Coopetition at Society Level: A Scale Validation

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Abstract

The researchers study coopetition in various levels such as individual, intraorganizational or interorganizational. However, there is a gap in coopetition studies at the society level, at the meta-level. We consider Social Coopetition as the capacity of the society's stakeholders to work together, oriented to create social value to generate solutions to economic, social and environmental problems, providing local development based on cooperation and social commitment. This research has twofold objectives, i) to define Social Coopetition and propose its dimensions, ii) to validate a scale to measure coopetition at society level. An expert's panel analyzed 101 variables extracted by the literature review, and they selected 75 variables grouped in 7 dimensions as a qualitative pre-validation. In the sequence, we performed an exploratory and confirmatory factor analysis to validate the scale. Our findings indicated 12 dimensions could express the social coopetition level: social asymmetry, perceptions of individual and collective benefits, socio-political characteristics, communication, competition, social competence, social commitment, previous experience, social governance, interdependence, technological and innovation level and cultural similarity. The findings provide a scale to monitor the social coopetition through 48 variables. Our results bring a novel in the coopetition field and have theoretical and practical implications. The findings explore a new coopetition level. Also, it provides a tool for municipal management to improve the coopetition strategies performance toward the generation of social value.

Keywords: social coopetition, society level, social value, coopetition scale, coopetition strategy

1. Introduction

A growing number of studies have analyzed the determinants of coopetition behaviour as a strategy in different types of relationships both between organizations and individuals. Some examples are coopetitive strategies shaping virtual teams (Baruch & Lin, 2012), generation of opportunities for small and medium-sized firms (Bengtsson & Johansson, 2014), management of tourism destinations (Tekin Bilbil, 2019), behavioural antecedents at the individual level (Czakon et al., 2020), and so on.

Coopetition is either a process (Köseoğlu et al., 2019) or a result (Fernandez et al., 2019). In both approaches, coopetition is a strategy to improve organizational, individual or network performance. It is a hybrid behaviour of cooperation and competition simultaneous relationship (Le Roy & Czakon, 2016; Raza-Ullah & Kostis, 2019). Coopetition occurs at four different levels: micro (individual), meso (intra-organizational), macro (inter-organizational) and meta-level (regional coopetition), according to Kirillova et al. (2020) and Rusko (2018).

At the micro-level, studies focus on the coopetitive mindset of individuals (Czakon et al., 2020; Lundgren-Henriksson & Kock, 2016) since organizations lead by coopetitive individuals have better managerial skills in collaborative relationships with competitors (Gnyawali & Park, 2009). The meso level is the organization's internal context. Thus, studies verify the hybrid relationship of cooperating and competing among firm departments that cooperate in obtaining internal resources or external markets (Chiambaretto et al., 2019) or among teams to develop projects (Kavirathna et al., 2019).

On the other hand, the macro-level covers interorganizational contexts, that is, beyond the organization walls. Inter organization coopetition strategies result in collective advantages for the participants that cooperate to create mutual benefits and compete for them (Klimas & Czakon, 2018; Wang & Krakover, 2008). Recent studies suggest coopetition is a connecting strategy that contributes to value creation and appropriation management in circular

economy ecosystems (Narayan & Tidström, 2020).

Finally, the meta-level encompasses coopetitive relationships regardless of geographic location and contextual approach (Crick & Crick, 2019). This perspective follows the path of Esser et al. (2013), which focuses on society's capacity to develop as systemic competitiveness. Some examples of meta-level Coopetition research are cooperation between governments, improving access to markets, infrastructure, and financial returns (Carfii & Schilirò, 2014; Chaudhri & Samson, 2000), or creating intergovernmental public policies (Cline, 2010).

Coopetitive behavior is most analyzed in relationships between organizations or interpersonal networks (Knein et al., 2020; Rusko, 2018). Indeed, conceptual models propose a multilevel approach to coopetition (Bengtsson & Raza-Ullah, 2016; Lascaux, 2020), but they rarely explore the society level (Kirillova et al., 2020). So far, the few studies on coopetition at the society-level consider a mix between interorganizational and inter-networks inserted in a broad public and private context that includes the population. Some studies focused on coopetition for fundraising by Non-Governmental Organizations for humanitarian projects (Fathalikhani et al., 2018, 2020).

In order to reduce the coopetition literature gaps, our research question is: How to verify the coopetition at the society level, that is, the social coopetition? It is essential to understand and monitor the social coopetition because this behavior can contribute to local development. Thus, our research has twofold goals. Firstly, to define the Social Coopetition (SC) and its dimensions; second, to validate a scale to measure the social coopetition. This study provides newness on coopetition knowledge. It offers new insights and amplifies the coopetition perspective to an underexplored level. Also, the study provides a tool to support public managers and contribute to the dimensionality of this construct applied to society.

We performed a scale validation in the context of tourism cities. Therefore, the study has another potential contribution, which is an empirical application towards regional tourism circuits. It generates insights on coopetition strategies for managing intercity tourism networks. The methodology is quantitative based on scale validation procedures through Exploratory Factor Analysis (EFA).

2. Coopetition Types: Towards Social Coopetition

Coopetition is a paradoxical behavior in which organizations benefit from collaboration with the competition to leverage the payoffs obtained from the horizontal or vertical networks (Klimas & Czakon, 2018; Knein et al., 2020; Brandenburger & Nalebuff, 1996). It is a win-win relationship that seeks to balance value creation and appropriation (Bouncken et al., 2020; Ritala & Tidström, 2014). Coopetition's hybrid character contributed for defining it as a dynamic and multidimensional concept (Crick & Crick, 2019).

Coopetition research has been expanding with different approaches and multilevel characteristics (Crick & Crick, 2019; Pitelis et al., 2018) towards consolidating as a strategy subfield (Lascaux, 2020; Theodoraki & Messeghem, 2020). Furthermore, coopetition studies are not restricted to the organizational context; they cover the individual context to the society level.

