Business networks as breeding grounds for entrepreneurial options: organizational implications

Business networks as common breeding grounds for entrepreneurial options: Organizational implications

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Abstract

This study proposes an original configurational view of the organizational logics of business networks. It develops a set of 18 operationalizable propositions, clustered around a typology of six networking logics, that allow to measure the extent to which each networking logic is active at the level of a specific network organization. In addition, this study leverages degree-of-freedom analysis (DFA) to inductively develop a model of how different possible combinations of these six networking logics may transform networks into effective institutions for the creation, recognition, and seizing of entrepreneurial options. These contributions can be used for future larger configurational studies on network organizations as option-creating and resilience-generating institutions.

Keywords: network organizations, real options, transactional logic, resource control logic, legitimacy logic, co-creation logic, innovation logic, commons logic.

1. Introduction

The concept of organizational logic (Spicer & Sewell, 2010) can be used to indicate the system of values, rules, roles, beliefs and social expectations that articulate what is considered acceptable and desirable conduct in, around, and with a certain organization.

An organizational logic is typically organization-specific and stems from the idiosyncratic combination of internal logics (such as the organization's business model or traditional internal practices) and societal, field-level logics (which are usually identified as institutional logics: for instance, the patriarchal institutional logic can influence family businesses) (Wooten & Hoffman, 2008). In other words, an organizational logic is not a monolithic philosophy created by design to be fixed in time, but rather a dynamic configuration that combines several multi-level logics emerging from the social processes in and around the organization (Greenwood, Hinings, & Whetten, 2014).

The coexistence of heterogeneous and possibly conflicting multi-level logics within a certain organizational logic can result in intractable problems at both the operational and the strategic level (Rossignoli, Ricciardi, & Bonomi, 2018). On the other side, however, this very same coexistence can also be essential to organizational survival, especially in complex and/or turbulent organizational fields. If effectively orchestrated and integrated, in fact, diverse logics can complement each other and enhance an organization's capacity to (re)gain legitimation, resist crises, learn from difficulties, seize opportunities, and evolve towards innovative solutions and identity. In other words, a possible link between specific configurations of organizational logics and organizational resilience is emerging as a relevant topic both for scholarly research and practice (Ferraro, Etzion, & Gehman, 2015). Nevertheless, we still know very little on how different organizational logics, understood as different combinations of multi-level logics, influence an organization's capacity to resist crises and adapt to an ever-evolving context (Besharov & Smith, 2014; Pache & Santos, 2010).

This study contributes to this emerging research stream by focusing on an organizational form that is widely recognized as particularly suited to pursue resilience, that is, the network form of organizing (Rossignoli & Ricciardi, 2015). We argue that the analysis of organizational logics in

network form of organizing is especially significant, since network organizations are recognized as the niches for creative institutional work *par excellence* (Lawrence, Hardy, & Phillips, 2002).

Based on the literature on business networks, we argue that network organizations can be shaped by different network-level logics that may strongly influence resilience. We then address the two following research questions: *What are the key networking logics that can shape network organizations? How do these different networking logics combine with each other into specific organizational logics that can make network organizations and network partners more resilient?*

In order to answer the research questions, this study uses network-level capacity to (re)generate entrepreneurial options as a proxy of resilience. In fact, the network-level creation and incubation of entrepreneurial options reflects key resilience-generating factors, such as experimentation, learning, evolution, resource sharing, mutual trust and mutual support (Scherpereel, 2008).

We then select eight exemplary cases of network organizations that developed high levels of resilience, measured in terms of capacity to (re)generate and nurture rich portfolios of entrepreneurial options for the network partners. The triangulated data collection on these eight cases allows us to conduct a two-step inductive study. In the first step, we find that the beliefs and social expectations about business networking can be clustered around six key different logics that are recognizable in the organizational fields of the business networks under analysis. Through coding and iterative comparisons with the literature, we find that these six logics interestingly correspond to six clusters of organizational theories explaining business networks: three traditional, well-established views (revolving around the resource dependence theory, transaction costs economics, and neo-institutionalism) and three emergent views (revolving around service ecosystems, innovation ecologies, and business network commons). Consequently, we translate each of these six logics into three propositions, for a total of 18 propositions, that overall articulate the key social expectations about business networking under that specific logic. The final outputs of this phase are a list of six different logics of business networking and an instrument (made up of three propositions for each of

the six logics) to assess the degree to which each business networking logic is present in a specific network organization's logic.

In the second step, we translate the 18 propositions inductively developed in the first step into a prediction matrix. This allows us to conduct a theory-building degree-of-freedom analysis (DFA) on the eight cases considered. The analysis is conducted by both qualitative pattern matching based on the collected data, and a new round of structured interviews for face validation.

