

NETWORK OF NETWORKS: A Governance Framework to Integrate Cooperation Networks

João Claudio Saenger-Silva

*Fadergs – Faculdade de Desenvolvimento do Rio Grande do Sul
Rua Riachuelo, 1257 – Porto Alegre – Rio Grande do Sul
Brazil - Zip Code: 90.010-271
E-mail: joao.claudio@fadergs.edu.br*

Jorge Renato Verschoore (Corresponding author)

*Unisinos University – Unisinos Business School
Av. Unisinos, 950 – São Leopoldo – Rio Grande do Sul
Brazil - Zip Code: 93.022-000
E-mail: jorgevf@unisinos.br*

ABSTRACT

This study stemmed from the realization there is an opportunity to integrate cooperation networks set up by small and mid-sized companies in Brazil. Recent studies have shown the number of active networks in the country is close to 800. Based in this context, this study aims to identify and analyze elements of governance to support the integration efforts between cooperation networks. We proposed a governance framework with ten elements based on the network literature and we validated it guided by the Design Research method. Experts and entrepreneurs were interviewed. We validate ten governance elements, namely trust, goal consensus, number of companies, number of networks, centralization, formalization, specialization, incentives, coordination, and control. As a contribution of this study, a final framework is proposed which describes each element and its characteristics.

Keywords: *Networks, Cooperation, Cooperative Strategy, Governance, Design Research*

1. INTRODUCTION

The strategy of companies connecting to one another to compete together in the market as a cooperation network has emerged as an alternative that yields good results. Many times, they organize in such a way encouraged by entities outside the companies, such as state or national initiatives. In those two examples, the companies organized themselves to carry out joint activities, making up a network of companies whose shared goal is to boost their results. Regardless of the methodology used to join forces, the companies organize themselves together in a cooperation network.

The Brazilian Service of Support to Micro and Small Businesses (SEBRAE) conducted a survey to tally the number of cooperation networks in Brazil in 2011. The survey found 1,129 networks already established in the Brazil, 778 of them still in operation. SEBRAE also shows the possibility of expanding those cooperation networks. They have been unable to successfully operate on a nationwide scale owing to several factors, such as cultural gaps, regional distances, lack of information, and lack of a governance model. Under the current model, the relationship between network participants is established via closer contacts and basically disregards more distant relationships though which they could increase their gains and achieve better results. Therefore, setting up a framework capable of interconnecting the arrangements already in existence may allow them to take advantage of such farther contacts.

Geographic limitations become a growth-curbing barrier. Their lack of both physical and relations proximity prevents network-member organizations from reaping larger profits. The great opportunity lies in how existing networks may be integrated within a framework that facilitates non-existent or remote contacts. Regional networks could have higher volume in their negotiations were interconnected, thus have more bargaining power. That problem raises the following question: which are the governance elements required for regional cooperation networks to become integrated nationwide? Based on that question, the main goal of this article is to understand the governance elements required to integrate regional cooperation networks.

2. COOPERATION NETWORKS

Several authors have put forth different outlooks in their studies about the concept of networks. Their outlooks are not contrary per se, but they have their differences. Networks are groups of agents connected by arrays of bonds (BORGATTI; FOSTER, 2003). Also, networks comprise two or more organizations involved in a long-

term relationship (THORELLI, 1986). On the other hand, Podolny and Page (1998) consider the networks a form of organization featuring more than two actors in an exchange relationship. Additionally, cooperation networks are also seen as a relationship or an organization (HUMAN; PROVAN, 1997). Strong ties are those allowing for greater interaction within the network. However, it is the weak ties that make it possible to deal with actors that are not a part of the more restrictive network, and are many times responsible for the information brought in from outside the network (GRANOVETTER, 1973). On the other hand, the strength-of-the-ties issue is connected to a comparison analysis. Therefore, the weak ties argument disregards the benefits derived from controlling the structural holes (BURT, 1992). Burt (1992) further suggests that bridging such holes requires the work of a broker, one who would help integrate the parts not directly connected. The relationship between network members and the way networks can become interconnected are important in this study. Burt's proposition (1992) helps us understand how we could facilitate the integration between parts yet to be connected, and is complemented by Howels' ideas (2006) showing a broker's role extends beyond merely bringing two points together.