The book "Coopetition Strategy: theory, experiments, and cases" organized by Castaldo and Dagnino (2009) showed considerations on the forthcoming between economic coopetition and its social feature. According to the authors, trust cycle evolution affects the consolidation of "economic coopetition," a business relationship based on coopetition strategies and power relations. Also, it acts on 'social coopetition,' a classification based on the social aspects of competition (asymmetry of power and dependence), collaboration (commitment and trust). Therefore, trust cycle evolution affects the whole coopetition logic. It means the mix of economic and social factors, which is the essence of coopetition (Castaldo & Dagnino, 2009).

Kirillova et al. (2020) provided another coopetition typology in a study of cross-border tourism destinations. The study highlighted regional coopetition at the meta-level is a driver to network sharing geographic borders. Similarly, Wang and Krakover (2008) pointed to coopetition as a facilitating factor in developing destination brands (co-marketing). Furthermore, they qualify coopetition strategies for the progress of geographically co-located communities.

Previously, also focusing on resource sharing across tourism destinations, Kylanen and Mariani (2012) carried out a comparative study with Italian and Finnish theme parks co-located in the border. The analysis showed that coopetition strategies change the relations between public and private agents and generate direct benefits for both destination brands and tourist flows.

Crick and Crick (2019) tested the antecedents and consequences of collaboration among competitors regarding coopetition multidimensionality. They showed coopetition is a three-dimensional construct established on three

levels: the local level, when the cooperation between competing organizations takes place within restricted geographic proximity; at the national level, when cooperation with opponents takes place within the same country, but in different regions. And finally, at the organizational level, when coopetition occurs between firms, regardless of their geographic position.

The coopetitive behavior reinforces simultaneous cooperation flows and competition between different societies, such as coopetition networks, to attract industrial investments in Southeast Asia regions (Zhang et al., 2017). Coopetition among two or more areas breaks political and geographical boundaries. For instance, meta-level coopetition develops tourism routes, including various cities (Strese et al., 2016b).

The context of interregional coopetition for the development is another perspective. Crick et al. (2020) studied the promotion of rural communities in New Zealand's wine industries, and they found implications for employee recruitment and training and increased productivity performance through collaboration with their competitors. Also, coopetition in regional clusters for the development and internationalization of local companies was analyzed. It is a driver to attract investments, becoming vital for competitiveness performance (Crick & Crick, 2019; Felzensztein et al., 2018).

The findings of Crick et al. (2020); Crick and Crick (2019) revealed a coopetitive mindset at the micro-level, i.e., individual (Czakon et al., 2020; Gnyawali & Park, 2009) was a relevant factor in regional coopetition. Society's transformation towards joint problem solving depends on the coopetitive mindset since individuals with a coopetition-oriented attitude are prepared to efficiently manage the paradoxical nature of the construct (Gnyawali et al., 2016; Raza-Ullah et al., 2014).

2.1 A Proposal Coopetition Dimensions to the Society Level

In this study, Social Coopetition (SC) is the society's capability to work together to create social value and generate solutions to economic, social, and environmental problems, providing local development based on hybrid strategies of cooperation, competition, and social commitment. Based on the systematic literature review, we created a list of variables grouped into dimensions associated with the coopetition performance at the society level (Table 1).

Table 1. Coopetition dimensions for the society level

Variable	Literature Support	Dimension
Social Asymmetry (SAS)	(Cusin & Loubaresse, 2018; Jakobsen, 2020; Le Roy & Czakon, 2016; Zhang et al., 2017)	
Social Commitment (SCOM)	(Bengtsson et al., 2016; Chin et al., 2008; Hermes et al., 2013; Limoubpratum et al., 2015; Wang & Krakover, 2008)	Strategic Fit SF
Social governance (SGOV)	(Bengtsson et al., 2016; Bouncken et al., 2016; Hermes et al., 2013; Hung & Chang, 2012) (Chim-Miki & Batista-Canino, 2018; Fong et al., 2018)	
Shared Vision (SVIS)	(Baruch & Lin, 2012; Lin et al., 2010)	
Interdependence (INTERD)	(Kraus et al., 2018; Luo, 2005)	
Perception of Individual and Collective Benefits (INDCOLB)	(Czakon et al., 2020; Lin et al., 2010; Wang, 2008; Witek-Hajduk & Napiórkowska, 2017)	Perceived Benefits PB
Interorganizational and/or personal alliances (ALLIAN)	(Gast et al., 2019; Luo, 2007; Raza-Ullah et al., 2014; Yu, 2019)	
mutual trust (MUTTR)	(Barretta, 2008; Baruch & Lin, 2012;Chim-Miki & Batista-Canino, 2018; Eriksson, 2008; Fong et al., 2018; Gnyawali et al., 2016; Strese et al., 2016b)	
Collective Awareness (COLAW)	(Chin et al., 2008; Fong et al., 2018; Ritala & Tidström, 2014; Strese et al., 2016a)	Coopetitive Orientation CO
Cooperation/Competition (COOP/COMP)	(Brandenburger & Nalebuff, 1996; Chim-Miki & Batista-Canino, 2017; Crick & Crick, 2019; Czakon et al., 2020; Raza-Ullah et al., 2014)	
Communication (COMU)	(Bouncken et al., 2018; Chin et al., 2008; Ghobadi & D'Ambra, 2012; Limoubpratum et al., 2015; Stentoft et al., 2018)	
Institutional Arrangements (INARR)	(Bouncken et al., 2020b; Felzensztein et al., 2018; Padula & Dagnino, 2007)	
Previous Experience (PREVEXP)	(Barretta, 2008; Hagman & Camps, 2019; Czakon et al., 2020; Kumar & Dutta, 2017; Schiavone & Simoni, 2016)	Society Profile SP
Technological and Innovation Level (TECHINV)	(Bendig et al., 2018; Gnyawali & Park, 2009; Maroofi, 2015; Ritala & Sainio, 2014)	
Socio-political characteristics (SOPC)	(Hijmering, 2017; Tomaszewski, 2014)	
Similarity (SIMIL)	(Bacon et al., 2020; Gnyawali & Park, 2009; Hung & Chang, 2012)	
Social Value Cycle (SVC) (Hlady-Rispal & Servantie, 2018; Hlady Rispal & Servantie, 2017; Valentinov, 2015)	(Bengtsson et al., 2016; Bouncken et al., 2020; Ritala & Tidström, 2014; Santolaya-Sanz et al., 2017)	Social Value Create SVC
	(Ritala & Tidström, 2014; Volschenk et al., 2016)	Social Value Appropriation SVA
	(Pasquire & Salvatierra-Garrido, 2011; Valentinov, 2015)	Social Value Devolution SVD