The model resulting from this theory-building effort suggests that the networking logics based on service ecosystems (Lusch & Vargo, 2014), innovation ecologies (Dougherty & Dunne, 2011), and network commons (Ricciardi, Zardini, & Rossignoli, 2018) complement each other in creating the conditions for an effective network-level breeding ground for entrepreneurial options. Conversely, a transaction costs economic logic (Williamson, 1985) and a neo-institutional logic (DiMaggio et al., 1983) may be only partially compatible with the goal of leveraging the network for developing entrepreneurial options. Finally, a resource dependence logic (Pfeffer & Salancik, 2003) seems incompatible with the network serving as a breeding ground for entrepreneurial options in the long term.

The contribution of this study is threefold. First, this study contributes to the research on business networks and network forms of organizing (Coff & Laverty, 2007; Klingebiel & Adner, 2015; Schepker, Oh, Martynov, & Poppo, 2014) by exploring the role of organizational factors, such as networking logics and organizational logics, in transforming these social organisms into nurturing breeding grounds for entrepreneurial options.

Second, this study contributes to the research on real options (Scherpereel, 2008) by shedding light on how the idiosyncratic combination of networking logics into a specific network's organizational logic shapes the network system's capacity to generate entrepreneurial options and the partners' capacity to benefit from these options.

Third, this study contributes to the literature on institutional logics and organizational fields (Wooten & Hoffman, 2008) by exploring the relevant role of specific logics and combinations of

logics in the development of entrepreneurial options and organizational resilience. This study's novelty and originality resides in the identification of six different networking logics through specific operationalizable propositions, and in the identification of enhanced (or reduced) dynamism and resilience as a possible key outcome of the adoption of different configurations of logics in network organizations. The institutional literature, in fact, has overlooked the build-up of measurable typologies of logics thus far, and traditionally focuses on how logics influence performance through mechanisms such as legitimation or ideological polarization, rather than adaptability and resilience.

2. Background: resilience and entrepreneurial options in business networks

A real option is a non-financial resource that gives access to a later possible choice, typically an investment choice (Driouchi & Bennett, 2012). A firm's real option portfolio may include many resources, such as people, relationships, capabilities, facilities, hardware, and software. For example, an existing web-based modular information system can also be viewed as a digital option (Sambamurthy, Bharadwaj, & Grover, 2003) that provides the firm with the opportunity to timely develop new services in the future to better meet the ever-changing customers' needs (Bennett & Errewé, 2003). A real option keeps an investment choice open while the owner collects emerging information for delayed and better decision making about the investment (Bowman & Hurry, 1993).

Building upon previous work on financial options, the real options view recognizes that the ability to defer (full) commitment, while seizing and holding the option to commit to a possibly promising investment in the future, is valuable for firms (Leiblein, 2003). Therefore, "options thinking" (also labelled as "options reasoning") suggests that managers and entrepreneurs make strategic decisions through an incremental chain of investments, in which large strikes follow small options (Bowman & Hurry, 1993). In fact, incremental option-strike investment allows time lags during which organizational learning is possible, thus leaving room for both low-cost disinvestment and more adaptive engagement, depending on the emerging circumstances. As such, real options theory offers conceptual tools for understanding how entrepreneurs may multiply opportunities under

uncertainty (Short, Ketchen, Shook, & Ireland, 2010). In this light, an organization's resources and capabilities constitute an evolving bundle of options. Firms with a rich and heterogeneous optional capital (Bouteiller & Karyotis, 2010) are more likely to survive and thrive in turbulent business environments (Driouchi & Bennett, 2012).

Real options theory highlights that the higher the environmental uncertainty, the higher the value of a rich portfolio of real options (Chintakananda & McIntyre, 2014), because a significantly larger number of real options can be kept open compared to traditional investments, thus allowing for a higher level of flexibility (McGrath, Ferrier, & Mendelow, 2004). Firms with a rich and diversified portfolio of real options (Trigeorgis & Reuer, 2017) are in the position to leverage the time lag between option and investment decisions for timely exploiting emerging opportunities while easily abandoning those initiatives that gradually prove less interesting.

