Network market orientation as a relational governance mechanism to public-private partnerships

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ABSTRACT

Despite the increasing relevance at the professional level and although the complexity of its configuration and implementation keeps growing, the existing research about public-private partnerships (PPP) remains embryonic. This paper focuses on three complementary fields of study for its understanding: risk management, governance management and private participants' behaviour. A causal model is proposed, in which network market orientation acts as a previous relational governance mechanism enabling, as a result, a better perception of risk by the private agents involved. The model was tested using structural equation modelling on a sample of 180 agents involved in PPP projects in China. Results confirm this assumption: by placing inter-organisational trust as a central variable, the effect had by network market orientation upon companies' perceived risk occurs through the reinforcement of their particular entrepreneurial orientation. Findings provide researchers and managers with practical insights into the development of PPP projects from a relational perspective.

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1. Introduction

In a market context that is always dynamic, with complexity and competitiveness growing exponentially, companies have been forced to adopt a change in their conception regarding the way they interact with markets (Monferrer, Estrada & Moliner, 2019). At present, the particular and isolated activity that companies have traditionally applied towards the markets has evolved into multiple forms of joint action under a relational concept (Koch & Windsperger, 2017; Windsperger, Cliquet, Hendrikse & Srećković, 2019). Consequently, different agents are able to minimise their particular deficiencies while maximising the use and generation of synergies around those substantive competences, as each one has some superior skills (Aarikka & Rittala, 2017; Forkmann, Henneberg, & Mitrega, 2018; Pagani & Pardo, 2017). A clear example of these new relational formulas is found in public-private partnerships (PPPs); one of the better examples of a PPP is business-to-administration (B2A) relationships, which often appear in response to calls by governments and administrations to the private sector, especially in the case of emerging countries. The objective of these PPPs is for private industry to provide services and to modernise and provide public infrastructure in accordance with the latest trends in each sector (Benítez, Hartman & Dewulf, 2019; Hodge & Greve, 2017; Ma, Li, Jin, & Ke, 2019).

PPPs are growing in relevance at the professional level; however, given the complexity of their conformation and implementation, B2A relationships in general, and PPP in particular, have been relatively poorly studied in the academic management literature. Indeed, such studies are limited to some initial research that appeared in the last decade (Ma et al., 2019). The aim of this paper is to respond to the deficit in research and to consider the consensus

found in the literature to date, whilst aiming to unveil findings that may provide researchers and managers with practical insights into the development of PPP projects from a relational perspective. This paper focuses on three crucial lines of study of PPPs, which were recently identified by Ma et al. (2019): risk management, governance management, and the behaviour of the participants in the project (public and private partners).

The conceptual framework involves network market orientation, and its application to the enterprise network, establishing a governance mechanism based on market orientation that enables us to confront the complex market environments we are facing currently (i.e., highly dynamic, complex, uncertain and interconnected). This is accomplished under the integrative perspective of the previously mentioned complementary lines of study by proposing and contrasting a structural model that places network market orientation as the principal antecedent of the relational governance mechanism, adding to the formal governance provided by the legal contract that has traditionally been assessed in the literature and considering the actions for minimising the perceived risk of the private agents involved (perceived risk is considered as a novel multidimensional concept based on the significance of risk and requires simultaneous consideration of both the probability of occurrence and level of severity). In this respect, the confidence at an inter-organisational level, which is a mediation variable between both constructs, is valued through its contribution to the entrepreneurial orientation from these agents (a variable that tends to intrinsically define participants' behaviour in these projects).

Moreover, this conceptual framework is made possible through a methodological approach consisting of structural equation models, which, surprisingly, have been hardly explored in this field of study; the field has mostly focused on the use of other research methods, including case studies, simulation standout studies, data mining, game theory and fuzzy synthetic evaluation (Ma et al., 2019).

Therefore, by combining the three lines mentioned above, the objective of this paper is to study the perspective of the private PPP project partner, identifying the roles played by network market orientation and inter-organisational trust in the perception of risk.

The approach to achieving this objective is summarised in the paragraphs that follow. First, the theoretical framework of the research is presented based on a consideration of the latest literature concerning PPPs, highlighting the relevance of the three previously stated lines of study and their application as central variables of the model. Second, a thorough conceptualisation of the model's antecedent central variable is executed (from the underlying theoretical framework): the network market orientation. Third, the concept of inter-organisational trust is introduced as a mediating variable between the relational governance mechanism (market orientation) and the risk perceived by the company, which is traditionally linked to its entrepreneurial orientation. Finally, four causal hypotheses are raised that will be contrasted in a sample of 180 agents. These agents have private profiles and are currently actively involved in the development of PPP projects in China, a world reference country in the development of this particular form of B2A and currently considered the magnet attracting foreign companies due to its growing demand.

2. State of current PPP literature: risk management, governance management and participant behaviour

PPPs require a very long-term contract (usually more than 20 years), during which a private partner builds and/or manages a service in the field of public competence under certain legal and economic conditions. As PPPs have been successful at operational and performance levels, there are practically no counties in the world that do not use PPPs independently of the political sphere, the legal environment, and the area of development (Chan, Yeung, Yu, Wang,

& Ke, 2011; Ke, Wang, Chan, & Lam, 2010; Ma et al., 2019). Therefore, it can be concluded that PPPs have become one of the pillars of modern public management (Benítez et al. 2019).

Ma et al. (2019) carried out a review of the academic literature concerning PPPs between 2008 and 2018, and concluded that risk management is one of the aspects of greatest interest in the study of PPP projects, together with other aspects related to governance management and the behaviour of project participants (public and private partners).

Focusing on the first of the key aspects (risk management), the reality is that, in essence, a PPP project involves the transfer of responsibilities and risks to the market through a long-term contract (Hodge & Greve, 2017). The high investment figures involved in some of these projects are an indicator of the high risk taken by both parties. The public partner seeks to obtain value for money, assuming a significant risk in political, social and legal terms, while the private partner seeks a return on investment and full recovery of financing, assuming economic and management risks (Grimsey & Lewis, 2002). Therefore, some authors consider the key to the success of a PPP project to lie in the management of risk between the parties, as well as the conflicts that arise in such a long-term relationship (Chang, 2013; Johnston & Gudergan, 2007).

As a result, when considering the second of the key aspects identified (i.e., governance), academic research has primarily focused on the design of contracts and the formal distribution of risk associated with the PPP project, due to the complexity of the logic, cultures, interests and organisational objectives of the multiple agents, as well as the diversity of sectors that may be involved (de Castro, Oliveira, Silva, & Silva, 2016). However, this formal component, while essential, may not be a guarantee of the good performance of the project. In fact, the vision of each member of a PPP could differ from the most appropriate governance mechanism, which can lead to a mismatch between the attitudes and expectations of each partner (Cheung, Chan,

& Kajewski, 2010; Reynaers & van der Wal, 2018; Warsen, Greve, Klijn, Koppenjan, & Siemiatycki, 2020).

Therefore, although PPP projects formally have a governance system regulated by a contract, when all the legalities and assumptions that may arise over time are considered, recent studies suggest that the internal relations of the management itself is one of the key elements of a PPP's final success (Benítez et al., 2019; Ma et al., 2019). Furthermore, Benítez et al. (2019) considered that in addition to the formal contract, governance must include a relational governance system that builds trust between the parties (inter-organisational trust), which is important to balance each parties' respective expectations and to help manage relationships to avoid potential conflicts, thereby reducing the parties' perception about the risk associated with the development and joint implementation of the PPP project in question (South, Eriksson, & Levitt, 2018). This system will be even more necessary when there is greater uncertainty in the market, a greater pace of technological change or a high exposure to social activism (Kivleniece & Quelin, 2012).

Once again, specific research in this field is very limited, and only relatively recently did researchers and academics begin to explore the dynamics of both governance mechanisms and their consequences on the performance and functioning of PPP projects (Cao & Lumineau, 2015; Howard, Roehrich, Lewis, & Squire, 2019). It is in this new context of long-term relationship management that market orientation can make important contributions. Market orientation, at the network level (Helfert, Ritter & Walter, 2002), highlights the relevance of the availability of resources and the relationship management tasks required for relationship effectiveness. As noted above, when considering a PPP project, the key element of relationship effectiveness will be risk management, a fundamental element regulated in the project's governance system (Chang, 2013; Johnston & Gudergan, 2007).

However, when taking into account the third key aspect associated with the behaviour of the participants in the project, especially in the context of B2A, it is crucial to conduct research on a specific partner profile because the vision and conduct of each party in the PPP project may be different. Thus, a priori, while the private partner is profit-oriented and has a competitive and entrepreneurial nature, the public partner provides administrative rigidity, sensitivity to different socio-political interests and a need for strict transparency (Ling, Ong, Ke, Wang & Zou, 2014; Rufín & Rivera, 2012). It is crucial, therefore, to pay attention to the profile, in this case the profile of the private partner characterised by an entrepreneurial orientation, which defines the nature of its decision representatives, and to propose and contrast its behaviour and its behavioural hierarchy.

The operation of these three lines of study of the variables will serve as the foundation of our model of effects, defined and interrelated in the following sections and synthesised in Figure 1.

"Insert Figure 1"

3. Conceptual background: market orientation from a network approach

Market orientation has attracted the interest of academics and professionals for decades (Monferrer et al., 2019). For many years, research on this construct has helped shape our thinking about marketing (Helfert et al., 2002).

Traditionally, the vast majority of studies have investigated market orientation based on their seminal versions, either from a behavioural or from a cultural perspective. The behavioural perspective emphasises specific activities related to the generation as well as the dissemination of and responsiveness to market intelligence (Kohli & Jaworski, 1990). For its part, the cultural perspective focuses on organisational norms and values that foster behaviours that pay close attention to the client, competition and environment (Narver & Slater, 1990).

Thirty years after its appearance in the literature, it seems that a high degree of consensus has been reached regarding the refinement and complementary applicability of both perspectives (Fang, Chang, Ou & Chou, 2014). This consensus is based on the concept that market orientation represents a strategic orientation based on the management of market knowledge. Further, the consensus is founded on an organisation's commitment to the development of a set of processes, beliefs and values that reflect the fundamental principle of marketing, which is focused on the deep and shared understanding of the needs and behaviours of customers.