Source: Elaborated by the authors

Based on the literature synthesis presented in Table 1 and the approaches of antecedents and consequences to coopetition (Crick & Crick, 2019; Klein et al., 2020), we proposed a Model to Social Coopetition (Figure 1).

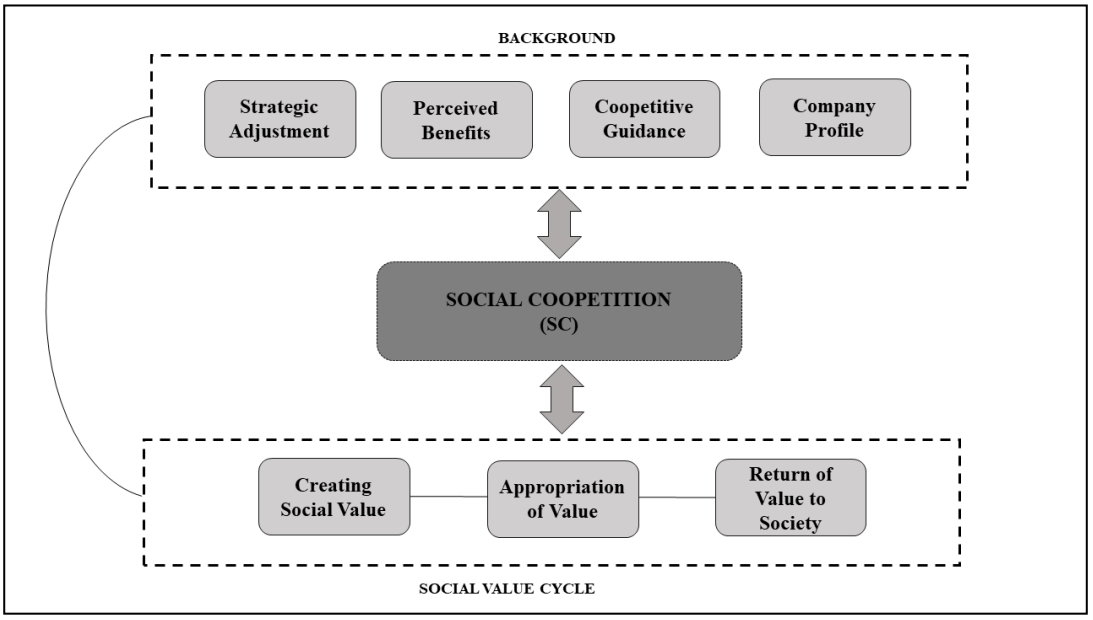

Figure 1. Social Coopetition Model

Source: Elaborated by the authors

We embed in our research model, variables as antecedents of social coopetition and variables concerning the social value cycle to explore a new construct for coopetition. The novelty of our model is exploring coopetition by addressing issues at the society level, since it has been neglected in the literature (e.g., Kirillova et al., 2020). We have considered it a driver of this current study to fill this research gap.

2.2 Antecedents of Social Coopetition

The *strategic fit* dimension of social coopetition represents how society combines resources and capabilities to achieve collective goals. It considers the creation of collective strategic actions towards development since aligning the interests is key for the coopetition strategies success (Chen & Liang, 2011; Czakon et al., 2020). The strategic fit in social coopetition includes four variables: Shared Vision, Social Governance, Social Asymmetry, and Social Commitment. The greater the degree of a shared vision among stakeholders, the greater the sense of collectivity (Baruch & Lin, 2012); Governance is a shared and participatory management process that includes different social instances. Therefore, it has mechanisms inductors of coopetition (Bouncken et al., 2016). Social asymmetry indicates power relations among partners and the intrinsic tension of coopetition (Le Roy & Czakon, 2016) that affects the individual absorption of the value created by the collective (Ritala & Tidström, 2014). Social commitment expresses commitment to social issues and with the community due to mutual commitment between partners is a necessary element for the success of a coopetition network (Wang & Krakover, 2008).

The *perceived benefits* dimension refers to society's perception of the gains derived from working together, including identifying interdependence (Luo, 2005) and collective and individual advantages (Wang & Krakover, 2008). Interdependence has been studied between organizations (Chim-Miki et al., 2020) and individuals (Czakon et al., 2020). In both cases it is a driver for coopetition relations (Czernek et al., 2017). At the meta-level, benefits are, on the one hand, perceived by the community (perception of collective advantages for society) and, on the other hand, by public and private actors.

The *coopetitive orientation* dimension of social coopetition is the population's willingness to projects aimed at local development, as well as to cooperate and compete. The dimension includes interorganizational, personal alliances, collective awareness, communication, and mutual trust. Empirical evidence showed that partnerships in interorganizational networks based on coopetition bring together resources and skills to promote the stakeholders

(Kylanen & Mariani, 2012), generating coopetitive advantages and reducing risks for participants (Luo, 2005, 2007). A strategic orientation for coopetition in a society depends on collective awareness and solidarity in carrying out actions aimed at community development. Trust acts as a risk reducer (Basile et al., 2013) and enhances the network of participants (Seppanen et al., 2007), while communication management is a critical factor for the success of coopetition Chin et al., (2008).