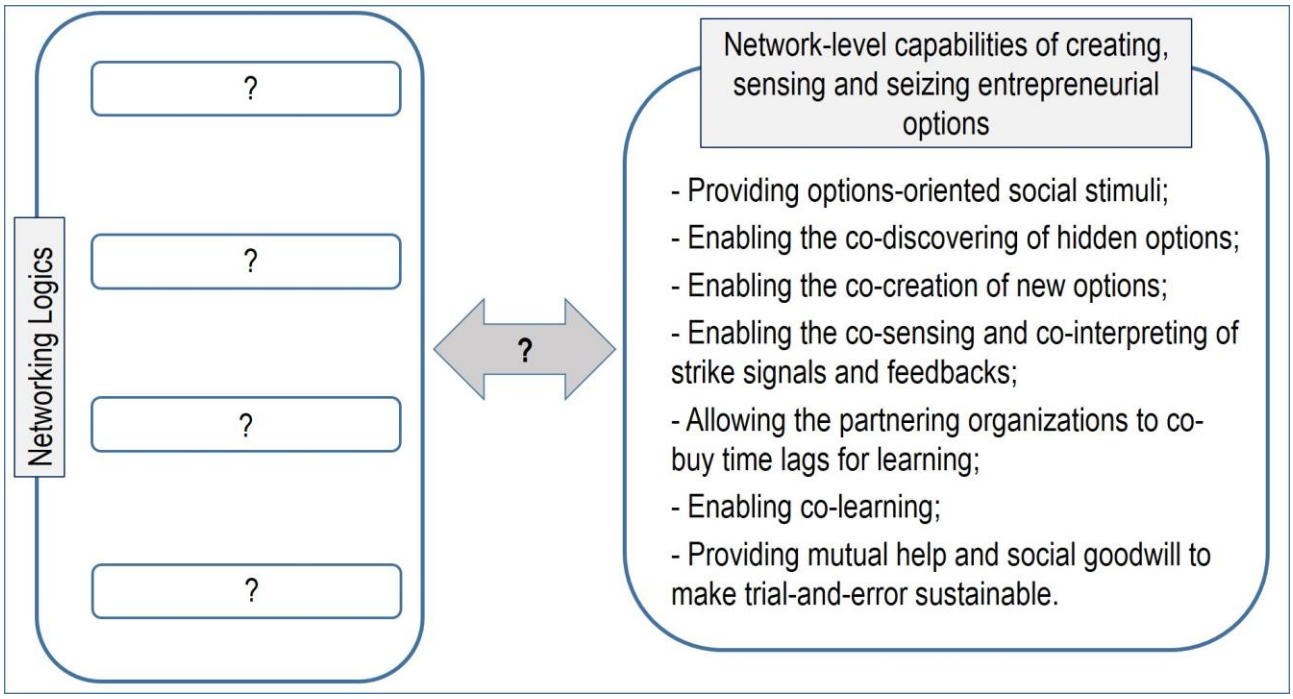
Since most real options, indeed, give access to possible business model (re)generation initiatives, real options are increasingly regarded as essential resources for entrepreneurship in today's highly uncertain business environments (McGrath, 1999). These entrepreneurial options often have an organizational nature (Coff & Laverty, 2007; Kogut & Kulatilaka, 2001), because they emerge from (and can be discovered and leveraged only through) the specific and path-dependent bundle of capabilities, relationships, rules, and roles that shape the organization and its organizational field (Coff & Laverty, 2007).

Of particular interest is the contribution of Scherpereel (2008), who claims that entrepreneurs adopt a real options perspective when they choose the systems of interactions, and then the governance structures, that will shape their ventures. In particular, hybrid forms (i.e. networks) are preferable "when flexibility, delayed commitment, growth, expansion, and uncertainty resolution are important to the capitalist-entrepreneur" (p. 465). In fact, a network form of organizing creates an agreement to share the future options that the parties may develop. Thus, the network agreement represents an *option on the future options* that the network may generate, even if unforeseeable in the first place. This is a multiplying factor that may transform network organizations into exceptionally

favorable breeding grounds for entrepreneurial options. In addition, the network also dramatically raises the overall organizational slack (Bowman & Hurry, 1993; Hughes, Eggers, Kraus, & Hughes, 2015), thus multiplying the stock of resources and capabilities that the partnering firms may (but are not obliged to) activate for option generation, recognition, and adaptive striking. Consistently, Bérard & Perez, (2014) identify three types of real options stemming from inter-organizational alliances: unexpected discoveries, collaboration with trusted counterparts, and knowledge (Massaro, Moro, Aschauer, & Fink, 2017).

Therefore, business networks shaped by options thinking may become powerful enablers of the partnering organizations' entrepreneurial options: in other words, these network organizations can serve as institutions that create options and enable option recognition and seizing for their network partners. Based on the literature (Bouteiller & Karyotis, 2010; Bowman & Hurry, 1993; Driouchi & Bennett, 2012; Leiblein, 2003; Scherpereel, 2008), the key option-creating capabilities inlcude: (a) providing options-oriented social stimuli; (b) enabling the co-discovering of hidden options; (c) enabling the co-creation of new options; (d) enabling the co-sensing and co-interpreting of strike signals and feedbacks; (e) allowing the partnering organizations to co-buy time lags for learning; (f) enabling co-learning; (g) providing mutual help and social goodwill to make trial-and-error sustainable. The contributions of this literature stream allow us to translate the research questions into the research model depicted in Figure 1.

Figure 1 – Research model.



3. Research design and methods

This research has been designed as an inductive study (Eisenhardt & Graebner, 2007) with the aim of (i) developing an operationalizable typology of networking logics in business networks, and (ii) exploring how specific combinations of such logics may enable the creation of option-related capabilities at the network level, as in Figure 1.