Despite this consensus, in recent years, different authors have highlighted the existence of a new problem in the study of market orientation, insofar as their seminal perspectives lack a relational approach (Helfert et al., 2002; Monferrer, Blesa & Ripollés, 2015). Therefore, some authors have moved away from the reality currently experienced by companies in the performance of their activity in the markets. Thus, in today's market environments (highly dynamic, complex, uncertain and interconnected), business relationships in their different forms (e.g., franchising, retail and service chains, cooperatives, financial networks, joint ventures, strategic alliances, licensing, clusters and partnerships for PPP projects) have become increasingly important in the performance of business activity (Koch & Windsperger, 2017; Windsperger et al., 2019). This fundamental change in the competitive environment, linked to a vigorous reconfiguration of value chains, and the transformation of existing business models and strategic structures towards forms of inter-organisational nature, necessitates a thorough review of traditional theoretical models. This requires us to focus on the relationship between agents as a primary source of value creation in the markets, even more so in the case of those characterised by increasing uncertainty (Aarikka & Rittala, 2017; Forkmann et al., 2018; Pagani & Pardo, 2017). Therefore, there is a new reality associated with the increased connectivity, interdependence and co-evolution of actors, technologies and institutions. This

new reality requires a different theoretical and empirical approach to the approach previously adopted in the conception of constructs that were originally defined in relation to the particular and individualistic conception of business activity, as is the case with market orientation (Monferrer et al., 2015).

However, attempts to analyse market orientation in the network context remain very scarce to date and, in general, have significant limitations. These limitations relate to the limitation of their conceptualisation to the following features: (1) simple adaptation of behavioural and cultural seminal approaches to individual market orientation (i.e., the behavioural approach: Elg, 2002; and the cultural approach: Evanschitzky, 2007); (2) summative consideration of individual orientations of the different companies that make up the network (Beverland & Lindgreen, 2007; Hyvönen & Tuominen, 2007).

To better understand these gaps, a broader theoretical framework should be considered, and the study of the strategic organisational behaviour should be adopted in the network context. Traditionally, two main perspectives were considered when studying business networks and their effects: the structural and the management perspectives. The structural perspective examines the structure of the networks through their diverse forms (as is the case of PPPs), and the quality of the relationships influence the resources and behaviours of the companies (Batjargal, 2006; Hoang & Antoncic, 2003; Koch & Windsperger, 2017). The main underlying hypothesis is that companies that have higher quality connections and a better structure within their network have access to more valuable resources (Koch and Windsperger, 2017; Monferrer et al., 2015).

The network management perspective emphasises strategies employed by managers to create and shape their business networks, regardless of the network structure adopted. This perspective is based on the general assumption that simply being part of a network does not create value for companies. It is thought that value is only created from the positive and

adequate use of the resources that are available within the network (Martínez, 2015; Vissa & Bhagavatula, 2012). Therefore, the management of business networks, through different specific tasks aimed at starting, using, developing and creating routines, or dissolving relationships, would be a key element in determining the competence of the network and the performance of companies (Hoang & Antoncic, 2003; Martínez, 2015; Monferrer et al., 2015; Ritter, Wilkinson & Johnston, 2004; Slotte & Coviello, 2009).

The main criticism of current research has been focused on the tendency to treat relationships as something disjointed, proposing routines, processes and activities to manage each contact individually and not for the management of the network as a whole (Martínez, 2015; Ritter et al., 2004). If we focus on the activities of the networks based on individual behaviours, we can only understand the benefits that a company obtains unilaterally from the use of its partners' abilities and through its own activity, but not the benefits derived from the effects of synergy, which is the fundamental characteristic of networking (Khanna, Gulati & Nohria, 1998; Monferrer et al., 2015). In this regard, we consider business networks to participate in a process of self-organisation in which there is a collective strategic application of planned routines, processes and activities due to the need to integrate in the network the contributions of different actors to develop common benefits (Khanna et al., 1998; Ritter et al., 2004). In these situations, all the companies in the network simultaneously participate in the management of the strategies resulting from their joint actions, so the strategic orientation shared by all the companies that are part of the network becomes especially important (Monferrer et al., 2015). However, despite recent calls demanding greater attention to this field of study, significant gaps persist regarding the manner in which companies that are part of a network activate the joint development of management activities to effectively achieve benefits resulting from the synergistic action of networks (Aarikka & Rittala, 2017; Forkman et al., 2018; Monferrer et al., 2015; Pagani & Pardo, 2017).

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A publication by Helfert et al. (2002), on which our research is based, takes a crucial step in this direction from the theoretical specification of a first defining factor and relational management tasks, composed of four dimensions in relation to four basic behaviours, or routines, for relational management, derived from the joint application of a market orientation in the network context: (1) adaptation, referring to the moulding of diverse areas (production processes, logistics, delivery and means of payment for products/services) to meet the needs and capabilities of the different members to best serve the market (Holma, 2014; Sales, 2014); (2) interfirm coordination, associated with the establishment of formal and informal procedures for better synchronisation of the relational activities of the members (da Silveira & Arkader, 2007; Monferrer et al., 2015); (3) conflict resolution, regarding the assumption by members of a disposition towards justice and the commitment that makes it possible to adopt quick and effective resolutions to those extraordinary situations typical of relational management (Mwesiumo & Halpern, 2016; Van de Graaff, 2016); and (4) exchange, including aspects related to products/services (exchange of goods or information about the specifications of products/services, logistics, payment and delivery, and information on the advice needed regarding the products/services that are served), as well as personal aspects (construction of personal relationships that improve internal knowledge among members and even the construction of social ties), to resolve the requirements of all parties (Frankort, 2014; Helfert et al., 2002; Monferrer et al. 2015).

Furthermore, Helfert et al. (2002) included an additional factor that would act as a precedent to the performance of the above described relational tasks. This additional factor is resource availability, in relation to the expectation that market-oriented companies will also have to provide financial, informational, physical and technical resources for their relationships, as they value these relationships in terms of the generation and dissemination of these elements (Ritala & Ellonen, 2010). Therefore, for the development of these relational

tasks, the provision of shared and common resources among the partners of a PPP project would be required. In this sense, conceptualisation of the inter-company market orientation in a PPP project itself leads to the proposal of the first of the hypotheses of this study, which is associated with the causal relationship between the two defining factors:

H1: The market orientation at the relational level in the context of a PPP project contemplates two chained defining factors, resource availability and relationship management tasks, in which the former acts as an antecedent of the latter.

4. Relational context background and firm context consequences of inter-organisational trust in a PPP project

4.1. Relational management tasks and inter-organisational trust

Inter-organisational trust is a belief, an attitude or a positive expectation of one of the parties regarding the probability that an action or an outcome of the other party will be satisfactory (Andaleeb, 1992). Trust exists to the extent that one party believes that the other will be honest, benevolent and competent (Helfert et al., 2002). When the parties trust each other, problems are solved through constructive dialogue and cooperation.

Zucker (1985) considers three mechanisms for generating inter-organisational trust: (1) based on the process (linked to past or expected exchanges); (2) based on characteristics (linked to a person and based on social characteristics); and (3) based on the institutional level (linked to formal corporate structures and based on individual or company attributes or intermediation mechanisms).

Considering this approach, relationship management tasks (exchange, coordination, conflict resolution and adaptation) of network market orientation improves the trust between the parties involved in a PPP project (Helfert et al., 2002). First, exchange activities related to products/services, problem solving and people help to build personal relationships between

individuals involved in a PPP project, as well as trust and social ties (mechanism for generating inter-organisational trust based on the process and characteristics) (Liu, Deligonul, Cavusgil, & Chiou, 2018). Second, inter-functional coordination through clear formal rules and explicit informal norms also contributes to building greater trust between the parties (inter-organisational trust building mechanism based on the institutional level) (Heide, 1994). Third, the use of constructive conflict resolution mechanisms that address extraordinary situations throughout long-term relationships generate a commitment and a sense of justice that improves trust between the parties (inter-organisational trust building mechanism based on the institutional level) (Ryu, Park & Min, 2007). Finally, adaptation to the special needs or capabilities of the other party also contributes to building trust (inter-organisational trust-building mechanism based on the characteristics and institutional level) (Ryu et al., 2007).

Therefore, social exchange theory and mutual reciprocity, which are the basis of relationship management tasks, represent a mechanism that generates trust between companies (Liu et el., 2018; Palmatier, Dant, Grewal & Evans, 2006). Relationship management tasks performed with goodwill, equivalence and reciprocity generate inter-organisational trust (Hoppner, Griffith & White, 2015; Shen, Su, Zheng & Zhuang, 2019; Swärd, 2016). Collectively, this leads us to the following hypothesis:

H2: Relationship management tasks in the context of a PPP project positively influence inter-organisational trust between the parties in the network.

4.2. Inter-organisational trust and entrepreneurial orientation of the firm

Entrepreneurial orientation is based on the extent to which a company innovates, acts proactively and takes risks (Anderson, Covin & Slevin, 2009; Ripollés, Blesa & Monferrer, 2012), moving their strategic and operational behaviour away from more conservative companies (Anderson, Kreiser, Kuratko, Hornsby & Eshima, 2015). Therefore, innovative

behaviour is associated with the search for new relationships between existing resources and/or products. Proactivity implies being constantly prepared to take initiatives and anticipate the movements of competitors. Finally, the entrepreneurial orientation assumes that strategic decisions will imply a moderate or high-risk assumption (Jiang, Liu, Fey & Juang, 2018).

Based on its own conceptualisation, participation in a PPP project is intrinsically entrepreneurial, since participation implies the identification and exploration of new business opportunities in a new environment for which the company must assume an innovative and proactive attitude (Carbonara, Costantino & Pellegino, 2017). Furthermore, the PPP context incorporates added risk elements since it involves addressing an unknown environment that increases the probability of failure (Jiang et al., 2018).

Inter-organisational trust has also been defined as the expectation that a party in a vulnerable position will not hurt the other party (Jukka, Blomqvist, Li & Gan, 2017). In this context, inter-organisational trust plays an important role insofar as it facilitates entrepreneurial orientation by reducing the uncertainty of the environment, and by facilitating innovation and proactivity (Jiang et al., 2018). A company will evaluate its confidence as a member of the network before structuring its activities and mobilising its resources in the partnership (Lui, Ngo & Hon, 2006; McEvily, Perrone & Zaheer, 2003). Li (2005) found that trust is the most determinative factor in inter-organisational relationships. When parties trust each other, they perceive fewer risks in decision-making and in collaborative activities because negative consequences are less likely (Helfert et al., 2002). Klijn & Teisman (2003) consider PPPs to have incorporated the collaborative government paradigm, which emphasises collaboration, trust and horizontal coordination to achieve win-win solutions (Warsen et al., 2020). Therefore, it is possible to conclude that inter-organisational trust positively influences the entrepreneurial orientation of agents by reducing uncertainty, as well as by facilitating collaboration and horizontal coordination, which promotes innovation and proactivity between the parties, as

well as more favourable attitudes towards the assumption of risks. This leads us to the following hypothesis:

H3: *Inter-organisational trust in the context of a PPP project positively influences the entrepreneurial orientation of the firm.*

4.3. Entrepreneurial orientation and perceived risk of the firm

The study of risk has been widely researched in the management and marketing literature in both international and entrepreneurial contexts (Alessandri, Mammen & Eddleston, 2018; Le Breton & Miller, 2011). However, despite this extensive literature, there is an ongoing and extensive debate around two main aspects associated with its conceptualisation. The first of these relates to the identification of specific risk factors, or the types of risk factors to consider. The second is associated with how to incorporate into a single measure of perception a variable that conceptually seems to be subject to both occurrence and severity dimensions, which can limit its real significance.