Finally, the *society profile dimension* as an antecedent of social coopetition integrates characteristics that drive coopetitive behaviors among the population. Institutional arrangements between organizations are essential to coopetition and previous experiences with coopetition (Kavirathna et al., 2019). Also, both at the individual and organizational level, as relevant aspects for the consolidation of coopetition (Bouncken et al., 2020; Czakon et al., 2020). In this sense, Hijmering (2017) examined the socio-political characteristics. Other authors focused on the Technological and Innovation levels as inducers of coopetition (Bendig et al., 2018; Bouncken et al., 2016; Gnyawali & Park, 2009). Thus, society's technological profile and cultural similarity are drivers of coopetitive behavior (Klimas, 2016; Bacon et al., 2020b).

2.3 Consequential Factors of Social Coopetition

The consequential factors of social coopetition represent the coopetition results for society, which in this theoretical proposal is named the social value cycle. Firstly, the society through coopetition creates social value, then occurs the appropriation of social value by the communities and, finally, the persons or organizations produce a return of value to society. The social value cycle is a recurrent theme in Social Entrepreneurship research (Hlady-Rispal & Servantie, 2017; 2018), but coopetition studies focus only on value creation and appropriation (Bengtsson et al., 2016). Indeed, coopetition involves both the creation of value (cooperation), the appropriation of value, i.e., capturing the created benefit (competition) (de Carvalho et al., 2020; Ritala & Tidström, 2014). However, when the strategic objective of coopetition is local development, this context involving society's capacity to absorb value (advantages) individually and collectively. That means the devolution of social value is an expansion of collective benefits (cooperation). In the literature, the social structure of coopetition is still a topic understudied (d'Armagnac et al., 2019b; Tsai, 2002). In this sense, Limoubpratum et al. (2015) analyzed coopetition strategies to improve economic, environmental, and social aspects in sustainability research. Similarly, Manzhynski & Figge (2019) investigated the contributions of coopetition to sustainable development at the societal level. Nevertheless, studies examining the value return to society as the third point in the value cycle generated by coopetition are rare. Although, there is some research on the social return expected by users of social enterprises (Hlady-Rispal & Servantie, 2107; 2018).

3. Methodological Design

3.1 Context of Analysis: Caminhos do Frio Tourism Route in Brazil

According to data from the Brazilian Tourism Map to 2019-2021 triennium (Brazil, 2019), Areia city is one of the 2,694 cities in the 333 regions in the country that develop tourism activities based on public policies at economic growth, to increase income and jobs. Areia city is in the Brejo region of Paraíba Province, located in northeastern Brazil. It is the main city on the Caminhos do Frio Tourism Route, which covers another eight cities, namely Alagoa Grande, Alagoa Nova, Bananeiras, Matinhas, Pilões, Remígio Serraria, Solânea. Since 2005, the Caminhos do Frio Route is the leading tourism event held in this region to enhance cultural and gastronomic tourism. Among the circuit cities, Areia city stands out because it is listed as National Historic Landmark due to its historical and landscape value. Due to Areia City characteristics, we chose it to carry out the tests and validation of the social coopetition scale.

3.2 Methods

From a theoretical domain summarized in Table 1, we developed the measurement scale for coopetition at the level of society. The model proposes 101 variables corresponding to the antecedents and consequential of social coopetition. Following Chang, Li, and Vincent's (2020) steps, we submitted our variables set to a qualitative validation of content and face with eight experts of coopetition. They evaluated the dimensions and variables regarding adequacy to the model and clarity of the statement on a scale ranging from 1 = "inadequate" to 5 = "very adequate". The results of qualitative validation led to the discarding and reformulation of variables, thus ensuring the face and content validity of our scale. At the end of this step, 75 variables were left, distributed in seven dimensions (Appendix A). After, we transformed these 75 variables in an online questionnaire hosted on the Google Forms platform with questions on a 7-point scale ranging from 1 = "totally disagree" to 7 = "totally agree".

In the sequence, we conducted a pre-test with five participants to adjust some inconsistencies. Data collected used a non-probabilistic sampling by accessibility with two filter questions to guarantee that the respondent is part of the

sample: (1) live or work in the city of Areia, and (2) be over 18 years of age. The questionnaire also had five demographic identification questions. Data collection took place from June to September 2020, resulting in 539 valid questionnaires. Data analysis used a quantitative methodology based on scale validation procedures with multivariate statistical techniques. We performed an Exploratory Factor Analysis (EFA) in the free software GNU PSPP version 1.2.0-g0fb4db. We guarantee the measurement and construct reliability verifying the facial, content, convergent, and discriminant validity (Laurent, 2000).

4. Results

The sample consisted of 60.7% women and 39.3% men; 66.5% are students, 16% public officers, 13% entrepreneurs, 5.7% employees of private firms, 4% farmers/cattlemen and 1.5% retirees. Regarding the residence time at Areia city, the sample had: 48.6% of citizens lived in Areia city for more than ten years, 37.5% lived between 1 to 5 years, 8.5% between 6 to 10 years, and 5.7% lived for less than a year. Areia city has 23,110 inhabitants; therefore, our sample represented a 4.17% margin of error by the criterion of estimating proportions for finite populations, with p and q equal to 50%, using a 95.0% reliability coefficient. In addition, the sample size attends the indications of Hair et al. (2009), that is, at least five respondents per item on the scale.

4.1 Scale Purification

We performed a Confirmatory Factorial Analysis (CFA) with the 75 variables resulting from the qualitative validation phase and then the purification of the scales. Firstly, results presented high rates of kurtosis and asymmetry in five variables. Therefore, we excluded them. The complete list of variables is in Appendix A. First EFA extraction indicated 15 dimensions explained 69.94% of the total variance. The value exceeds the minimum recommended value of 60% (Chang et al., 2020). The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.947) was adequate. Bartlett's test of sphericity (x^2= 30983.120; gl= 2775; Sig.=0.000) indicated a correlation between the selected variables and, $p<0.001$ demonstrated a level of significance.