Although there is a relationship between the concepts of network and cooperation, being in a network does not necessarily mean to be cooperating with other companies. Some characteristics are necessary for companies to cooperate, such as shared goals, interdependence, and integration between the actors. Networking is increasingly important in economic life, because of its capacity for regulating complex transactions as well as cooperation actions (GRANDORI; SODA, 1995). Fung, Fung and Wind (2008) point out networks have varying degrees of flexibility: they are fixed or flexible. The network's flexibility is connected to the possibility of switching the network actors. The higher the possibility to switch, the more flexible the network; therefore, the harder the switch is to make, the more fixed the network.

In Brazil, cooperation networks have mostly grown horizontally. That way, companies retain their independence but choose to cooperate in some actions (BALESTRIN; VARGAS, 2004). In those cases, the companies making up the network operate in the same business and seek gains out of being in an organization that becomes bigger as everyone comes together. Besides their aim to survive, small and mid-sized companies work together in order to become more competitive. Today, there are several networks organized throughout Brazil. However, each initiative develops its own governance (PROVAN; MILWARD, 1995), which directly impacts its success. Considering this study is about integrating cooperation networks and governance is an essential factor for network success, we dedicated a specific chapter to the discussion on the topic.

3. NETWORK GOVERNANCE

The word governance may be mixed up with management, especially when it is related to company networks. Network management can be understood as the implementation of the definitions set by the governance, while the latter is responsible for creating the network's working rules, defining latitude levels and management boundaries. On the other hand, management is in charge of planning and executing management activities, organizing the activities, directing, and controlling, among other activities (ROTH; WEGNER; ANTUNES; PADULA, 2012). Hence, network governance is essential for network success. Therefore, just like companies need governance, networks also require that same kind of effort.

Network governance involves a select, driven, structure group of independent companies engaged in the creation of products or services, tied via informal contracts, and open to adapting to environmental contingencies (JONES; HESTERLY; BORGATTI, 1997). Therefore, the network actors' independence must be taken into account, as well as the informality of their relationship. Provan and Kenis (2008) proposed three typologies for analyzing network governance: shared governance, lead organization-governed networks, and network administrative organization. Each type is utilized in practice for a variety of reasons, and no one model is superior. Each form has its own particular strengths and weaknesses, time and environment, and even the network's goal must be considered in the type of governance adopted.

Under the shared governance model, all of the organizations hold the same power and take part in the network's decision-making process and management. Usually, they do that via meetings and assemblies where all network members have the chance to participate equally. The model's strongest point is every member's ability to participate. However, as the network's expansion exceeds a given number of companies, getting all of them together in one place becomes harder. At that point, this format starts facing great difficulties.

Another form described entails a lead organization. Jarillo (1993) and Castells (1999) talked about this type of network, especially regarding the case of Toyota, which built a network with its suppliers operating under this model. In this case, a lead organization is the one that governs and holds the most power in the network, either owing to its size or because it has the other links in the network as its suppliers. This is the most often seen model when there is cooperation between suppliers and their clients.

The third model is called Network Administrative Organization. According to this form, governance is entrusted to a single company, but unlike the previous model, it is set up by the very participants specifically to govern their relationship. Contrary to the first model presented, this one has no trouble with the size of the network, because it is run by an entity that is independent from the other companies.

It was based on the study of the governance models presented above that we began searching for and selecting the governance elements to be studied in this paper. First, it should be noted that our focus here is network integration. Hence, we see that as the network creation phase shifts to its rapid growth, fewer companies are incorporated. Additionally, in the second network phase, the number of weak ties increases (HITE; HESTERLY, 2001). Those two characteristics must be taken into account when looking into network governance, as we may not see models exactly like the ones previously presented by Provan and Kenis (2008).

Given the search for network-integrating governance elements is the subject of this study, we can understand that ties are going to be weaker for relationships between larger groups and at a later stage of network maturity. Weak ties are more prone to connecting the members from several small groups than strong ties, which tend to be concentrated within certain groups (GRANOVETER, 1973). Therefore, we can say that, in a nationwide relationship comprising existing networks, in this case groups with strong ties, the relationship between such networks is basically non-existent, which creates structural holes. The question to be asked is how to govern a network including several groups already set up and whose ties are weak.

By revisiting Burt's concept (1992, 2000, 2004), where he presents the possibility of having a broker bridge the structural holes. Actors whose relationships span the structural holes between groups have an advantage in terms of detecting and developing new ideas (BURT, 2004). According to this hypothesis, we could see an integration model having a certain actor as its core piece. That actor plays the role of a broker, and is in charge of interconnecting all of the networks. Thus, it would be similar to the model of network administrative organization described by Provan and Kenis (2008), or yet to the lead organization model, albeit with independent networks, but at the same time with the purpose of serving the network for its members to reap greater gains. As a way to interconnect the networks shown in figure 6, we may consider Provan and Kenis's statement (2008, p. 239) "The structural solution to this problem is to centralize network governance activities around a broker."