The iterative comparison and cross-fertilization of thick empirical qualitative data and the literature is widely recognized as a powerful means to develop effective inductive studies (Bryman & Bell, 2011). We adopted this approach and identified a set of cases of business networking where high capabilities of opportunity creation, sensing and seizing had been developed. We leveraged the list of the 1,414 Italian business networks that had already signed a business network contract in 2014 (Cantele, Vernizzi, & Ricciardi, 2016) to pursue a specific business project. We had the opportunity to read the documents describing 350 business network projects, thus identifying a list of 100 projects that were particularly interesting with regard to innovation/entrepreneurial content. We contacted these 100 networks and sent them a questionnaire including questions aimed at assessing network-level capabilities of option creation, sensing and seizing, as defined in Figure 1 (based on the results

of the literature analysis as synthesized in Section 2). This initiative yielded 35 complete questionnaires, thanks to which we identified eight networks with high to very high capabilities of option creation, sensing and seizing. These eight networks represent a broad and balanced variety of industries, sizes, and purposes, thus satisfying the maximum variety criterion (Bryman & Bell, 2011) that is key to qualitative theory building (Table 1). This sample was considered satisfactory, because for inductive theory building the statistical significance of the sample is not an issue.

(Table 1 here)

We conducted a triangulated case study for each network, with two to nine in-depth semi-structured interviews to top managers or entrepreneurs for each case (38 interviews overall). Rich repositories of secondary data and multimedia historical documents were available for the selected cases and enabled thick triangulation. Based on this material, we conducted a two-step inductive analysis.

In the first step, with the aid of the Atlas.ti software, we leveraged this material to conduct open and axial coding (Bryman & Bell, 2011) in order to reconstruct the longitudinal development of each network being studied and to cluster the logics behind the beliefs, preoccupations, choices, expectations, and behaviors emerging from the sources. Open coding was conducted independently by at least two authors for each part of the hermeneutic unit, whilst axial coding was conducted through collegial discussion. Finally, sets of three operationalizable propositions for each logic have been collegially developed as an instrument to describe each logic and to measure its influence in a real-world context.

In the second step of the inductive study, we conducted a degree-of-freedom analysis (DFA) (Campbell, 1975; Woodside, 2010) to develop a structured comparative analysis of the eight business networks under study, and to assess whether recurrent combinations of network-level organizational logics are recognizable. DFA is still quite rare in management and organization studies, but is well-

established in diagnosis-related disciplines, such as medicine and psychology (Campbell, 1975). DFA leverages pattern matching as a key epistemological process, and supports the inductive generalization of case data to theory (instead of the generalization to a population, which would be inappropriate).

We designed the DFA study following Woodside (2010, chapter 12). First, we created a prediction matrix, by leveraging the operationalizable propositions identified in Phase 1.

Then, three "judges" separately analyzed the data describing the situation of the eight networks. The first two judges were two authors of this study; the third was a collective judge (i.e. seven graduate students) coordinated by the other two authors of this study. Each judge filled in the prediction matrix independently. For each cell, two choices were available: "hit" or "miss" (depending on if the case data, according to the judge, overall confirmed rather than disconfirmed the proposition, or vice versa). In order to encourage focused choices, the judges could score "hit" to a maximum of three first-line predictions (i.e. the predictions that define the key goal of business networking). Each judge made 144 decisions (six theories with three propositions each in eight cases). In 59% of cases, there was perfect agreement between the judges (triple hit, or triple miss). For the remaining 41% of cases, the three judges discussed to achieve a shared view. When this proved impossible (18% of cases), the authors adopted the score on which two judges agreed, discarding the minority score.

Subsequently, for sounder validation of the results, at least one interviewee per case was asked to fill in the prediction matrix for the business network he/she works in. There was a very high rate of correspondence (about 91%) between the hit/miss patterns resulting from judges' decisions and those directly based on the contents of the hermeneutic units, and those directly proposed by the interviewees. Discrepant evaluations were discussed with the interviewees until consensus was achieved. In two cases, a further informant was involved to help reach an agreement between the different views of the researchers' and interviewees'.

4. Results and discussion

4.1 A new operationalizable typology of networking logics

Through the grounded, iterative process described above, we classified the views, rules, roles, beliefs, and behavioral expectations on business networking into six clusters, synthesizable as follows.