The second step of scale purification followed the guidelines of Churchill (1979) and Hair et al. (2009). We performed an Exploratory Factor Analysis (EFA) with varimax rotation with the 70 variables retained after analyzing asymmetry and kurtosis, i.e., after analyzing the degree of interpretability and factor loading (Kaiser, 1958). This second EFA extraction indicated a set of variables in 14 dimensions explained 70.18% of the total variance. Results showed adequation of the factorial model. The Kaiser-Meyer-Olkin sampling adequacy (KMO) measure was 0.949; the Bartlett sphericity test (x^2= 29084.697; gl= 2415; Sig.=0.000).

A third and last EFA extraction removed 22 variables with factor loadings below the reference value (>0.5) (Appendix A). These EFA results improved the scale: KMO (0.942), and Bartlett's sphericity tests (x^2= 19199.545; gl= 1225; Sig.=0.000). Thus, after applying the exclusion criteria and three successive EFA extractions, the social coopetition scale had 48 variables in a factorial structure with 13 dimensions that explained 74.3% of the total variance. All Cronbach's Alphas values for each dimension showed an internal consistency ranging between 0.567 and 0.951; therefore, maintaining the level above 0.50 indicated for social sciences (George & Mallery, 1994). Table 2 summarizes the AFE results at the scale purification stages.

Table 2. Results of exploratory factor analysis

	1 ªExtraction	2 ªExtraction	3 ªExtraction
N ºVariables	75	70	48
N ºFactors	15	14	13
Total Variance	69.9%	70.2%	74.3%
KMO Test	0,947	0,949	0,942
Bartlett's Test	30983,120	29084,697	19199,545
Gl.	2775	2415	1225
Significance	0.000	0.000	0.000

Source: Elaborated by the authors

Results confirm the excellent performance of the proposed scale regarding the aspects of adequacy, correlation, and explanatory capacity of the variables presented for social coopetition. To complement the analyses (Appendix B**)** shows the rotated factor matrix with the redistribution of remained variables. Since these results, we interpreted and

renamed the factors.

4.2 Scale Validation

Through the factor loadings (>0.50) and average variance extracted (AVE), we verified the convergent validity, that is, the explanatory capacity of the model and its variables. Besides, we used composite reliability (CR) to determine the internal reliability of the variables. All measures' composite reliability (CR) ranged from 0.67 to 0.91, which meets the acceptable level of 0.60, consistent with Fornell and Larcker (1981). The mean-variance extracted ranged between 0.39 and 0.69. There were variables with values below the recommended level of 0.5; however, according to Fornell and Larcker (1981) and Lam (2012), if the AVE is less than 0.50, but the CR is above 0.60, the convergent validity of construct is satisfactory. In addition, as a diagnostic of reliability, we verified the Cronbach's alpha of all 48 retained variables (Table 3).

Table 3. Final Scale Reliability of Social Coopetition

Variables	(α)	CR	AVE
Social Value **(dimension 1)**	0.95	0.91	0.46
Technological and Innovation Level **(dimension 2)**	0.85	0.82	0.53
Social Commitment **(dimension 3)**	0.89	0.79	0.56
Social Awareness **(dimension 4)**	0.87	0.75	0.39
Social Governance **(dimension 5)**	0.86	0.77	0.46
Previous Experience **(dimension 6)**	0.82	0.78	0.48
Society Profile **(dimension 7)**	0.79	0.80	0.58
Individual and Collective Benefits **(dimension 8)**	0.76	0.82	0.69
Social Similarity **(dimension 9)**	0.79	0.70	0.44
Social Competition **(dimension 10)**	0.73	0.68	0.52
Social Communication **(dimension 11)**	0.80	0.78	0.64
Social Interdependence **(dimension 12)**	0.69	0.67	0.50
Social Asymmetry **(dimension 13)**	0.56	0.78	0.65

Source: Elaborated by the authors

The results indicated agreement with theoretical expectations, and table 5 showed the social coopetition scale is valid and statistically reliable. Thus, finally, we performed a discriminant validity to verify the degree of correlation of the constructions (Table 4).

Table 4. Correlation test and discriminant validity

	SOCVAL	TECHINV	SCOM	SAWA	SGOV	PREVEXP	SOPC	INDCOLB	SSIMIL	SCOMP	COMU	INTERD	SAS
SOCVAL	**0.68**												
TECHINV	0.618	**0.73**											
SCOM	0.579	0.432	**0.75**										
SAWA	0.701	0.542	0.603	**0.62**									
SGOV	0.637	0.524	0.642	0.630	**0.68**								
PREVEXP	0.573	0.433	0.448	0.464	0.435	**0.69**							
SOPC	0.475	0.413	0.290	0.386	0.387	0.351	**0.76**						
INDCOLB	0.257	0.118	0.280	0.141	0.203	0.260	0.288	**0.83**					
SSIMIL	0.624	0.470	0.449	0.556	0.510	0.461	0.491	0.251	**0.66**				
COMP	0.564	0.384	0.415	0.471	0.405	0.456	0.261	0.226	0.410	**0.72**			
SCOMU	0.396	0.365	0.283	0.445	0.435	0.410	0.269	0.092	0.335	0.286	**0.80**		
INTERD	0.566	0.302	0.458	0.484	0.450	0.335	0.328	0.332	0.410	0.387	0.233	**0.71**	
SAS	0.017	-0.036	0.123	0.006	0.095	0.070	0.104	0.198	0.076	0.077	-0.134	0.155	**0.81**

Source: Elaborated by the authors

From the purification and validation of the scale, we reduced and reconfigured the structure of the social coopetition model. Our findings resulted in a theoretical model of social coopetition with 48 variables arranged in thirteen dimensions (Figure 2).