The elements were selected based on the literature previously mentioned. Two main papers were selected as reference for selecting the elements. The first paper selected was Provan and Kenis' (2008), whose concept describes the characteristics each governance model proposed should have in order to achieve better results. Albers' (2010) was the other paper selected, which presents the elements in two structural and instrumental groups. His paper was extensively discussed by Wegner (2011). In their study, Provan and Kenis (2008) present the concept of four governance elements and also suggest which characteristics each one should contain for the network to have the best result. The elements are trust, number of participants, goal consensus, and need for network-level competencies. Adding to those concepts, Wegner (2011) presents the ideas of Albers (2005), who divides network governance in two dimensions, structural and instrumental. The structural dimension comprises three elements, centralization, formalization, and specialization, while the instrumental dimension comprises another three elements, coordination, control and incentives (ALBERS, 2010).

To Provan and Kenis (2008), **trust** must match the network governance, that is, the level of trust is directly related to the network's governance model. Another element presents the relationship between the network's goal and participants, which element is called **goal consensus**. "Goal consensus has important implications for network governance" (Provan & Kenis, 2008, p. 239). Defining the goals of the organization which will be integrating the networks was selected as an element to be studied so we can understand what its characteristic should be like.

The number of companies allowed to take part in an integration between networks shows up as one of the points to be analyzed. Provan and Kenis (2008) point out there is no correct number of companies that should take part in each of the models proposed. Given this study focuses on network integration, we felt it was necessary to discuss the **number of participating companies** and also analyze the **number of participating networks**. Provan and Kenis (2008) also discuss the need for network-level competencies, but that element was excluded from our analysis because it is in some way addressed in the other elements to be presented.

The **centralization** element included in the structural dimension discusses how centralized decision-making is in the network. The greater the concentration, the fewer companies take part in the decision-making process. In a study carried out with horizontal network presidents in Germany, they talked about how important it is to centralize decision-making as a means to expedite the process (WEGNER; PADULA, 2010). Another element is **formalization**, and it refers to the degree to which activities are predefined, but not necessarily documented,

comprising network contingencies, sanctions and procedures. The predefinitions help prevent excess discussions on issues such as goals or strategies, thereby allowing the network to expand its potential. The third element in the structural dimension is **specialization**, which refers to the specificity and variability of network members' responsibilities (ALBERS, 2010).

The structural dimension of governance encompasses the element of **coordination**, which explains how the network is set in order. The element of incentive is part of this dimension, which is meant to steer network participants' behavior by means of material **incentives** or rewards. Finally, we have the **control** element, which shows up as a way to assess the performance of network participants (ALBERS, 2010).

Those elements were used as a basis for our research. However, it should be noted that the studies conducted so far have considered a single network, instead of the format proposed in this network integration study. Considering that issue, we included another element based on those pointed out by Provan and Kenis (2008), namely the number of networks. Such element was considered given the proposed format of this study and seen as complementary to the number of participating companies element. Therefore, the elements selected are: Trust, Goal Consensus, Number of Participating Companies, Number of Participating Networks, Centralization, Formalization, Specialization, Incentives, Coordination, and Control.

4. METHODOLOGY

This study was meant to look deeper into the topic of cooperation network governance and arrive at a more precise answer to the problem. We conducted exploratory research on the topic to prepare this paper. Exploratory research is indicated when it is necessary to more clearly define the problem. To conduct the research, the method chosen for this paper was design research. The idea of design research is to help analyze and build the elements in order to understand and explain the behavior and aspects of a given system (MANSON, 2006). The purpose of the research was to look for the governance elements necessary for a network integration model. That means devising a format so networks can maximize the way they operate, allowing them to cooperate not only within their own network but also employ that same rationale to expand their breadth and reach other companies which are also organized under that same format. The research design proposed by Takeda et al. (1990) and adapted by Vaishnavi and Kuechler (2005) makes it possible to construct artifacts, that is, a framework.

Design research starts by seeking a solution to a problem. To do that, we need to understand the nature of the problem, the context, the potentials and limitations so we can understand the environment in which the problem is inserted. That phase is called awareness of a problem. The next phase is suggestion, when propositions are put forth based on the theory's state of the art to devise the first model. The development phase is seen by researchers as the construction of the model. Researchers may resort to a combination of techniques, which can also vary according to the characteristics of the object being devised. Once the artifact has been constructed, the evaluation phase starts. At this point, the artifact must be analyzed and tested according to the conditions set forth for validation. Evaluation surveys will be used as a complement, and an improvement process will be suggested. After the evaluation phase, the artifact is directed to the conclusion. In this phase, the artifact is consolidated after results are analyzed and interpreted.