In this regard, and in the particular context of PPP, the studies by Ke et al. (2010) and Chan et al. (2011) are critical. In relation to the first issue identified, the authors carried out a thorough review of the literature facilitating a synthesis and structuring of the potential variants of risk in nine main areas: political, economic, legal, social, natural, constructive, operational, market, and relationships. Concerning the second question, Chan et al. (2011) provide a form of simultaneous measurement that contemplates the two dimensions of probability: occurrence and severity. The authors indicate that the significance associated with any particular perception of risk must be subject to the following: (1) the perception of the subject of the risk occurring in the business context in question; and (2) the perception of the same subject concerning the seriousness of the damage that would result if the risk was realised.

Adopting this key vision, our work considers that the assumption of risks is an inevitable element of innovative and proactive behaviour, and thus of entrepreneurial orientation (Ripollés et al., 2012). In the specific context of PPPs, the negotiation of project contracts normally focusses on the risk distribution scheme between parties (Ke et al., 2010). The general principle is that each risk should be assigned to the party that is better prepared to handle and resolve it as well as the party that is best able to manage it at the lowest possible cost (Cooper, Grey, Raymond & Walker, 2005). In this way, the partners can position themselves in a continuum where at one end a conservative orientation is located, and at the other, an entrepreneurial orientation is adopted, which will have clear repercussions in the partners' decision making, management philosophy and strategic behaviours (Anderson et al., 2015).

Therefore, although the sources of risk are objective, the adoption of a strong entrepreneurial orientation by one of the parties of the network (as opposed to a more conservative orientation) will lead to a lower perception of risk on their part. In this way, Miller (1983) considers entrepreneurial orientation to imply the acceptance of a greater strategic and financial risk in the pursuit of new business opportunities. Covin & Slevin (1991) consider entrepreneurial orientation to lead to the adoption by managers of a more positive attitude towards risk, which in turn translates into a desire to contribute resources to projects with uncertain results.

Carbonara et al. (2017) highlight that although risk management is a central issue in studying PPPs, it will depend on each specific context. Therefore, there are no general rules for establishing the best strategy for addressing PPP projects. As a result, the conservative-entrepreneurial orientation assumed by the partners in each PPP project will be a determining element in the governance, risk management, and final result. Furthermore, inter-organisational trust in a PPP project will positively influence the entrepreneurial orientation of the partners by reducing uncertainty and facilitating innovation proactively, as well as the

attitude of managers towards risk. This would in turn imply that the entrepreneurial orientation would facilitate a better understanding of the risk by partners by favouring their vision regarding the probability that the project would fail (Anderson et al., 2015; Ripollés et al., 2012). This leads us to the following hypothesis:

H4: Entrepreneurial orientation in the context of a PPP project negatively influences the perceived risk of the firm.

Figure 1 shows the model to be analysed.

"Insert Figure 2"

5. Methodology

5.1. Sample selection and information gathering

China is the second largest economy in the world after the United States. Since the country began the process of opening up in 1978, it has enjoyed an average annual GDP growth rate exceeding double digits, which has resulted in economic transformation and unprecedented consumption patterns worldwide. Official national statistics in China indicate 8654 PPP projects had been registered by the end of 2018, seeking a combined investment of 13.2 trillion yuan (approximately 2 trillion U.S. dollars). According to the China Public Private Partnerships Center, under the Ministry of Finance (MOF), 4691 of these projects had entered the implementation stage, with a combined investment of 7.2 trillion yuan. Of the total number of registered projects, 2237 had entered the construction phase, with investments adding up to 3.2 trillion yuan.

Using China as a reference country in the field of PPPs, this research focuses on the agents that have a private profile and are currently actively involved in the development of PPP projects in China. In this regard, the opinions of Chinese and foreign private professionals, and

entrepreneurs from companies that regularly work in the Chinese market for the development of such projects, were taken into consideration.

To obtain the information related to the different constructs analysed, we chose to conduct a survey as a primary information collection method. To achieve this goal, a questionnaire was designed and targeted towards a convenient sample of people.

To ensure a correct understanding of the process, the questionnaire was submitted to review by 5 experts in the field and was pre-tested by a total of 15 agents associated with PPP projects. Moreover, the design of the questionnaire internal structure followed the recommendations of Ye, Marinova & Singh (2007) and provides self-generated validity through careful ordering of the items so that the analysed constructs do not appear in the same order as the proposed hypotheses (i.e., antecedent → mediating variables → consequence), as well as its own dimensionality.

Having defined the final version of the questionnaire in Spanish, it was translated into English and Chinese. The translations followed the reverse translation method described by Brislin (1970) that is widely used in specialised literature.

The field work was conducted between October 2018 and January 2019. Given the difficulties of the Chinese market and compatibility with European social media, the survey was distributed using the following social media platforms: WeChat, WhatsApp, and email. The use of these platforms made it possible to avoid potential barriers that might have otherwise prevented us from obtaining access to our target respondents at the executive level in the Chinese market. Thus, we were able to gain direct guaranteed access and to collect responses from relevant decision-making profiles with responsibility for the management of PPPs in China.

The questionnaire was presented in a PDF format, and it was requested that responses be returned in the same format and by the same means. The results were aggregated to protect

confidentiality. A total of 180 valid responses were received with a theoretical representation. The data obtained allowed us to analyse the characteristics describing the sample, as presented in Table 1.

"Insert Table 1"

5.2. Measurement instruments

All the scales used to measure the constructs corresponded exactly to their theoretical definitions, and all were type 5-point Likert scales (1=in total disagreement; 5=completely in agreement). First, in relation to the network context, we measured the dimensions of the network market orientation using an adaptation of the scale proposed by Helfert et al. (2002), who defines it under the consideration of two chained factors: resource availability and relationship management tasks. Specifically, eleven items were divided into the following four dimensions to measure relationship management tasks: coupling (2 items); coordination (3 items); conflict resolution (3 items); exchange (3 items). Four items were used in relation to resource availability.

The measurement of inter-organisational trust was based on the common framework presented in the work of Barry, Dion & Johnson (2008), Doney, Barry & Abratt (2007) and Segarra, Moliner & Sánchez (2013). These authors all highlight the consensus existing in the marketing discipline when conceptualising trust-based credibility and benevolence. We used an adaptation of the scales presented by the authors previously mentioned (seven items), in relation to the conceptual base, applicable to the inter-firm context upon which the PPP projects are developed.

Second, in the firm context, we utilized the concept of entrepreneurial orientation defined by Miller (1983), and we used an adaptation of the extended version of Miller's scale from the

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specialised literature (Covin & Slevin, 1991) that considered three fundamental dimensions: innovative attitude (3 items); proactivity (3 items); and risk assumption (3 items).

Finally, to identify the different risk factors to be taken into account in the context of PPP projects, we used the works of Ke et al. (2010) and Chan et al. (2011) as basic references, both of whom carried out two comprehensive reviews of the previous literature. In particular, the possible factors were structured in a total of nine items associated with the following general categories: (1) political risk; (2) economic risk; (3) legal risk; (4) social risk; (5) natural risk; (6) construction risk; (7) operational risk; (8) market risk; and, (9) relationship risk. The cataloguing of these risks was detailed to the respondents as shown in Table 2.

In addition, and assuming a novel approach with respect to the previous literature in empirical studies of a causal nature, respondents were asked to rate each risk category using a double 5-point Likert scale (1=very low; 5=very high) under a double dimension: (1) the probability of occurrence for each risk category; and (2) the level of severity that each category would mean for the respondent.

By considering these two dimensions together, it was possible to precisely determine the risk perception of the respondents by means of its significance (Chan et al., 2011). This was determined by calculating the square root of the product for both dimensions.

Risk significance = Square root (probability of occurrence * level of severity)

5.3. Validity and reliability of the scales

Confirmatory factor analysis (CFA) was then conducted using the structural equation model (SEM) technique with version 6.1 of the EQS multivariate software package. The maximum likelihood approach was adopted to estimate the parameters. We adopted a model development strategy (Hair, Black, Babin & Anderson, 2010) by following Jöreskog & Sörbom (1993). First, we removed indicators that did not satisfy the strong convergence condition, with

individual standardised coefficients (λ) under 0.6 and an average value of the standardised factor loadings below 0.7 (Hair et al., 2010; Steenkamp & Van Trijp, 1991). Compliance with the weak convergence condition was then verified (Steenkamp & Van Trijp, 1991) by analysing the significance of the regression factor coefficients between indicators and their corresponding latent variables. To achieve this goal, we revised the Student t value by imposing the maximum requirement ($t > 2.58$; $P = 0.01$). This process led us to eliminate four indicators: TRU7, INN2, PRO3 and ASS2. Finally, the evolution of the main model fit measurements was monitored as the indicators were removed.

The scale reliability was then examined. Internal consistency was tested with Cronbach's alpha ($\alpha > 0.7$), and construct composite reliability ($CR > 0.7$) and analysis of variance extracted ($AVE > 0.5$) tests were applied (Churchill, 1979; Fornell & Lacker, 1981; Nunnally, 1979). A summary of the results after the factor and reliability tests is shown in Table 2.

"Insert Table 2"

We continued with the analysis of convergent and discriminant validity. Convergent validity was tested by returning to the confirmatory factor analysis performed at the start of the process, and by confirming the high estimated value and significance of the correlations between the dimensions in the scales. Table 2 shows the discriminant validity of the constructs considered assessed by AVE (Fornell & Larcker, 1981) and by confident interval tests (Anderson & Gerbing, 1988). In relation to the first test, when the square root of the AVE between each pair of factors is higher than the estimated correlation between those factors, as occurs here, the discriminant validity is ratified. The confidence interval test is based on the verification that the value of 1 does not appear within the confidence interval calculated for each pair of latent factors, taking into account the covariance of ± two standard errors around the estimated value obtained in the final confirmatory factor analysis led to the cape. Once again, the results confirm the discriminant validity.

"Insert Table 3"

Finally, and prior to contrasting the structural model, the data were analysed using various methods. First, we searched for signs of non-response bias by performing a t-test of independent means on the different dimensions of the variables in the proposed model using the first 45 and last 45 respondents. No significant differences were identified between these respondents at the 0.05 level of significance (Armstrong & Overton, 1977).