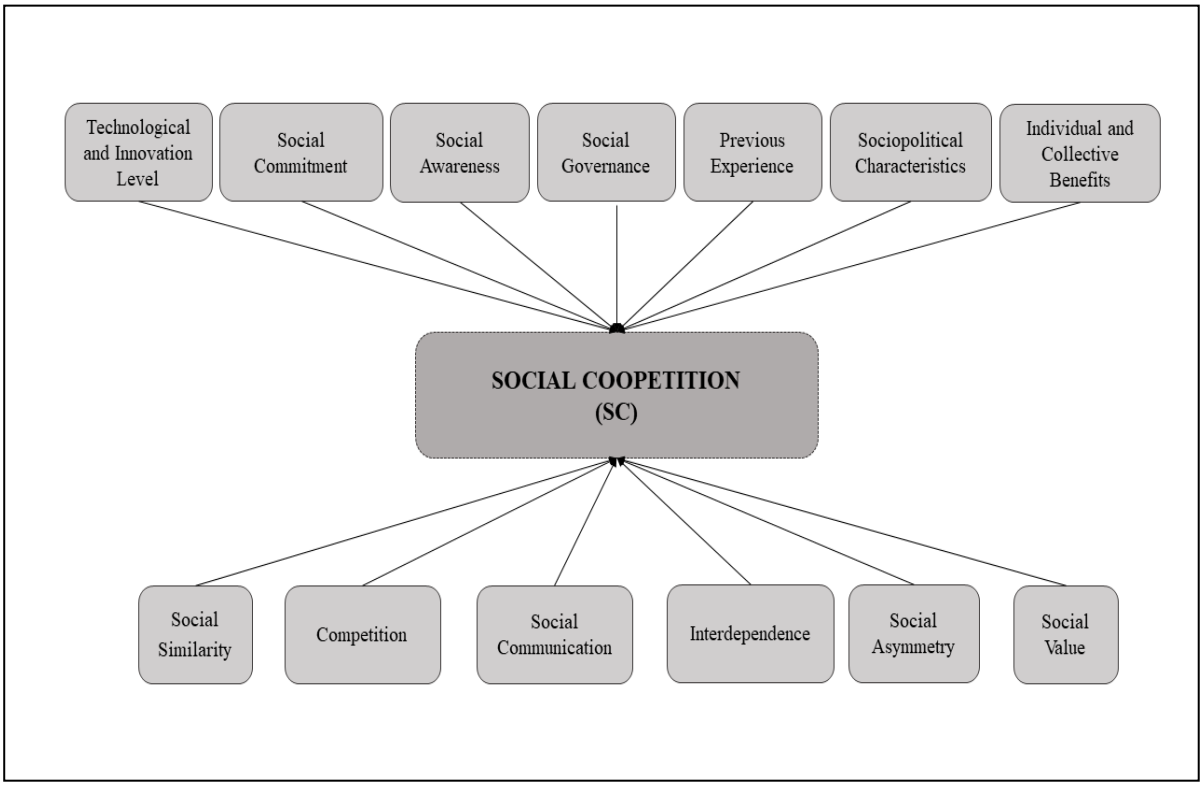

Figure 2. Social Coopetition Model

Source: Elaborated by the authors

In the model's redesign, the social value construct refers to the social value cycle composed of the creation, appropriation, and return of value to society (Figure 1). The initial proposal had three phases as a value cycle. However, the factor analysis grouped them into a single dimension. The findings indicate in social coopetition, the production of value for society occurs jointly, through the resolution of social problems, generation of social empowerment, and production of social benefits. The new configuration generates an inseparable cycle, in which the three phases proposed feedback initially, i.e., they shape a continuum of value for society.

On the one hand, this finding differs from the perspective used in social entrepreneurship studies (Agafonow, 2015; Hlady-Rispal & Servantie, 2017; 2018) and goes beyond the findings of Ritala and Hurmelinna-Laukkanen (2013) on value creation and appropriation. On the other hand, the results find meaning in the cooperation and competition relation co-occurring at the meta-level. In value creation, there is a tendency to cooperate while in the value appropriation to compete; However, within society, the main focus is the return of value, empowerment by the values, and benefits by the community in a single cycle.

In addition, social coopetition was characterized by 12 other dimensions, namely: Technological and Innovation Level, Social Commitment, Social Awareness, Social Governance, Previous Experience, Society Profile, Individual and Collective Benefits, Social Similarity, Competition, Social Communication, Interdependence, and Social Asymmetry.

Results of the *Technological and Innovation dimension* revealed that the investment level, development degree, use of technologies, and creation of innovative products are factors to enhance coopetition in the society and contribute to its advancement. These findings are in line with studies on the influences of organizations' technological and innovative profile and its impacts on the coopetitive behavior since they are coopetition inducers (Bendig et al., 2018; Bengtsson & Johansson, 2014).

Findings indicated a *Social Commitment dimension* in a coopetitive society is the involvement and participation of the population in social actions focused on local development. It is a result compatible with the coopetition literature. For instance, Thomason et al. (2013) consider commitment a social determinant that anticipates successful coopetition. The determinant expresses the population's adherence to the pursuit of economic, social, and environmental improvements. Thus, it is helpful to examine the coopetitive capabilities and their implications at society's coopetition level.

The results merged three vital elements of coopetition: collective awareness (Strese et al., 2016b), communication (Chin et al., 2008; Fong et al., 2018), and mutual trust (Basile et al., 2013; Castaldo & Dagnino, 2009; Chim-Miki & Batista-Canino, 2018) as a single dimension. Based on the findings, we renamed the dimension to Social Conscience, reflecting the strengthening of social ties and the recognition of collective problems. The literature supports these results since social links between the coopetition network participants allow the resources and knowledge exchange (Bouncken et al., 2018; Czakon et al., 2020).