1. The first cluster views inter-organizational relationships as a means by which selfish actors seek to minimize uncertainty through power-based control of their social and/or institutional environment. On the side of the scientific literature, this cluster corresponds to the resource-dependence theory (Pfeffer & Salancik, 2003) and realist (old) institutionalism (Meyer, 2008). We labelled this cluster as the *resource control logic* of business networking.
2. The second cluster views inter-organizational relationships as a means by which opportunist actors seek to minimize costs and/or risks through social and/or contract-based inter-organizational governance. On the side of the scientific literature, this cluster corresponds to the transaction costs economics (Williamson, 1985) and principal-agent theory (Eisenhardt, 1989a). We labelled this cluster as the *transactional logic* of business networking.
3. The third cluster views inter-organizational networks as institutional niches or fields, in which specific systems of rules, values and beliefs shape the partnering organizations. Actors are highly socialized and keen to comply with the norms and expectations of their institutional field, in order to gain legitimacy. Long-term business relations tend to create stable institutions, and are likely to result in phenomena of conformism, inertia, and path dependency. On the side of the scientific literature, this cluster corresponds to the sociological (new) institutionalism (DiMaggio et al., 1983) and organizational ecology (Baum & Shipilov, 2006). We labelled this cluster as the *legitimacy logic* of business networking.
4. The fourth cluster views inter-organizational networks as dense fabrics of mutual interdependencies where people cope with problems and co-create value through collaborative service-oriented interactions. This approach views the cooperative, continuous mutual adaptation of actors, resources, and activities as key to success, whilst mutual control is detrimental to

creativity and problem-solving. On the side of the scientific literature, this cluster corresponds to the international marketing and purchase approach (IMP) (Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009), and the service-dominant logic / service systems view (Vargo, Maglio, & Akaka, 2008). We labelled this cluster as the *co-creation logic* of business networking.

5. The fifth cluster views inter-organizational networks as engines of distributed experimentation and collaborative, adaptive innovation. This approach highlights the advantages of bottom-up strategies and non-hierarchical network structures to minimize inertia and foster creativity. In this view, actor-to-actor networks (Fjeldstad, Snow, Raymond, & Lettl, 2012) are best suited to keeping many future lines of action open while solving the specific problems of the partnering actors and accumulating knowledge for future flexibility. On the side of the scientific literature, this cluster corresponds to a group of converging, recent views, such as the robust action approach (Ferraro et al., 2015), the theories on evolutionary learning (Ansell, 2011), and innovation ecologies (Dougherty & Dunne, 2011). We labelled this cluster as the *innovation logic* of business networking.
6. The sixth cluster views network organizations as institutions whose main role consists in developing, protecting and/or governing fragile common resources that are particularly valuable to network partners, but also particularly vulnerable to network partners' possible opportunistic behaviors. In other words, networks are expected to provide solutions to commons-related social dilemmas (Cantino, Devalle, Cortese, Ricciardi, & Longo, 2017). In this view, integrated commons-oriented learning, horizontal accountability, the participatory (re)generation and enforcement of commons-related arrangements, and nested institutions are key to network success. On the side of the scientific literature, this cluster corresponds to the theories of self-regulatory institutions (Barnett & King, 2008; Dietz, Ostrom, & Stern, 2003) and business network commons (Ricciardi et al., 2018). We labelled this cluster as the *commons logic* of business networking.

Notably, the typology synthesized above, that emerges from the iterative analysis of the empirical sources and the literature, clusters the theories that the scholarly community usually adopts to explain inter-organizational relationships into six mainstream approaches: three traditional, well-established views (revolving around the resource dependence theory, transaction costs economics, and neo-institutionalism), and three emergent views (revolving around the service ecosystems, innovation ecologies and network commons views). Each of these theoretical macro-approaches provides explanations and predictions on the phenomenon of inter-organizational networking that significantly differ from those of the five other clusters, thus identifying a specific, internally consistent possible logic for organizing business networks.

Based on these results, we developed three propositions for each logic, for a total of eighteen propositions. For each set of three propositions, the first one defines the key goal of business networking according to that approach, and the other two propositions describe key beliefs regarding expected network features and/or success factors.

These propositions are easily operationalizable (for example, through a totally agree-totally disagree Lickert scale) and can be used to both describe a networking logic, and measure its presence and influence in a specific organizational logic, as we did by re-interviewing our informants for the final validation of our DFA analysis. Table 2 synthesizes the outcomes described above, including the 18 propositions developed for the six logics.

(Table 2 here)

4.2 Resilience-enabling organizational logics: a configurational view

The results of DFA, comparing the extent to which the six networking logics are active and present in resilient networks' organizational logics, are quite interesting. The distribution of the results (see Table 3) is highly polarized towards the co-creation, innovation, and commons logics. Conversely, elements of the transactional logic are more rarely coupled with successful options thinking, whilst

elements of the resource control logic are very rarely coupled with successful option thinking. The legitimacy logic has average coupling with successful options thinking.

(Table 3 here)

These results suggest that network-level organizational logics play a key role in enabling the partnering firms' capabilities of creating, sensing and seizing entrepreneurial options.