Second, to rule out common method data collection bias, we used Harman's test (Harman, 1976), which is based on the assumption that, if a bias is indicated, the results of the factor analysis corresponding to the proposed measurement model would show a majority accumulation on a single factor of the covariance associated with the included dependent and independent factors (Podsakoff & Organ, 1986). Following the recommendations of Podsakoff, MacKenzie, Lee & Podsakoff (2003), the 36 indicators included in the definitive model were taken as a reference, on which a factor analysis was performed using the principal component analysis method and examining the factor solution without rotating (Velicer & Jackson, 1990). The results revealed a total of 5 factors with eigenvalues above the unit, which would explain 75.904% of the global variance, resulting in the accumulation of a factor 1 value of 36.768%. When the identification of several factors is met and considered together with the observation that factor 1 does not accumulate a majority percentage of the global variance, we concluded that this bias was not present; however, we could not definitively rule it out (Friedrich, Byrne & Mumford, 2009; Podsakoff et al., 2003). Therefore, we were able to interpret the results obtained by contrasting the hypotheses for analysis in the following sections. We also performed a one-factor test within latent variables in the proposed model (Friedrich et al., 2009; Podsakoff et al., 2003). The overall fit was significantly poorer than the CFA results with the study's proposed factor structure, which implies that a single factor poorly reflects the data,

indicating the possible absence of any common methodological bias in the data collection (Farrell & Oczkowski, 2009).

Third, several mean comparison tests were run using IBM SPSS Statistics 26 software to confirm that sample characteristics do not affect the model constructs. The control variables were nationality, age, gender, general professional experience, and professional experience dealing with PPP projects in China. The results revealed no significant differences in any of the analyses.

6. Results

The covariance matrix derived from the process of debugging the scales carried out in the previous section is presented in Table 4.

"Insert Table 4"

Based on this matrix, the hypotheses were tested using structural equation models, which enabled us to simultaneously explore a series of dependency relationships (Hair et al., 2010), thereby obtaining the results shown in Table 5. We concluded that all the hypotheses were confirmed. Therefore, the market orientation of the network in the context of a PPP project would require the presence of resource availability between the partners, which would involve a background scenario for the partners for the implementation of different relationship management tasks (adaptation, coordination, conflict resolution and exchange) (H1: $\lambda = 0.609$, t = 7.921). As a result of these shared tasks between the entities involved in PPP projects, a climate of higher trust should flourish between partners (H2: $\lambda = 0.561$, t = 5.806). Higher inter-organisational trust in the context of a PPP project will have major repercussions on the conduct and attitude of individual private companies involved in a project's development, which is achieved by increasing their innovative, proactive and risk-taking behaviours in the form of entrepreneurial orientation (H3: $\lambda = 0.565$, t = 7.113). This particular orientation will

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ultimately be crucial to reduce the perception of risk associated with the development of this particular type of collaborative project of public/private initiative (H4: λ = -0.690, and t = -9.259).

"Insert Table 5"

Moreover, consideration of the total effects derived from the proposed effects model shows the significant influence on the different antecedent and consequence factors, and the reinforcement of the direct influence of each pair of factors through indirect effects. In summary, these results are consistent with the relationships between between these constructs as they relate to the network and firm contexts when improving the risk perception associated with PPP projects with regard to private profile enterprises.

"Insert Table 6"

7. Discussion

A PPP project implies the establishment of a long-term relationship between public and private partners with the shared objective of delivering and executing the project. Previous studies concerning success factors in such B2A relationships emphasises the legal terms that regulate the contracts and risk sharing. Network market orientation, as introduced in this article, incorporates a relational approach that helps identify the key factors concerning a PPP project.

According to the literature, the perceived risk that each party carries is the main concern when conducting a PPP project (Ma et al. 2019). Political, economic, legal, social, natural, constructive, operational, market, and relationship risks are carefully assessed as part of the partners' decision-making process (Hodge & Greve, 2017). The negotiation between parties focuses on the distribution and sharing of risks, an issue that is addressed by the majority of the clauses of legal contracts. Despite the use of sophisticated contracts and anticipated outcomes for each party, the long-term risks are difficult to forecast in PPP projects. Given the prolonged timescale of up to several decades for the exploitation and implementation of a PPP,

politicians, regulations, economic cycles and even regimes can change. These aspects are extremely relevant in developing and politically unstable countries. Nevertheless, even more developed countries also face a highly dynamic, complex, uncertain and interconnected environment, as exemplified by the two major economic crises that have occurred during the past decade, i.e., the great recession and COVID-19 pandemic. In this context, the relationship between partners has become a key success factor for any PPP project.

The relational approach suggests that the perceived risk associated with a PPP project will vary according to the entrepreneurial orientation of the parties involved (Ke et al., 2010; Chan et al., 2011). Whether a company is more entrepreneurial or conservative will influence its perceived risk, which will in turn determine how cautious it is in participating in a PPP project. The entrepreneurial attitude of a company's highest management is crucial in determining whether a PPP project will be approved and then executed (Carbonara et al., 2017). This article unveils the relational aspects that exist between the highest-ranked executives involved in PPP projects that can assist in helping to foster an entrepreneurial orientation and reduce the perceived risk of entering into a long-lasting relationship. In this sense, the main antecedent of entrepreneurial orientation is inter-organisational trust.

Trust is the foundation of long-term relationships. Partners expect their counterpart not to take advantage of their vulnerability and believe that the relationship is based on a solid understanding that both partners can expect to benefit. These are essential factors in fostering entrepreneurial orientation (Jukka et al., 2017). Trust is established between the highest-ranked executives of the parties involved in a PPP project, helping to reduce uncertainty arising from the environment and facilitating innovation and proactivity (Jiang et al., 2018). Inter-organisational trust eases collaboration in a PPP project and facilitates horizontal coordination. Therefore, it is vital that the individuals who initiated the project remain in their positions whilst the project is ongoing, given that inter-organisational trust is a requirement for the

development of personal relationships between the executives from both parties. Trust implies that one partner sees the other as honest, benevolent and competent, channelling every concern through constructive dialogue to facilitate productive cooperation.

To build inter-organisational trust from the start of a project, it is necessary to enforce relationship management tasks (Helfert et al., 2002). First, adaptation, exchange activities related to products/services, problem solving, and people are required to help build personal relationships between the partner members, as well as to build trust and social ties (Liu et al., 2018). Second, inter-firm coordination through clear formal rules and explicit informal norms also contributes to building greater trust between the partners (Heide, 1994). Third, conflict resolution and the use of constructive conflict resolution mechanisms that address extraordinary situations throughout long-term relationships are required (Ryu et al., 2007). Finally, exchange and adaptation to the special needs or capabilities of the other party also contributes to building trust (Ryu et al., 2007).

The key to developing a relational environment that promotes the success of a given PPP project (relational management tasks → inter-organisational trust → entrepreneurial orientation → perceived risk) is found in the shared organisational culture, i.e., market orientation. If each party is guided by different organisational cultures, unaligned visions for the project and unshared goals and objectives, it will be impossible to build trust and reduce the perceived risk. In our view, the best approach to address a PPP project is to adopt a shared market orientation at the network level, meaning that the partners focus on the client, competitors and environment (Naver & Slater, 1990), and both perform relational management tasks (Helfert et al., 2002). The concept of network market orientation requires the partners to facilitate their resources from the commencement of a project (financial, informational, physical and technical resources) to further promote relationship management tasks (Ritala & Ellonen, 2010).

8. Conclusions and research implications

The general objective of this paper was to simultaneously address three crucial aspects in the understanding of PPPs that were recently identified by Ma el al. (2019): risk management, governance management, and the behaviour of participants from the private profile. The study was undertaken using an integrative approach that allowed these three key aspects to be channelled through the proposal to comprise a structural model that places the network market orientation as the main mechanism of antecedent relational governance to minimise the perceived risk of the private partners that are involved. In this relationship, the role of trust at the inter-organisational level as a mediating variable between both constructs has been valued through its contribution to the reinforcement of the entrepreneurial orientation of these agents.

8.1. Theoretical implications

This paper proposes five main contributions to the field of study of PPPs. First is the assessment of a specific B2A case (PPP project) applying network market orientation. As pointed out by Ma et al. (2019), over the last decade, B2A relationships in general and in the context of PPPs in particular have been relatively poorly studied in the academic management literature, limited to a few germinal studies. Moreover, there is no record of any study being conducted to evaluate B2A relationships using a market orientation approach. Network market orientation is a recent enhancement of the theory established back in the 1990s. This has shifted the focus to the network existing between partners, given the highly dynamic, complex, uncertain and interconnected environments that have contributed to the reassessment of competition as a network of firms. The application of this theoretical framework to a PPP project, public-private relationships have proven successful, demonstrating a highly explicative component and opening a new line of research for the future.

Second, we empirically contrasted the theory of network market orientation proposed by Helfert et al. (2002), where market orientation is conceptualised based on collective participation and joint efforts. These concepts are developed in the context of the network, not as the sum of the market orientation of each member of the network. This is an important contribution to the research discussion, from the inter-company level, of the seminal conceptions of this central theory in the marketing literature (Kohli & Jaworski, 1990; Narver & Slater, 1990), which is linked exclusively to the individual behaviour of the company (Martínez, 2015; Monferrer et al., 2015). Additionally, under this proposal, a specific response is provided to recent calls in the literature to give greater attention to the way in which companies that are part of a network are able to activate the joint development of management activities to effectively realise the benefits resulting from the synergistic action of the networks (Aarikka & Rittala, 2017; Forkman et al., 2018; Monferrer et al., 2015; Pagani & Pardo, 2017).

Third, we demonstrated that inter-organisational trust is a vital aspect in the success of long-term relationships between companies. Although the concept of this contribution is not new, its application in the context of public-private partnerships and B2A is novel. Until now, B2A relationships were addressed from a purely legal perspective that only were relevant to contractual provision. The contract is intended to forecast different scenarios, identify all risks and provide the necessary provisions to minimise the risks. Nevertheless, our research demonstrates the fundamental role played by the relational context in projects with massive resources and requiring decades of development and execution. The key learning is that the need for a relational governance mechanism should be contrasted with the formal contract (Benítez et al., 2019; South et al., 2018). This mechanism is included in the assumption by the agents involved (both public and private) of a market orientation at the relational level.

The joint implementation of these relational management mechanisms means that each member of the network will have access to an expanded intellectual capital, both in terms of

quantity and quality, to which they would not have had access if acting individually (Fisher & Qualls, 2018; Monferrer et al., 2015). This approach will favour a contemporary climate of greater trust between the parties (Hoppner el al., 2015; Liu et al., 2018; Shen et al., 2019; Swärd, 2016). The approach involves contrasting the central role of trust in a novel relational context in which agents act as partners in a horizontal hierarchy system.

Linked to the key role of inter-organisational trust, we must also mention the identification of its consequences within B2A. Inter-organisational trust between the different public/private agents will act as a channel on two levels; relational and particular, favouring the willingness of the private party to adopt a more entrepreneurial orientation, a proactive, innovative nature, and with low-risk assumption (Jiang et al., 2018). In turn, this will be decisive in reducing the perceived risk concerning the PPP project in which these companies are involved (Anderson et al., 2015; Carbonara et al., 2017; Ripollés et al., 2012).