Governance mechanisms facilitate the management of cooperative activities between competitors (Czakon et al., 2020) and reduce the intrinsic tension in the network of participants (Bengtsson & Kock, 2014). In this sense, our results to the *Social Governance dimension* places social coopetition considering different but complementary perspectives. As the involvement of diverse participants enhances the coopetition network (Czakon, 2018), at the society level, it contributes to coordinate plans and goals for local development, acting as a central hub of the network (Chim-Miki et al., 2016).

The analysis of the *Previous Experience dimension* retained the three variables proposed initially in the model and included another variable related to cooperatives that, previously, was in the institutional arrangement dimension. This finding reinforced the relevance of previous experiences in the coopetition performance (Bouncken et al., 2020). It reveals that cooperatives in society are an antecedent that favors the development of collaborative attitudes among competitors (Gnyawali et al., 2016). To some scholars, previous experience in coopetition is necessary to promote partnerships and maintain joint actions. It produces a positive impact on the development and progress of coopetitive relationships (Czakon et al., 2020).

Regarding the society's characteristics, the results indicated geographic, political, economic positioning are complementary and relevant aspects to boost coopetitive advantages at the society level. In our redesign model is the *Social Profile dimension.* This finding followed Crick and Crick's (2019) approach that considers coopetition as a multidimensional construct established at three levels: local, national, and organizational, in which levels vary depending on its location and geographic proximity.

The Individual and *Collective Benefits dimension* refers to the perception of strategic advantages (individual) and reduction of costs and risks (collective) by the coopetitive relationships. In coopetition, both at the individual and organizational level, it is consensus that partners cooperate in obtaining collective benefits and compete to achieve individual benefits (Padula & Dagnino, 2007; Randolph et al., 2020). Coopetition at the society level replicated this condition. The joint work favors access to resources, information, and the labor market for the population; thus, the dimension grouped these elements. It notes that risk management at the organizational level, for example, to innovation or open new markets (Jakobsen, 2020; Luo, 2007), at the meta-level, supports the development and quality of life (Lundin & Jönsson, 2002) and remains a drive of coopetition (Gast et al., 2019).

The *Social similarity* in coopetition concerns the shared vision among the population. The literature points out that cultural values are a relevant factor in generating coopetitive advantages (Klimas, 2016; Schnitzer et al., 2018). Our findings corroborated organizational literature but offered a broadened vision since we indicated this factor positively impacts society's coopetitive performance.

The *Social Competition dimension* refers to the role of competition to generate local development and improve services provided to society. Coopetition is the interaction of contradictory interests, where cooperation generates collective benefits and competition creates a dispute by private benefits (Raza-Ullah et al., 2014). However, our findings are beyond this idea. They reveal competition plays a role in structuring a model of social coopetition that deserves its dimension since it is an inducer of collective improvements for society. Della Corte and Sciarelli (2012) also demonstrated in organizational networks that highly competitive environments generate more consolidated networks of coopetition than environments that cooperation is over the competition.

Results of *Social Communication dimension* retained two variables that express the power of social networks and their role to keep the population informed. Our finding demonstrates that nowadays, communication management at society level depends on digital media (Instagram, Facebook, WhatsApp groups). Sun et al. (2014) proposed a

quantitative model to measure the power of coopetition at the individual level and the opinion leaders' influence in disseminating information among social networks users. They concluded there is more competition than cooperation in the dissemination of information on social networks. However, according to our results, in the context of society, social communication is related to its informative character and not its power to convince.

The measurement of social coopetition confirmed the *interdependence* at the meta-level as one dimension. This finding shows that interdependence is a driver for coopetition networks. The same approach occurs at the individual or interorganizational level (Lin & Shi, 2020; Chai et al., 2019). The results indicated social coopetition should consider the interdependence among companies, associations, and organizations (e.g., cooperatives, trade associations, neighborhoods, etc.). This behavior reveals both companies and associations prioritize the maintenance of partnerships because they need to complement each other to capture economic benefits or generate goods and services for society.

Finally, the *Social Asymmetry* dimension initially had five variables. However, the EFA extraction maintained two variables related to social inequality and power asymmetries in society. That finding is from a different angle but follows the coopetition literature (Chou & Zolkiewski, 2018; Cusin & Loubaresse, 2018) and absorptive capacities (Chang et al., 2016; Mariyakhan et al., 2020). In society, the strongest elements tend to absorb more advantages (Jakobsen, 2020). It also aligns with Le Roy and Czakon (2016), who point out that coopetition does not necessarily mean equality in obtaining the advantages generated by the network participants.

5. Conclusions

The main objective of this study was to propose and validate a definition, dimensions, and scales for social coopetition that occurs at the metal level, that is, in the society. Coopetition is a multilevel phenomenon (Bengtsson & Raza-Ullah, 2016; Rajala & Tidström, 2017), but there is a lack of theoretical models focused on society. Most of the studies are towards the individual and interorganizational levels. A literature review allowed identifying the main elements of coopetition to express it at the meta-level of analysis.

The model validated by this study contributes to monitoring the coopetitive behavior in society and generating social value by coopetition networks. Thus, our findings fill three literature gaps: Identify elements inductors of social coopetition; provide a scale to measure social coopetition; and expand the coopetition focus of research to the meta-level (Esser et al., 2013; Kirillova et al., 2020).

Based on the analysis, we reconfigured the model structure that represents a set of the best indicators to measure coopetition at the level of society validated through qualitative and quantitative techniques. The proposal started with 101 indicators grouped into seven dimensions and with 48 indicators distributed in 13 factors. This finding resulted from scale purification procedures and three extraction processes by Exploratory Factor Analysis.

Our main results indicated that the socio-coopetitive profile of the population depends on a factor set that influences the generation of social value, that is, generation of social empowerment, social benefits, and social resolution. From the previous literature was possible to identify that coopetition at the society level is a novel approach, and despite its importance, it was little explored. These findings point to a confirming model of the relationship between social coopetition and social value generation, as social coopetition is not the end itself but a way to create local development.