A possible explanation of the low compatibility (emerged from DFA) between the resource control logic and option-generating capabilities is that power is the key driving force in a network shaped by the resource control logic. Therefore, the weakest network partners have reason to believe that the strongest partners will get their hands on all the best options that may possibly emerge: it is not surprising that, in such a situation, the weakest partners feel scarcely incentivized to develop entrepreneurial options that are likely to be predated by others. On the other hand, the strongest partners are likely to focus on maintaining/increasing their power over the other actors rather than developing and sensing innovative opportunities for all. In other words, the levels of innovation-oriented cooperation are too low in networks shaped by the resource control logic for enabling the build-up of option-related capabilities. This explanation is corroborated by the opinions expressed by several of our interviewees.

Conversely, network organizations with high option-related capabilities display high pattern matching with three networking logics: the co-creation logic (which mirrors the literature on service-dominant logics, service systems, and the IMP approach), innovation logic (which mirrors the robust action approach, the innovation ecologies theories, and the theories on evolutionary learning) and the commons logic (which mirrors the of self-regulatory institutions and business network commons). This confirms recent findings on the compatibility of institutional logics in smart city fields (Pierce, Ricciardi, & Zardini, 2017) and can be explained by considering that collaboration for value co-creation and creative innovation are much more likely to occur when people perceive that effective

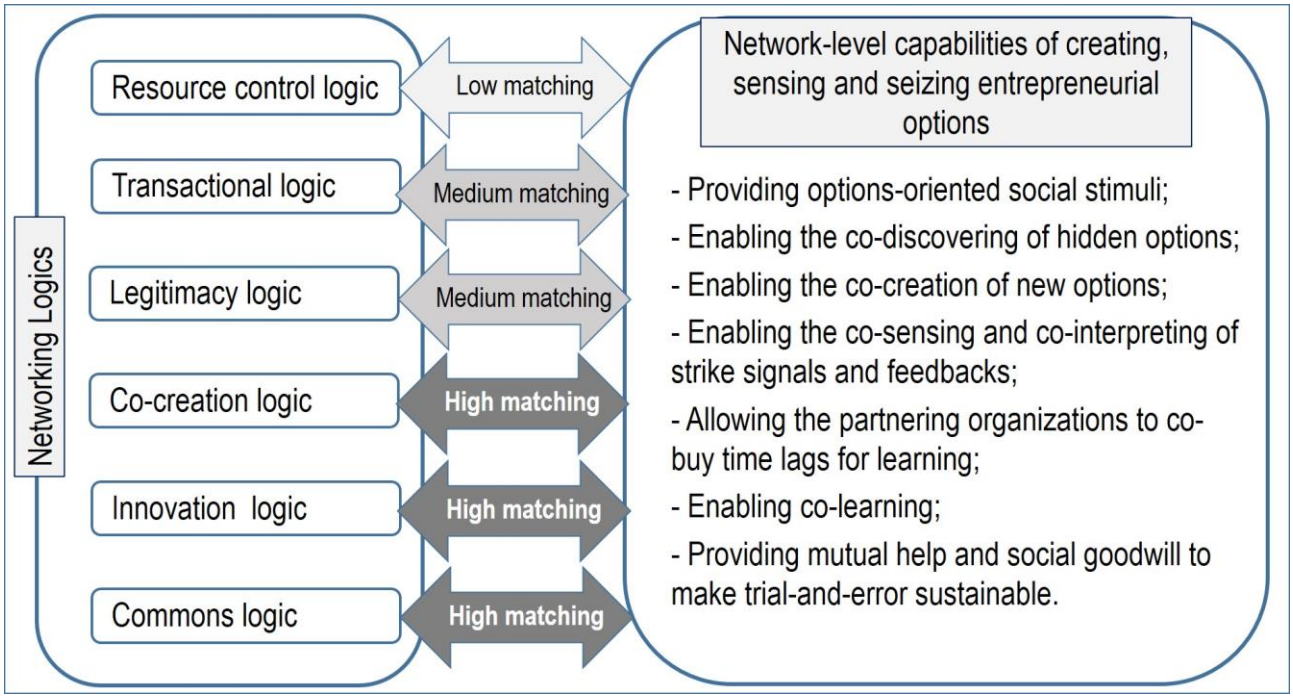
rules and social mechanisms are available to protect the common resources that could be co-created through innovation from opportunism, disengagement or lethargy. In other words, when these three logics co-exist, the network can serve as an institution that enables, through an innovation ecology, the co-creation of a key intangible commons, that is, a breeding-ground of entrepreneurial options for the networking firms.

Consistently, the co-creation logic, innovation logic, and commons logic are contemporaneously present in most of the successful cases we investigated. This may suggest that these three logics are highly compatible and reciprocally reinforcing for developing option-related capabilities. Organizational logics configurations with a high presence and influence of these three networking logics may put the partnering organizations in the condition to sense, develop, and seize better entrepreneurial options than those of network organizations where these three logics have a weak influence. Specific quantitative configurational studies would be needed to confirm the positive correlation between the presence of (at least one of) these three networking logics and enhanced option-related capabilities and resilience.