Fourth, the network market orientation framework highlights the relevance of both parties of a B2A to share a common market orientation (client, competitors, and environment). This culture must materialise in the allocation of all necessary resources to the project and in a relational management behaviour (adaptation, inter-firm coordination, conflict resolution and exchange). This would guarantee the joint adoption of mechanisms and routines oriented towards resource availability (Ritala & Ellonen, 2010). This will in turn favour the performance of up to four relational management tasks (traditionally analysed in isolation in the framework of relational knowledge management).

This study highlights the importance of both partners allocating all the necessary resources to facilitate a project's success and adopting the same relational norms, whilst highlighting the importance of the relationship between executives from both parties. These aspects can be critical in countries with cultural disparities, as they can lead to communication problems, even when the executives are trying to foster mutual trust. In this regard, a

memorandum of understanding (MOU) should be drafted in accordance with network market orientation (resource availability and relational management tasks).

Finally, our work provides an original approach to the conception of risk with respect to what has been undertaken so far in other empirical works of causal contrast. In effect, our work defines the perceived risk based on its significance, which is determined by the simultaneous conception of two dimensions: the probability of occurrence and severity. Furthermore, it does this from a wide-ranging perspective through assessment of the nine most common risk variants identified in the context of PPPs (Chan et al., 2011; Ke et al., 2010). In this regard, our research supports recent studies highlighting the need to improve the perception of risk by the agents involved in PPP projects (Chang, 2013; Hodge & Greve, 2017; Johnston & Gudergan, 2007; Ma et al., 2019), especially private enterprises.

8.2. Managerial implications

The use of PPPs has become a crucial mechanism for the development of emerging countries today and in the future. A common premise is that development growth based exclusively on public investment projects is not sustainable. In the future, deep structural reforms will be required to boost domestic consumption, the development and liberalisation of services, the reduction of the role of public administration in the allocation of resources, and positioning the corporate public sector on an equal footing with private companies to attract resources. These considerations justify all the recent efforts undertaken by the governments of emerging countries to reduce the perceived risk in using private capital sources and thereby encourage joint investment initiatives such as PPPs.

Nevertheless, PPP projects require considerable business development skills and an interdisciplinary approach, often including people with expertise in finance, economics, law, engineering, environment, and accounting/taxes, among others. Faced with so many different

perspectives, these projects require much negotiation and consensus building to develop a common understanding among the main stakeholders at each phase. In this context, it is essential to improve relationships between all the partners involved in a PPP project. An improved relationship between project partners should be encouraged and at each PPP project phase, and it should be sustained and strengthened regardless of any changes to personnel with key responsibilities, particularly in relation to the public sector partner.

Therefore, the formation of monitoring committees consisting of people on whom the responsibility for project management falls at any time is crucial at every PPP project phase (i.e., construction, operation or transfer). In this way, relationships are not limited only to those existing between the legal representatives of each party. It is important that good working relationships are in place before the appearance in the long term of conflicts due to a breach of contract by one of the parties, thus requiring a continued investment in the joint management of relationships between all the partners involved in the PPP project. This is necessary to execute unified and agreed upon actions to improve understanding, trust and efficiency by minimising potential conflicts, especially between partners from different cultures.

Thus, governments in emerging countries should build harmonised PPP networks with optimal, flexible, transparent projection routes to create sustainable collaboration networks between the public and private sectors, in terms of structural, functional and procedural perspectives. This approach should be open and predictable to establish an integrating mechanism that will lead to good governance for all partners by creating and sharing values based on their collaborative network (Choi, 2018).

Consequently, the traditional economic paradigm of profit maximisation management will no longer be useful, at least in the context of PPP projects. The emphasis is now on long-term relational management to create "value" under sustainable development in harmony with all stakeholders. For the purpose of improving relational management, digital transformation

that affects the development of all businesses globally should also be considered in the specific context of PPPs. Undoubtedly, the use of these tools will not only provide greater transparency but also facilitate better relationships on a permanent and ongoing basis among all partners.

In summary, the latest actions undertaken by governments seem to support the general assumptions considered in this investigation, highlighting the need to generate complementary governance in addition to contractual mechanisms. An aim of these mechanisms should be to achieve better management of relationships between agents to generate an atmosphere of optimal trust that favours the entrepreneurial position of the private company, thereby reducing their perception of risk and consequently increasing investment possibilities in these projects.

9. Limitations and future research

This study is not without its limitations, which leads us to consider potential proposals for further research. First, our study was restricted to PPPs in China, limiting the possible generalisation of the results to other international contexts. Second, our study is based on the responses of only a single respondent for each of the companies and networks in the sample, which raises two questions. First, it is worth considering whether a single interviewee can respond adequately on behalf of the entire organisation. Second, our survey was directed towards the manager of each company, who responded to questions about the operation of a network as a whole. Third, the use of cross-sectional data can be seen as a limitation when making causal inferences. Therefore, future studies should analyse identified relationships by using longitudinal data. Finally, new research focused on the public perspective may complement our study, thereby enabling comparisons with the results presented herein.

References

Aarikka, L., & Rittala P. (2017). Network management in the era of ecosystems: Systematic review and management framework. *Industrial Marketing Management*, 67, 23-36.

Alessandri, T.M., Mammen, J., & Eddleston, K. (2018). Managerial incentives, myopic loss aversion, and firm risk: A comparison of family and non-familiy firms. Journal *of Business Research*, 91, 19-27.

Andaleeb, S.S. (1992). The trust concept: research issues for channels of distribution. *Research in Marketing*, *11*(1), 1-34.

Anderson, J.C., & Gerbing, D.W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.

Anderson, B.S., Covin, J.G., & Slevin, D.P. (2009). Understanding the relationship between entrepreneurial orientation and strategic learning capability: an empirical investigation. *Strategic Entrepreneurship Journal*, *3*(3), 218-240.

Anderson, B.S., Kreiser, P.M., Kuratko, D.F., Hornsby, J.S., & Eshima, Y. (2015). Reconceptualizing entrepreneurial orientation. *Strategic Management Journal*, 36(10), 1579-1596.

Armstrong, J.S., & Overton, T.S. (1977). Estimating non-response bias in mail surveys. *Journal of Marketing Research*, 16, 396-402.

Barry, J.M., Dion, P., & Johnson, W. (2008). A cross-cultural examination of relationship strength in B2B services. *Journal of Services Marketing*, 22(2), 114-135.

Batjargal, B. (2006). The dynamics of entrepreneurs' networks in a transitioning economy: the case of Russia. *Entrepreneurship and Regional Development*, 18(4), 305-320.

Benítez, C., Hartman, A., & Dewulf, G. (2019). Contractual and relational governance as positioned-practices in ongoing Public-Private Partnerships projects. *Project Management Journal*, 50(6), 716-733.

Beverland, M.B., & Lindgreen, A. (2007). Implementing market orientation in industrial firms: A multiple case study. *Industrial Marketing Management*, 36(4), 430-442.

Brislin, R.W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1, 185-216.

Cao, Z., & Lumineau, F. (2015). Revisiting the interplay between contractual and relational governance: A qualitative and meta-analytic investigation. *Journal of Operations Management*, 33/34, 15-42.

Carbonara, N., Costantino, N., & Pellegino, R. (2017). An empirical study of risks in PPP: the case of motorway sector. *Advances in Public-Private Partnerships – Proceedings of the 2nd International Conference on Public-Private Partnerships*, 473-485.

Chan, P.C., Yeung, J.F.Y., Yu, C.C.P., Wang, S.Q., & Ke, Y. (2011). Empirical study of risk assessment and allocation of Public-Private Partnership Projects in China. *Journal of Management in Engineering*, 27(3), 136-148.

Chang, C.Y. (2013). A critical review of the application of TCE in the interpretation of risk allocation in PPP contracts. *Construction Management and Economics*, 31(2), 99-103.

Cheung, E., Chan, A.P.C., & Kajewski, S. (2010). The public sector's perspective on procuring public works projects: Comparing the views of practitioners in Hong Kong and Australia. *Journal of Civil Engineering and Management*, 16, 19-32.

Choi, Y. (2018). The Asian values of Guānxì as an economic model for transition toward green growth. *Sustainability*, 10(7), 1-20.

Churchill, G.A. Jr. (1979). A paradigm for developing better measures in marketing. *Journal of Marketing Research*, 16, 64-73.

Cooper, D.F., Grey, S., Raymond, G., & Walker, P., (2005). *Project Risk Management Guidelines: Managing Risk in Large Projects and Complex Procurements*. John Wiley & Sons, Ltd., England.

Covin, J.G., & Slevin, D.P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship: Theory and Practice*, 16(19), 7-25.

da Silveira, G.J.C., & Arkader, R. (2007). The direct and mediated relationships between supply chain coordination investments and delivery performance. *International Journal of Operations & Production Management*, 27(2), 140-158.

de Castro, D., Oliveira, C., Silva, M.F., & Silva, P. (2016). Bibliometric analysis of PPP and PFI literature: Overview of 25 years of research. *Journal of Construction Engineering and Management*, 142(10), 6001.

Doney, P.M., Barry, J.M., & Abratt, R. (2007). Trust determinants and outcomes in global B2B services. *European Journal of Marketing*, 41(9/10), 1096-1116.

Elg, U. (2002). Inter-firm market orientation: Its significance and antecedents in distribution networks. *Journal of Marketing Management*, 18(7/8), 633-656.

Evanschitzky, H. (2007). Market orientation of service networks: Direct and indirect effects on sustained competitive advantage. *Journal of Strategic Marketing*, 15, 349-368.

Fang, S.R., Chang, E., Ou, C.C., & Chou, C.H. (2014). Internal market orientation, market capabilities and learning orientation. *European Journal of Marketing*, 48(1/2), 170-192.

Farrell, M.A., & Oczkowski, E. (2009). Service worker customer orientation, organisation/job fit and perceived organisational support. *Journal of Strategic Marketing*, 17(2), 149-167.

Fisher, G.J., & Qualls, W.J. (2018). A framework of interfirm open innovation: relationship and knowledge based perspectives. *Journal of Business & Industrial Marketing*, 33(2), 240-250.

Forkmann, S., Henneberg, S.C., & Mitrega, M. (2018). Capabilities in business relationships and networks: Research recommendations and directions. *Industrial Marketing Management*, 74, 4-26.

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50.

Frankort, H.T.W. (2014). Open innovation norms and knowledge transfer in interfirm technology alliances: evidence from information technology, 1980–1999. In Ron Adner , Joanne E. Oxley , Brian S. Silverman (ed.) *Collaboration and Competition in Business Ecosystems* (Advances in Strategic Management, Volume 30) Emerald Group Publishing Limited, 239-282.