Overall, the findings show a transposition of theoretical and empirical assumptions previously consolidated in an organizational and individual context to the level of society. Nevertheless, there are redirections of perspectives in this level, such as the focus of competition in the community contributing to improving services, communication is mainly social networks, cooperation has not its dimension in the model. Instead, it is in various dimensions. Cooperative represents previous coopetition experience; and the social value cycle foreseen in social entrepreneurship is an indissociable cycle on social coopetition.

Briefly, this study offers several theoretical and practical implications. For the theoretical contribution, we expect this study expands the coopetition literature, which is restricted to analyze the phenomenon of coopetition at the individual, interorganizational, interorganizational, and inter-network levels (Czakon et al., 2020). Our study advances the field's literature to new levels by exploring the social character of coopetition from the social perspective. Thus, our major contribution is the establishment of a new construct for the coopetition experience embeding the society in its definition. For the practice, the proposal of social coopetition measure may help to identify coopetitive behavior and its impacts on local development. It also may expand the coopetition experience at society level, hence, due to this is a strategic way to local development. In addition, we probably offer the first tool for monitoring the conditions that lead a society to establish a fruitful coopetitive behavior. Yet, our study has an

innovative viewpoint since the data collected from a city participating in tourism circuits in which the management follows coopetitive strategies. According to Yu-Chen & Xiao-Lan (2013), tourism circuits usually integrate several cities; thus, our scale contributes to the management of intercity tourism networks. In this sense is our practical contribution, as the model becomes an instrument to assist the municipal government in the coopetition strategies and the understanding of society.

Although the main objective of this study was not to verify the social coopetition capacity of the Areia city but to validate a general scale, the results of our research provide a diagnosis of the Areia City coopetitive characteristics. Considering a simple average and on a scale of 1-7, Areia city presented the following values for the dimensions of social coopetition (Figure 3).

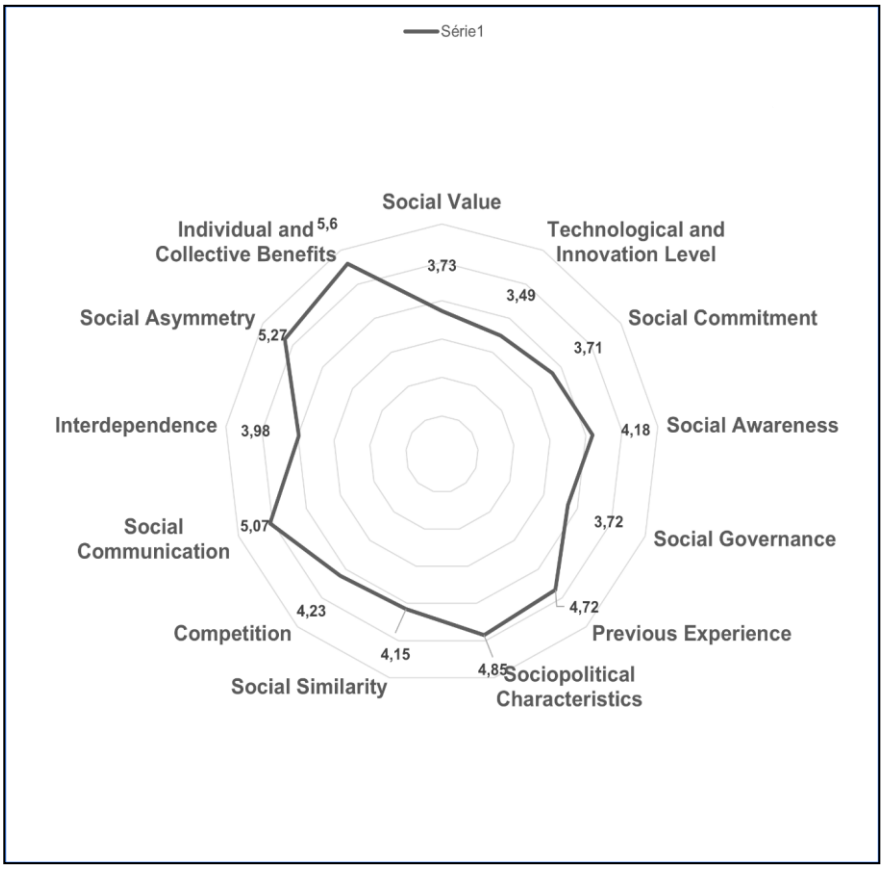

Figure 3. Social coopetition dimension of Areia City

Source: Elaborated by the authors.

These empirical findings for the Areia city collaborate to create a management plan to identify deficiencies and enhance society's coopetitive skills. Areia city needs to improve in all dimensions, even though the values exceed the scale's midpoint. Mainly, it needs to enhance the dimensions of Technological Level and Innovation, Interdependence, Social Commitment, and Social Governance. It is necessary to note Social Asymmetry dimension is a reverse variable, i.e., the higher value, the greater the inequality in this society. Based on coopetition studies, asymmetries impact the appropriation of value created. Therefore, it may negatively impact the generation of social value (Jakobsen, 2020)

In short, the study achieved its objectives of developing a valid and reliable instrument for social coopetition. However, the research is not free from limitations. Due to its pioneering character, the literature offered few theoretical approaches towards coopetition at the meta-level, which hindered the theoretical basis. Still, we minimize this limitation using a density of studies at the individual, organizational, and network levels to support our proposal. Another limiting factor was the sample size. COVID-19 pandemic made it impossible to apply face-to-face

questionnaires. We minimized the problem through an online questionnaire (Google Forms). We maintained the reliability meeting the criteria for sampling error and a minimum of 5 respondents per question on the scale.

About future research directions, coopetition is a phenomenon inherent to all organizational environments and operational levels. Thus, we recommend further validations of this scale as replication in other geographic and sectorial contexts. Likewise, a different study performing a regression analysis of the model, or structural equations, to promote new findings to contribute to coopetition knowledge at the meta-level, proving the positive relationship between social coopetition and the generation of value for society.

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