On the other hand, two logics that correspond to two well-established theoretical clusters - the transactional logic (which mirrors the transaction costs economics and agency theory) and the legitimacy logic (which mirrors new institutionalism and population ecology theories) - display medium-low or medium levels of pattern matching with option-related capabilities. Further studies are needed to understand the reasons for this, and to explore the boundary conditions under which these compatibilities may increase or decrease.

The results of this study are synthesized in Figure 2.

Figure 2 – Research results.



Our study corroborates the idea that organizational variables such as network-level organizational design and identity strongly shape the organization's capabilities to acquire new entrepreneurial options, acknowledge the extant resources' potential nature of options, and manage the option portfolio.

Our empirical sources converge in stating that many entrepreneurial options are latent and multipotent. In other words, many valuable real options are linked to a blurred area of potentialities rather than one specific possible future investment; these options may suddenly open up possible investment paths that are not foreseeable at the moment of option acquisition or creation. The capability to manage such uncertainty is key to firm resilience and survival in complex and turbulent business environments. This capability can be enhanced by developing specific combinations of networking logics, our study suggests.

5. Conclusions

This study investigates the importance of network-level organizational factors to develop higher capabilities to create, sense and seize entrepreneurial options.

First, this study highlights the importance of organizational resilience as a key possible outcome of business networking, and proposes the capability to develop entrepreneurial options (as conceptualized in Figure 1) as a proxy of firm-level and network-level resilience.

Second, this study develops an original typology of six networking logics, which can be combined in several different possible configurations of organizational logics. Each networking logic mirrors a specific literature stream and is defined through a set of operationalizable propositions, as synthesized in Table 2. This clustering effort allows for future comparative studies (based e.g., on fuzzy-set QCA) testing the relationships between different configurations of logics and performance (in terms e.g., of firm survival).

Third, this study explores the possibility of developing a theory of how organizational logic influence network organizations' resilience through a DFA. According to our results, synthesized in Figure 2, some networking logics and (perhaps even more interestingly) some combinations of logics may be significantly more effective than others in enabling option-relating capabilities and resilience.

Since this is a theory-building study, our results should not be understood as theory-testing outcomes. Rather, this study paves the way for further studies on the organizational conditions for transforming business networks into common breeding grounds for entrepreneurial options and firm resilience.

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TABLES

Table 1. The business networks being investigated.

Case code	Sector	Network purpose	Partnering firms	Overall employees
1	Luxury & fashion	*Linking high-quality Italian leather manufacturers (purses mainly) to provide top fashion brands with the best handcraft*	8	400
2	Food	*Linking small producers of high-quality regional food to improve marketing and commercial positioning*	52	450
3	Green chemicals	*Linking agriculture and chemical firms for R&D and synergies in green productions*	16	1000
4	Plant engineering	*Linking complementary engineering firms to exploit synergies as for marketing, technological investments, training and specialization*	6	160
5	Metallurgy	*Linking companies of the aluminum value chain to improve product quality and commercial strength*	15	1800
6	B2B services	*Linking firms of different sectors to improve their organizational welfare and social responsibility*	11	1700
7	Food	*Linking canned tomato producers for improved product quality and marketing*	14	3000
8	Automotive	*Linking companies of the motor industry for improved R&D, production and commercial synergies*	12	2000

Table 2. An operationalizable typology of networking logics.