Friedrich, T.L., Byrne, C.L., & Mumford, M.D. (2009). Methodological and theoretical considerations in survey research. *The Leadership Quarterly*, 20, 57-60.

Grimsey, D., & Lewis, M.K. (2002). Evaluating the risks of public private partnerships for infrastructure projects. *International Journal of Project Management*, 20(2), 107-118.

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate Data Analysis*. Upper Saddle River, NJ: Prentice Hall.

Harman, H.H. (1976). *Modern Factor Analysis*. Third Edition. Chicago: The University of Chicago Press.

Heide, J.B. (1994). Interorganizational governance in marketing channels. *Journal of Marketing*, 58(1), 71-85.

Helfert, G., Ritter, T., & Walter, A. (2002). Redefining market orientation from a relationship perspective: Theoretical considerations and empirical results. *European Journal of Marketing*, 36(9/10), 1119-1139.

Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing*, 18(2), 165-187.

Hodge, G.A., & Greve, C. (2017). On public–private partnership performance: A contemporary review. *Public Works Management & Policy*, 22(1), 55-78.

Holma, A.M. (2014). Adaptation in business contexts: working triadic relationships. In Arch G. Woodside, Roger Baxter (ed.) *Deep Knowledge of B2B Relationships Within and Across Borders* (Advances in Business Marketing and Purchasing, Volume 20) Emerald Group Publishing Limited, 119-291.

Hoppner, J.J., Griffith, D.A., & White, R.C. (2015). Reciprocity in relationship marketing: A cross-cultural examination of the effects of equivalence and immediacy on relationship quality and satisfaction with performance. *Journal of International Marketing*, 23(4), 64–83.

Howard, M., Roehrich, J.K., Lewis, M.A., & Squire, B. (2019). Converging and diverging governance mechanisms: The role of (dys)function in long-term inter-organizational relationships. *British Journal of Management*, 30(3), 624-644.

Hyvonen, S., Tuominen, M. (2007). Channel collaboration, market orientation and performance advantages: Discovering developed and emerging markets. *The International Review of Retail, Distribution and Consumer Research*, 17(5), 423-445.

Jiang, X., Liu, H., Fey, C., & Juang, F. (2018). Entrepreneurial orientation, network resource acquisition, and firm performance: a network approach. *Journal of Business Research*, 87, 46-57.

Johnston, J., & Gudergan, S. P. (2007). Governance of public–private partnerships: Lessons learnt from an Australian case? *International Review of Administrative Sciences*, 73(4), 569-582.

Jöreskog, K., & Söbom, D. (1993). *LISREL 8: structural equation modeling with the SIMPLIS command language*. Scientific Software International, Chicago, Illinois.

Ke, Y., Wang, S.Q, Chan, A.P.C., & Lam, P.T.I. (2010). Preferred risk allocation in China's public-private partnership (PPP) project. *International Journal of Project Management*, 28(5), 482-492.

Khanna, T., Gulati, R., & Nohria, N. (1998). The dynamics of learning alliances: Competition, cooperation, and relative scope. *Strategic Management Journal*, 19(3), 193-210.

Kivleniece, I., & Quelin, B.V. (2012). Creating and capturing value in public-private ties: A private actor's perspective. *Academy of Management Review*, 37(2), 272-299.

Klijn, E.H., & Teisman, G.R. (2003). Institutional and strategic barriers to public–private partnership: An analysis of Dutch cases. *Public Money and Management*, 23(3), 137-146.

Koch, T., & Windsperger, J. (2017). Seeing through the network: Competitive advantage in the digital economy. *Journal of Organization Design*, 6(1), 1-30.

Kohli, A.K., & Jaworski, B.J. (1990). Market orientation: The construct, research propositions and managerial implications. *Journal of Marketing*, 54(2), 1-18.

Jukka, M., Blomqvist, K., Li, P.P., & Gan, C. (2017). Trust-distrust balance: trust ambivalence in Sino-Western B2B relationships. *Cross Cultural & Strategic Management*, 24(3), 482-507.

Le Breton, I., & Miller, D. (2006). Why do some family businesses out-compete? Governance, long-term orientation and sustainable capability. *Entrepreneurship: Theory and Practice*, 30(6), 731-746.

Li, L. (2005). The effects of trust and shared vision on inward knowledge transfer in subsidiaries intra and inter organizational relationships. *International Business Review*, 14(1), 77-95.

Ling, F.Y.Y., Ong, S.Y., Ke, Y., Wang, S., & Zou, P. (2014). Drivers and barriers to adopting relational contracting practices in public projects: Comparative study of Beijing and Sydney. *International Journal of Project Management*, 32(2), 275-285.

Liu, Y.H.S., Deligonul, W., Cavusgil, E., & Chiou, J.S. (2018). Always trust in old friends? Effects of reciprocity in bilateral asset specificity on trust in international B2B partnerships. *Journal of Business Research*, 90, 171-185.

Lui, S.S., Ngo, H.Y., & Hon, A.H.Y. (2006). Coercitive strategy in interfirm cooperation: mediating roles of interpersonal and interoganizational trust. *Journal of Business Research*, 59, 466-474.

Ma, L., Li, J., Jin, R., & Ke, Y. (2019). A holistic review of Public-Private partnership literature published between 2008 and 2018. *Advances in Civil Engineering,* 2019, 1-19.

Martínez, L. (2015). *La influencia de la orientación emprendedora de la red sobre los resultados de las nuevas empresas internacionales*. Doctoral Dissertation. Universitat Jaume I, Spain.

McEvily, B., Perrone, V., & Zaheer, A. (2003). Trust as an organizing principle. *Organization Science*, 14(1), 91-103.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.

Monferrer, D., Blesa, A., & Ripollés, M. (2015). Catching dynamic capabilities through market-oriented networks. *European Journal of International Management*, 9(3), 384-408.

Monferrer, D., Estrada, M., & Moliner, M.A. (2019). Ambidexterity as a key factor in banks performance: a marketing approach. *Journal of Marketing Theory and Practice*, 27(2), 227-250.

Mwesiumo, D., & Halpern, N. (2016). Interfirm conflicts in tourism value chains. *Tourism Review*, 71(4), 259-271.

Narver, J.C., & Slater, S.F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, 54, 20−35.

Nunnally, J. (1979). *Psychometric Theory*. McGraw-Hill, Nueva York.

Pagani, M., & Pardo, C. (2017). The impact of digital technology on relationships in a business network. *Industrial Marketing Management*, 67, 185-192.

Palmatier, R.W., Dant, R.P., Grewal, D., & Evans, K.R. (2006). Factors influencing the effectiveness of relationship marketing: A meta-analysis. *Journal of Marketing*, 70(4), 136-153.

Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in organizational research: problems and prospects. *Journal of Management*, 12(4), 531-44.

Podsakoff, P.M., MacKenzie, S.B., Lee, J., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.

Reynaers, A., & Van der Wal, Z. (2018). Do partners in PPPs view public and private management differently? Re-examining Boyne's hypotheses in the context of collaboration. *Australian Journal of Public Administration*, 77, 294-308.

Ripollés, M., Blesa, M., & Monferrer, D. (2012). Factors enhancing the choice of higher resource commitment entry modes in international new ventures. *International Business Review*, 21(4), 648-666.

Ritala, P., & Ellonen, H.K. (2010). Competitive advantage in interfirm cooperation: old and new explanations. *Competitiveness Review: An International Business Journal*, 20(5), 367-383.

Ritter, T., Wilkinson, I.F., & Johnston, W.J. (2004). Managing in complex business networks. *Industrial Marketing Management*, 33, 175-183.

Rufín, C., & Rivera, M. (2012). Between commonweal and competition: Understanding the governance of public–private partnerships. *Journal of Management*, 38(5), 1634-1654.

Ryu, S., Park, J.E. & Min, S. (2007). Factors of determining long-term orientation in interfirm relationships. *Journal of Business Research*, 60, 1225-1233.

Sales, C. (2014). Product importance and complexity as determinants of adaptation processes in business relationships. *Journal of Business & Industrial Marketing*, 29(1), 75-87.

Segarra J.R., Moliner, M.A., & Sánchez, J. (2013). Relationship quality in business to business: a cross- cultural perspective from universities. *Marketing Intelligence & Planning*, 31(3), 196-215.

Shen, L., Su, C., Zheng, S., & Zhuang, G. (2019). Contract design capability as a trust enabler in the pre-formation phase of interfirm relationships. *Journal of Business Research*, 95, 103-115.

Slotte, S., & Coviello, N. (2010). Entrepreneurship research on network processes: a review and ways forward. *Entrepreneurship Theory and Practice*, 34(1), 31-57.

South, A., Eriksson, K., & Levitt, R. (2018). How infrastructure public–private partnership projects change over project development phases. *Project Management Journal*, 49(4), 62-80.

Steenkamp, J.B.E.M., & van Trijp, H.C.M. (1991). The use of LISREL in validating marketing constructs. *International Journal of Reesearch in Marketing*, 8(4), 283-299.

Swärd, A. (2016). Trust, reciprocity, and actions: The development of trust in temporary inter-organizational relations. *Organization Studies*, 37(12), 1841-1860.

Van de Graaff, R. (2016). A multilevel study of structural resilience in interfirm collaboration: A network governance approach. *Management Decision*, 54(1), 248-266.

Velicer, W.F., & Jackson, D.N. (1990). Component analysis versus common factor analysis: Some further observations. *Multivariate Behavioral Research*, 25(1), 97-114.

Vissa, B., & Bhagavatula, S. (2012). The causes and consequences of churn in entrepreneurs' personal networks. *Strategic Entrepreneurship Journal*, 6(3), 273-289.

Warsen, R., Greve, C., Klijn, E.H., Koppenjan, J.F.M., & Siemiatycki, M. (2020). How do professionals perceive the governance of public-private partnerships? Evidence from Canada, the Netherlands and Denmark. *Public Administration*, 98(1), 124-139.

Windsperger J., Cliquet G., Hendrikse G.W.J., & Srećković M. (2019). Design and management of interfirm networks: An introduction. In: Windsperger J., Cliquet G., Hendrikse G., Srećković M. (eds)

Design and Management of Interfirm Networks. Contributions to Management Science. Springer, Cham.

Ye, J., Marinova, D., & Singh, J. (2007). Strategic Change Implementation and Performance Loss in the Front Lines. *Journal of Marketing*, 71, 156-171.

