}=0.917$; $\alpha_{\text{Philanthropic}}=0.875$), that indicates a high trust-
 395 worthiness in the model offered.

396 5 Discussion

397 CSR is a topic that has been studied considerably in scientific literature. However, with-
 398 out there being a universal definition to support it, diverse analytical viewpoints have
 399 emerged, which in turn complicates the measuring of socially-responsible activities of
 400 businesses (Carroll 2000). The research conducted reaffirms the organisational need to
 401 assess financial and non-financial results in terms of social management (Panayiotou
 402 et al. 2009; Lee et al. 2013; Amini and Dal Bianco 2017).

403 Taking into consideration that CSR can be applied and understood in a different way
 404 in each country and economic background, the preparation of a measuring scale for this
 405 construct, that adapts to the needs, the nature and the context of the sectors where it is
 406 being applied (Campbell 2007) is indispensable. In this way, there are recent pieces of
 407 research regarding social management in Latin America (Lund-Thomsen et al. 2016;
 408 Jamali and Karam 2018, among others) and, specifically, one of those applied to Ecu-
 409 ador (Amini and Dal Bianco 2017). But, in terms of the measuring scale, there is only
 410 current research as reference (Fernández et al. 2017), whose proposal is not adaptable
 411 to the nature of all the organisations which are part of this country, considered to be a
 412 developing one.

413 This study confirms the multi-dimensional nature of CSR in the realm of Ecuado-
 414 rian co-operativism, coinciding with the results of some of the previous empirical stud-
 415 ies (Hopkins 2005; Godfrey et al. 2009; D'Aprile and Talò 2014; Kim et al. 2016). It
 416 is shown, using an exploratory and confirmatory factor analysis, that the structure of
 417 the scale is consistent and accepts the dimensions: economic, legal, ethical and philan-
 418 thropic, of Carroll's general model (1979). The potential adaptability of this scale to any
 419 type of business should be underlined, in that it looks for a balance between the dimen-
 420 sions analysed and the stakeholders. In fact, because of this, research in the area of CSR
 421 in specific sectors with special characteristics, such as the co-operative sector and, espe-
 422 cially, in developing countries is fundamental.

Table 5 Goodness of fit statistics (CSR). *Source:* Own elaboration

| | $\chi^2(\text{g.l.})$ | P | $\chi^2/\text{g.l.}$ | GFI | AGFI | CFI | NFI | TLI | RMSEA (I.C. 90%) |
|-------------|-----------------------|--------|----------------------|------|------|------|------|------|---------------------|
| Total | 338.84 (84) | <0.001 | 4.03 | 0.96 | 0.96 | 0.97 | 0.95 | 0.96 | 0.059 (0.049–0.071) |
| Subsample 1 | 287.69 (84) | <0.001 | 3.42 | 0.95 | 0.95 | 0.96 | 0.94 | 0.95 | 0.061 (0.052–0.076) |
| Subsample 2 | 296.34 (84) | <0.001 | 3.53 | 0.95 | 0.95 | 0.95 | 0.95 | 0.94 | 0.062 (0.053–0.079) |

423 6 Conclusions

424 CSR has gone from being merely a philanthropic aspect to being a matter of first-class
425 importance in the performances of businesses on a global level, with solid and structured
426 principles that need to be assessed to determine the effectiveness in the processes in place.
427 In Ecuador, there is an incipient development of empirical studies related to the measuring
428 models of socially-responsible practices. In this case, the main insight of this article is the
429 validation of an appropriate and trustworthy tool that allows for measuring the CSR, in the
430 specific sector of co-operativism.

431 Co-operativism has particular characteristics where the principles of the co-operative
432 movement prevail and their reason for being is the social economy, where human beings
433 and the community take precedence. For this reason, from its own creation, these institu-
434 tions should adapt to the CSR approaches, by which it is extremely important to complete
435 the real measurement of their socially-responsible performance. Although it is true that in
436 Ecuador there is a so-called “Balance Social Cooperativo” (*Co-operative Social Balance*)
437 implemented by the Superintendence of Popular and Solidary Economy (whose parameters
438 are established in a document for accounts performance), their results do not satisfactorily
439 reflect the developments presented in social subjects in this sector.

440 This study offers a new framework for measuring CSR for these popular and solidary
441 economy institutions in Ecuador (even being able to be adopted by other developing coun-
442 tries or ones with emerging economies). Accordingly, the proposed questionnaire may be
443 used, among others, by the public institution of control to which the co-operatives should
444 be accountable to (Superintendency of Popular and Solidary Economy, belonging to the
445 Function of Social Transparency and Control of the government of Ecuador). Similarly, it
446 is also considered to be highly useful for the members, managers and stakeholders in the
447 area of co-operatives, allowing for the availability of a strategic tool that allows for assess-
448 ing the impact of socially responsible practices in the environment in which they operate,
449 such as helping the resolution of ethical and social problems, activities related to the sup-
450 port of philanthropic events and the commitment to improving the wellbeing of the com-
451 munity and the environment.

452 This is how the empirical evidence of this paper can show that the CSR can be measured
453 through the fifteen items brought together in four dimensions: economic, legal, ethical and
454 philanthropic. Given that co-operativism includes a wide range of activities corresponding
455 to diverse sectors (finances, production, services, among others), we can conclude that this
456 model is established as a tool for easy-adaption and use for any institution and sector.

457 The main limitation of the study is found in the completion of field work, given that
458 there are rural areas where it was not possible to have in-person access to various co-
459 operatives, which lead to sending the questionnaires virtually, which, in turn, caused a low
460 response rate. Finally, in terms of lines for future research, the application of this measur-
461 ing scale to other sectors so as to guarantee its adaptability is suggested, as well as to deter-
462 mine whether there is any relationship between CSR and other fundamental variables of
463 the business management such as, for example, sustainable development, which is related
464 to the commitment of organisations to not only make a profit but to also be environmen-
465 tally and socially responsible.

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