Exemplary excerpts	NETWORKING LOGIC	Literature Cluster	Characterizing Propositions
"When one of the partners has too much muscle compared to the others, you bet they have the temptation to take advantage of it" (Case 8, Manager 1).	**Resource Control logic**	Resource-dependence theory (Pfeffer & Salancik, 2003) and realist (old) institutionalism (Meyer, 2008)	Minimizing uncertainty while maximizing control on key resources is a key goal of BN.
			Organizations leverage power mechanisms to control the other actors of the network.
			Organizations seek to influence in their own interest the institutions that rule the network.
"(As a network), we succeeded in achieving more favorable contracts with utility providers, insurance companies, public funding" (Case 1, Press release).	**Transactional logic**	Transaction costs economics (Williamson, 1985) and principal-agent theory (Eisenhardt, 1989a)	Minimizing the transaction costs is a key goal of business networking (BN).
			The firms leverage socio-bureaucratic mechanisms to control risks and opportunism in the network.
			Transactions are frequent in the network, and the required investments are not too specific.
"It is all about compliance today… without the network, it would be hardly sustainable to abide by" (Case 3, Manager 1).	**Legitimacy logic**	New institutionalism (DiMaggio et al., 1983) and organizational ecology (Baum & Shipilov, 2006)	Enhancing the firm's legitimacy/prestige is a key goal of BN.
			When BN implies socializing in a new institutional field, the organization adapts accordingly.
			Stable BN results in organizational conformism, inertia, and path dependency.
"Through the network, we have relationships with the markets and the schools in our sector; we know what the institutions can do for us; we have a vision of what is going on" (Case 1, Manager 3).	**Co-creation logic**	IMP approach (Håkansson et al., 2009), and the service systems view (Vargo et al., 2008)	Collaboratively solving the actors' problems (including the customers') is a key goal of BN.
			Actors leverage shared vision, trust and ethical values to enable flexible network coordination.
			Value co-creation stems from mutual adaptation rather than control.
"In the food sector, we need to innovate the whole value chain today… this is the main role of the network: how to innovate effectively without our partners?" (Case 7, Manager 2).	**Innovation logic**	Robust action (Ferraro et al., 2015), evolutionary learning (Ansell, 2011) and innovation ecology (Dougherty & Dunne, 2011)	Developing the actors' capabilities of adaptive innovation is a key goal of BN.
			Actors leverage knowledge exchange and collaborative learning to enable innovation.
			Innovation stems from distributed experimentation rather than top-down planning and investments.
"They would not accept this partnership if they perceived that the rules of the game are decided elsewhere, without involving them" (Case 6, Manager 1)	**Commons logic**	Self-regulatory institutions (Barnett & King, 2008; Dietz et al., 2003) and business network commons (Ricciardi et al., 2018)	Protecting the network common resources (also from partners' opportunism) is a key goal of BN.
			The network enables transparency and horizontal accountability to protect network commons.
			The network's participatory structure allows for self-regulation about the network commons.

Table 3. Results of the DFA of business networks with high capabilities of creating, sensing and seizing entrepreneurial options.

LOGIC	Propositions describing the key beliefs and expectations according to each logic	Cases (see Table 1)								EM	OM
		1	2	3	4	5	6	7	8		
Resource control	Minimizing uncertainty while maximizing control on key resources is a key goal of BN.	⊗	⊗	⊗	✪	⊗	⊗	⊗	⊗	*12*	**2**
	Organizations leverage power mechanisms to control the other actors of the network.	⊗	⊗	⊗	✪	⊗	⊗	⊗	⊗		
	Organizations seek to influence in their own interest the institutions that rule the network.	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗		
Transactional	Minimizing the transaction costs is a key goal of business networking (BN).	⊗	⊗	⊗	✪	✪	✪	⊗	⊗	*12*	**9**
	The firms leverage socio-bureaucratic mechanisms to control risks and opportunism in the network.	⊗	✪	✪	⊗	✪	✪	⊗	⊗		
	Transactions are frequent in the network, and the required investments are not too specific.	⊗	⊗	⊗	⊗	✪	✪	⊗	⊗		
Legitimacy	Enhancing the firm's legitimacy/prestige is a key goal of BN.	✪	✪	✪	⊗	⊗	✪	⊗	⊗	*12*	**13**
	When BN implies socializing in a new institutional field, the organization adapts accordingly.	✪	✪	✪	⊗	✪	✪	✪	✪		
	Stable BN results in organizational conformism, inertia, and path dependency.	⊗	⊗	✪	⊗	⊗	⊗	⊗	⊗		
Co-creation	Collaboratively solving the actors' problems (including the customers') is a key goal of BN.	✪	⊗	✪	✪	✪	✪	✪	✪	*12*	**19**
	Actors leverage shared vision, trust and ethical values to enable flexible network coordination.	✪	⊗	⊗	✪	✪	✪	✪	✪		
	Value co-creation stems from mutual adaptation rather than control.	✪	✪	✪	⊗	✪	⊗	✪	✪		
Innovation	Developing the actors' capabilities of adaptive innovation is a key goal of BN.	✪	✪	✪	⊗	⊗	⊗	✪	✪	*12*	**18**
	Actors leverage knowledge exchange and collaborative learning to enable innovation.	✪	✪	✪	✪	✪	⊗	✪	✪		
	Innovation stems from distributed experimentation rather than top-down planning and investments.	⊗	✪	⊗	✪	✪	✪	✪	✪		
Commons	Protecting the network common resources (also from partners' opportunism) is a key goal of BN.	✪	✪	✪	⊗	✪	⊗	✪	✪	*12*	**18**
	The network enables transparency and horizontal accountability to protect network commons.	✪	✪	✪	⊗	✪	⊗	✪	✪		
	The network's participatory structure allows for self-regulation about the network commons.	✪	✪	⊗	✪	✪	⊗	✪	✪		

Notes:

Stars (✪) = hits; crossed circles (⊗) = misses

EM = expected matches for each theory (distribution one would expect by chance)

OM = observed matches for each theory

$\chi 2 = 19.250$; $p = 0.0017$