Zucker, L.G., (1985). Production of trust: institutional sources of economic structure, 1840-1920. In: Cummings, L.L., Staw, B. (Eds.), *Research in Organizational Behavior*, 8. JAI Press, Greenwich, CT.
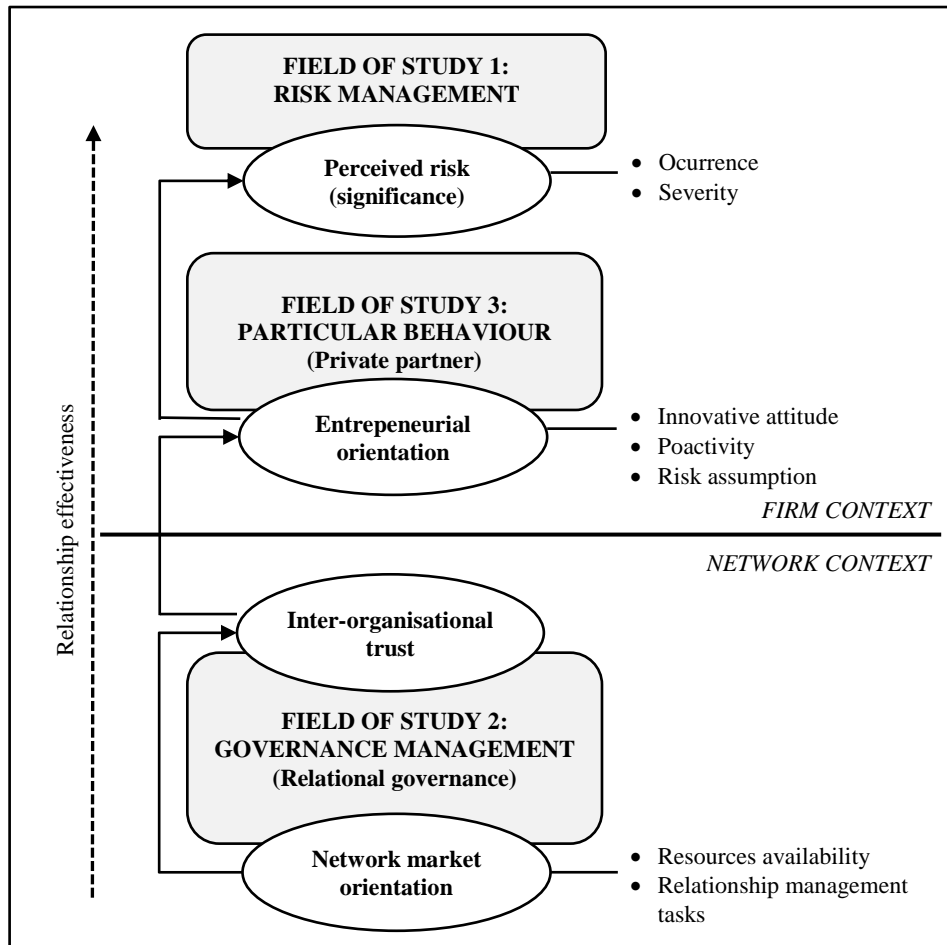
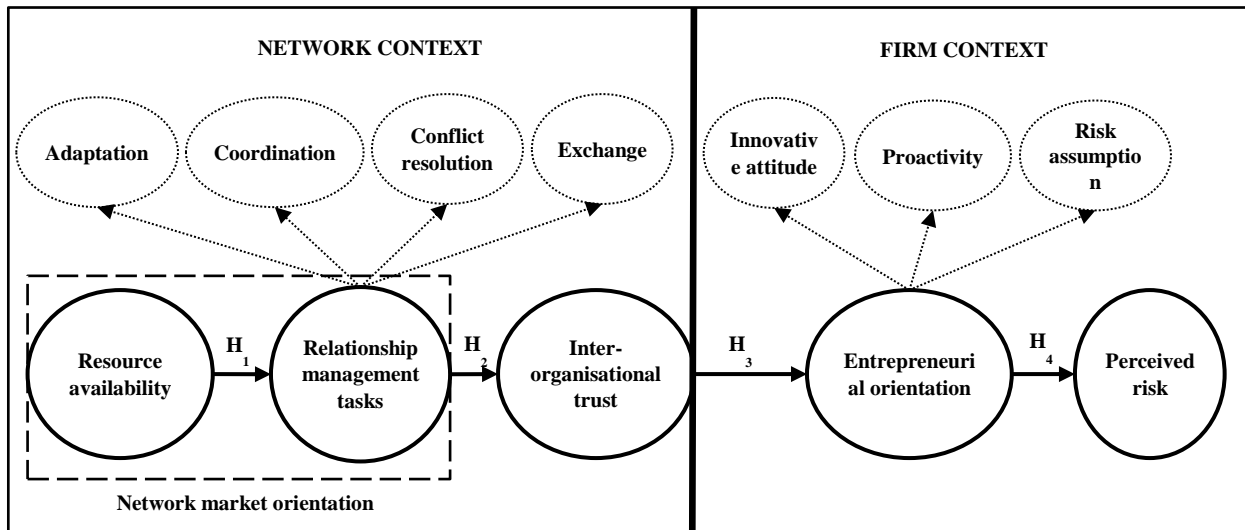**Fig. 1** State of the art of PPPs literature

Fig. 2 Model of effects

Table 1 Characteristics of the sample

Nationality			Language		
Category	Spain	China	Spanish	Chinese	English
Frequency (%)	84 (46.7%)	96 (53.3%)	94 (52.2%)	24 (13.4%)	62 (34.4%)
Age (average: 42 years old)					
Category	20-29 years	30-39 years	40-49 years	More than 50 years	
Frequency (%)	22 (12.3%)	49 (27.2%)	67 (37.0%)	42 (23.5%)	

Gender			Residency		
Category	Man	Woman	*Category*	China	Other
Frequency (%)	116 (64.4%)	64 (35.6%)	*Frequency (%)*	95 (52.8%)	85 (47.2%)

Last PPP						
Category	Hospital	Transport	Water	Communications	City	Waste	Other
Frequency (%)	18 (10.0%)	24 (13.3%)	46 (25.6%)	22 (12.2%)	66 (36.7%)	46 (25.6%)	88 (48.9%)

Industrial experience				
Category	0-5 years	6-10 years	11-15 years	More than15 years
Frequency (%)	56 (31.1%)	30 (16.7%)	22 (12.2%)	72 (40.0%)

Experience in PPP in China			
Category	0-2 years	3-5 years	More than 5 years
Frequency (%)	68 (37.8%)	58 (32.2%)	54 (30.0%)

Table 2 Summary of the results after factor, reliability and validity analysis

Items	Loads	t-value
NETWORK CONTEXT:		
Extent to which the agents in my main PPP relationship network...		
RELATIONSHIP MANAGEMENT TASKS (CR=0.95; AVE=0.83)		
ADAPTATION (α=0.914; CR=0.91; AVE=0.84)	*0.914*	*13.205**
ADA1: ...update our offers to meet customer's needs.	0.897	Fixed
ADA2: ...update delivery and usage of our offers to meet customers' demands.	0.939	19.200*
COORDINATION (α=0.906; CR=0.91; AVE=0.77)	*0.891*	*11.224**
COO1: ...discuss each member's tasks in a collaborative context.	0.802	Fixed
COO2: ...ensure that the commitments agreed by both parties are fulfilled.	0.906	14.418*
COO3: ...discuss the steps required to achieve the network's joint objectives.	0.920	14.707*
CONFLICT RESOLUTION (α=0.924; CR=0.92; AVE=0.80)	*0.867*	*12.433**
CON1: ...when there are conflicts we try to impose our individual interests at all costs (reverse scored).	0.899	Fixed
CON2: ...wait a considerable length of time in order to calm down conflict situations (reverse scored).	0.854	16.268*
CON3: ...try to reach a compromise which is acceptable to all parties when a conflict arises.	0.930	19.506*
EXCHANGE (α=0.917; CR=0.92; AVE=0.79)	*0.977*	*14.654**
EXC1: ...engage in shared learning about specific members' needs.	0.898	Fixed
EXC2: ...react quickly in the event of customer problems with the products or services we offer.	0.906	18.736*
EXC3: ...facilitate face-to-face relationships among members of each firm.	0.863	16.813*
RESOURCE AVAILABILITY (α=0.892; CR=0.90; AVE=0.69)		
RES1: …have access to technical systems and teams that other members can use.	0.648	9.469*
RES2: …have access to information about customers that other members may possess.	0.916	15.659*
RES3: …have access to market information that other members may possess.	0.884	14.763*
RES4: …have access to information on the strategic objectives of other members.	0.859	14.102*
INTER-ORGANISATIONAL TRUST (α=0.931; CR=0.93; AVE=0.69)		

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TRU1: In general the different agents are trustworthy.	0.798	12.664*
TRU2: In general the different agents are honest.	0.809	12.937*
TRU3: In general the different agents have integrity.	0.875	14.631*
TRU4: We believe the information that the other network members provide us.	0.872	14.561*
TRU5: The other members are genuinely concerned about our business success.	0.858	14.178*
TRU6: When making important decisions, the other agents consider our welfare as well as their own.	0.780	12.240*
TRU7: The other network members has dedicated time and effort to learn about our way of doing business.	Deleted	

FIRM CONTEXT:

ENTREPRENEURIAL ORIENTATION (CR=0.97; AVE=0.92)

INNOVATIVE ATTITUDE (α=0.788; CR=0.79; AVE=0.65)	*0.974*	*12.715*￼*
INN1: My firm favors a strong emphasis on R&D technological leadership and innovations.	0.826	Fixed
INN2: My firm has recently entered into new activities and/or launched new products.	Deleted	
INN3: My firm frequently carries out significant changes in product lines or services.	0.788	11.978*
PROACTIVITY (α=0.891; CR=0.89; AVE=0.80)	*0.949*	*13.614*￼*
PRO1: My company only undertakes actions in the sector after knowing the movements of the competitors (reverse scored).	0.887	Fixed
PRO2: My company undertakes actions in the sector that competitors subsequently follow.	0.905	17.193*
PRO3: My company is a pioneer in the development of new products, administrative techniques or technologies.	Deleted	
RISK ASSUMPTION (α=0.889; CR=0.89; AVE=0.80)	*0.951*	*13.756*￼*
ASS1: Due to the dynamism of the environment, my company prefers to start with small investments and gradually increase its investment (reverse scored).	0.891	Fixed
ASS2: My company prefers to undertake high-risk investment projects.	Deleted	
ASS3: When my company faces a decision with a certain degree of uncertainty, it usually adopts a prudent stance (reverse scored).	0.898	17.062*

PERCEIVED RISK (α=0.965; CR=0.97; AVE=0.76)

RIS1: Politic risk (Government corruption, government intervention, nationalization/expropriation, public credit, poor public decision-making process).	0.858	14.319*
RIS2: Economic risk (Interest rate fluctuation, foreign exchange fluctuation, inflation, financing risk).	0.893	15.300*
RIS3: Legal risk (Legislation change, imperfect law and supervision system, change in tax regulation).	0.884	15.032*
RIS4: Social risk (Political/public opposition).	0.858	14.320*
RIS5: Natural risk (Force majeure, unforeseen weather/geotechnical conditions, environment risk).	0.872	14.709*
RIS6: Construction (Completion risk, material/labor nonavailability, unproven engineering techniques).	0.864	14.484*
RIS7: Operation risk (Project/operation changes, operation cost overrun, price change, expense payment risk).	0.872	14.701*
RIS8: Market risk (Market competition, change in market demand).	0.850	14.099*
RIS9: Relationship risk (Third-party delay/violation, organisation and coordination risk, inability of the concessionaire).	0.888	15.152*

Note: Fit of the model: χ^2=760.943, df=577, χ^2/df=1.318; NFI=0.866; NNFI=0.950; IFI=0.954; CFI= 0.954; SRMR= 0.048; RMSEA=0.042.

* p<0.01

Table 3 Scale discriminant validity

	1	2	3	4	5
1. RES	0.83				
2. TAS	0.61* [0.51;0.71]	0.91			
3. TRU	0.29* [0.14;0.43]	0.56* [0.45;0.67]	0.83		
4. ENT	0.05 [-0.11;0.20]	0.33* [0.18;0.47]	0.58* [0.47;0.68]	0.96	
5. RIS	0.15* [0.00;0.30]	-0.15* [-0.29;0.00]	-0.27* [-0.41;-0.12]	-0.69* [-0.78;-0.61]	0.87

Note: Below the diagonal: correlation estimated between the factors.

Diagonal: square root of AVE.

* $p<0.05$

Table 4 Covariance matrix for the variables (N=180)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	ADA1	1.248																																			
2	ADA2	1.023	1.185																																		
3	COO1	0.637	0.649	0.925																																	
4	COO2	0.709	0.711	0.646	0.908																																
5	COO3	0.725	0.683	0.691	0.777	0.941																															
6	CON1	0.749	0.719	0.650	0.749	0.763	1.145																														
7	CON2	0.609	0.605	0.575	0.642	0.638	0.850	1.015																													
8	CON3	0.707	0.716	0.593	0.675	0.706	0.888	0.806	1.011																												
9	EXC1	0.907	0.967	0.681	0.707	0.734	0.738	0.627	0.813	1.235																											
10	EXC2	0.961	0.961	0.648	0.732	0.721	0.754	0.642	0.782	1.056	1.251																										
11	EXC3	0.788	0.842	0.667	0.684	0.716	0.786	0.666	0.770	0.856	0.883	1.071																									
12	RES1	0.475	0.520	0.486	0.346	0.408	0.508	0.358	0.425	0.547	0.570	0.598	1.419																								
13	RES2	0.533	0.550	0.453	0.448	0.515	0.525	0.435	0.442	0.534	0.564	0.608	0.793	1.251																							
14	RES3	0.587	0.645	0.534	0.517	0.563	0.563	0.550	0.530	0.633	0.626	0.645	0.676	1.027	1.274																						
15	RES4	0.391	0.486	0.433	0.396	0.406	0.459	0.422	0.355	0.480	0.525	0.500	0.799	0.953	0.931	1.178																					
16	TRU1	0.380	0.366	0.332	0.366	0.341	0.433	0.304	0.405	0.318	0.358	0.332	0.196	0.207	0.240	0.123	0.721																				
17	TRU2	0.255	0.240	0.263	0.271	0.268	0.344	0.262	0.325	0.222	0.302	0.290	0.291	0.237	0.232	0.169	0.469	0.675																			
18	TRU3	0.353	0.355	0.309	0.341	0.294	0.358	0.331	0.380	0.364	0.408	0.350	0.291	0.190	0.233	0.135	0.483	0.495	0.698																		
19	TRU4	0.417	0.386	0.339	0.358	0.361	0.435	0.328	0.438	0.433	0.447	0.393	0.235	0.215	0.219	0.111	0.517	0.502	0.536	0.741																	
20	TRU5	0.396	0.355	0.368	0.376	0.351	0.432	0.347	0.418	0.372	0.436	0.381	0.268	0.210	0.255	0.135	0.503	0.518	0.606	0.596	0.847																
21	TRU6	0.323	0.325	0.300	0.307	0.265	0.344	0.286	0.354	0.326	0.369	0.320	0.173	0.202	0.228	0.138	0.447	0.396	0.450	0.451	0.463	0.617															
22	INN1	0.201	0.217	0.204	0.167	0.188	0.238	0.156	0.223	0.237	0.274	0.282	0.034	0.015	0.040	0.003	0.254	0.262	0.255	0.304	0.315	0.255	0.787														
23	INN3	0.155	0.183	0.163	0.090	0.112	0.118	0.161	0.205	0.223	0.235	0.217	-0.050	-0.042	0.045	0.015	0.229	0.240	0.263	0.347	0.344	0.279	0.529	0.839													
24	PRO1	0.147	0.197	0.184	0.111	0.168	0.134	0.160	0.220	0.212	0.190	0.117	0.075	0.090	0.084	0.064	0.257	0.266	0.280	0.316	0.341	0.267	0.525	0.524	0.734												
25	PRO2	0.190	0.200	0.171	0.119	0.135	0.171	0.172	0.202	0.250	0.235	0.220	0.006	0.009	0.061	0.015	0.265	0.272	0.300	0.338	0.367	0.291	0.539	0.494	0.581	0.712											
26	ASS1	0.215	0.231	0.188	0.162	0.195	0.261	0.234	0.268	0.230	0.279	0.214	0.006	0.020	0.056	0.006	0.304	0.292	0.261	0.346	0.358	0.318	0.495	0.520	0.517	0.525	0.739										
27	ASS3	0.202	0.229	0.189	0.148	0.158	0.205	0.171	0.223	0.260	0.274	0.224	0.045	0.005	0.066	0.016	0.277	0.280	0.272	0.330	0.313	0.315	0.513	0.498	0.515	0.517	0.574	-0.696									
28	RIS1	0.017	-0.079	-0.064	-0.012	0.004	-0.228	-0.165	-0.192	-0.117	-0.140	-0.153	0.128	0.193	0.127	0.088	-0.128	-0.127	-0.178	-0.202	-0.145	-0.192	-0.365	-0.377	-0.407	-0.426	-0.491	-0.375	1.211								
29	RIS2	-0.025	-0.104	-0.018	-0.053	0.007	-0.145	-0.077	-0.130	-0.168	-0.134	-0.105	0.089	0.275	0.158	0.136	-0.112	-0.114	-0.167	-0.188	-0.173	-0.171	-0.420	-0.431	-0.450	-0.451	-0.530	-0.450	0.980	1.180							
30	RIS3	-0.023	-0.102	-0.052	-0.035	-0.005	-0.155	-0.116	-0.154	-0.166	-0.134	-0.133	0.106	0.205	0.064	0.058	-0.145	-0.077	-0.150	-0.157	-0.128	-0.167	-0.443	-0.455	-0.442	-0.429	-0.478	-0.460	0.863	0.926	1.059						
31	RIS4	-0.054	-0.099	-0.062	-0.022	-0.001	-0.187	-0.131	-0.205	-0.174	-0.156	-0.139	0.128	0.214	0.137	0.124	-0.131	-0.178	-0.192	-0.229	-0.153	-0.225	-0.471	-0.465	-0.484	-0.446	-0.520	-0.451	0.929	0.973	0.897	1.241					
32	RIS5	-0.043	-0.150	-0.127	-0.009	-0.088	-0.273	-0.157	-0.264	-0.231	-0.201	-0.225	0.056	0.136	0.128	0.146	-0.207	-0.182	-0.240	-0.287	-0.228	-0.245	-0.534	-0.522	-0.507	-0.525	-0.588	-0.514	1.012	0.989	0.941	1.017	1.391				
33	RIS6	-0.115	-0.228	-0.122	-0.021	-0.067	-0.203	-0.116	-0.186	-0.232	-0.201	-0.180	0.089	0.047	0.101	0.047	-0.243	-0.165	-0.208	-0.230	-0.215	-0.240	-0.521	-0.483	-0.489	-0.493	-0.510	-0.479	0.810	0.860	0.818	0.848	0.964	1.116			
34	RIS7	-0.101	-0.158	-0.058	-0.005	-0.041	-0.172	-0.059	-0.199	-0.179	-0.145	-0.109	0.101	0.190	0.171	0.159	-0.151	-0.132	-0.122	-0.218	-0.152	-0.175	-0.462	-0.465	-0.436	-0.463	-0.541	-0.453	0.835	0.878	0.788	0.838	0.915	0.824	1.085		
35	RIS8	-0.077	-0.140	-0.093	-0.008	-0.011	-0.157	-0.066	-0.137	-0.165	-0.184	-0.136	0.067	0.159	0.120	0.098	-0.142	-0.137	-0.135	-0.208	-0.173	-0.218	-0.517	-0.493	-0.479	-0.485	-0.515	-0.478	0.819	0.803	0.783	0.824	0.833	0.811	0.929	1.100	
36	RIS9	-0.056	-0.108	-0.105	-0.011	-0.040	-0.225	-0.132	-0.192	-0.157	-0.179	-0.141	0.073	0.146	0.093	0.058	-0.226	-0.173	-0.202	-0.233	-0.224	-0.214	-0.464	-0.480	-0.464	-0.451	-0.502	-0.456	0.863	0.859	0.837	0.835	0.956	0.915	0.841	0.893	1.093

Table 5 Summary results of the structural model

Hyp.	Path	Parameter	t-value	Result
H$_1$	Resource availability → Relational management tasks	0.609	7.921*	Supported
H$_2$	Relational management tasks → Inter-organisational trust	0.561	5.806*	Supported
H$_3$	Inter-organisational trust → Entrepreneurial orientation	0.565	7.113*	Supported
H$_4$	Entrepreneurial orientation → Perceived risk	-0.690	-9.259*	Supported

Note: Fit of the model: χ^2=708.570, df=575, χ^2/df=1.232; NFI=0.863; NNFI=0.963; IFI=0.967; CFI= 0.966; SRMR= 0.077; RMSEA=0.036.
* p<0.05.

Table 6 Total effects derived from the results of the structural model

Path	Parameter	t-value
Resource availability → Relational management tasks	0.609	7.921*
Relational management tasks → Inter-organisational trust	0.561	5.806*
Resource availability → Inter-organisational trust	0.342	7.528*
Inter-organisational trust → Entrepreneurial orientation	0.565	7.113*
Resource availability → Entrepreneurial orientation	0.193	5.724*
Relational management tasks → Entrepreneurial orientation	0.317	4.848*
Entrepreneurial orientation → Perceived risk	-0.690	-9.259*
Resource availability → Perceived risk	-0.133	-5.196*
Relational management tasks → Perceived risk	-0.219	-4.515*
Inter-organisational trust → Perceived risk	-0.390	-6.168*

Note: * p<0.05.