Awareness of the problem, the first part of the method used, was raised upon surveying the existing opportunities for cooperation networks to interconnect. The regional networks need a model for be interconnected to get more results in they negotiations. At that point, we decided to focus mostly on two reference papers (PROVAN; KENIS, 2008; ALBERS, 2010), considering they presented complementary elements. After the elements were defined, we started discussing how each element should be characterized in the new framework to be proposed. Our analysis was based on other theorists that had studied those same elements, in addition to the authors themselves. As a product of that phase, we arrived at framework F0.

Once the first framework F0 was constructed, we prepared the interview roadmap based on the framework. In order to ensure the interview process quality and the greater assertiveness for the interviewees' contents, a first interview was conducted to validate and test the interview roadmap. The interview was conducted as follows: each element was presented to the interviewee along with the initial proposition, and he was asked to comment both on the element and the proposition. That interview model is semi-structured and in-depth. The roadmap was redesigned based on that initial interview, as we realized the need to change the order of the questions asked to allow us to make better use of the interviewees' contents and encourage them to give their opinion and comment on the topics proposed. Originally, the number of companies was the first element proposed to be presented. However, the element tends to lead to an objective answer and does little to encourage the interviewee to participate. Hence, addressing the trust element first proved to be a better choice, as it expanded the interviewee's chance to speak about it. As a result of this phase, a new interview roadmap model was put together.

Prototype construction is considered the development phase. During that phase, a prototype was built with the purpose of solving the problem question. Experts in the topic studied were interviewed during this phase and shown the framework F0 so they could review it and suggest improvements and considerations. Three experts were interviewed. One is a Master and business center project manager at SEBRAE Paraná with over 5 years' experience setting up small company inter-firm networks. The other is a doctoral candidate who has conducted studies in the area and managed a cooperation network. The third is a Master and consultant in the area of cooperation networks, who has also conducted studies on the topic. They are going to be referred to here as interviewees 1, 2 and 3. The interviews were conducted the same way as the trial interview, where each element was presented and the interviewees were asked to comment on them. All of the interviews were taped and transcribed. They were analyzed based on the transcriptions and literature. Framework F1 was built as a product of this phase. The interview roadmap was once again reshaped based on the new framework, taking in consideration the improvements seen in this phase.

The evaluation phase was carried out right after the construction. Another three network participants were interviewed in this phase. Two of them are cooperation network executive board members and the other manages a network association in the same state. They are going to be referred to here as interviewees 4, 5 and 6. The interviews were conducted by first showing them the framework created based on framework F1, and then asking them to comment on the relevant element and the proposal suggested. It should be noted that at that point it was necessary to explain each element in greater detail to the interviewees so as to make it clear to them what they were being asked about. Despite taking a direct part in networks, they did not have the in-depth knowledge of the applicable theory the experts did. Such precaution was necessary so each interviewee could clearly understand what they were being asked about. The subject-matter of the research was another point highlighted by the interviewer, in that it was not about networks but instead regarding a new framework. All of the interviews were taped and transcribed. They were analyzed based on the transcriptions and literature. The evaluation evidence was used to complement the artifact. New improvements were suggested, and framework F2 was created at the end of this phase. After the evaluation phase was complete, the artifact was directed to the conclusion. In this phase, the artifact was consolidated after the results were analyzed and interpreted.

5. RESULTS AND DISCUSSION

This chapter presents the three result phases suggested by the research design method. The suggestion represents the author's proposal based on the topic-related literature, and thus led to the first framework, F0. The development phase describes the construction of the artifact, in which phase the experts on the topic were interviewed. After the interviews were analyzed, framework F1 was designed. The artifact having been constructed, it is necessary to carry out the evaluation phase, in which people directly connected to cooperation networks were interviewed so they could thereby evaluate the artifact proposed. This phase led to the design of framework F2, the product of the final analysis of the artifact by potential users.

5.1 Suggestion

Each element was analyzed so we could obtain our first answer, namely framework F0. Upon analyzing the **trust** element, we realized that, as the framework proposed does not exclude the form of network in which the participants currently cooperate, the level of trust in this new framework could be rated as medium. The idea of trust is essential for cooperation to exist. However, as it is a new organization level it was not required to be rated high. On the other hand, trust among members should not be tenuous either. Much like Provan and Kenis (2008) pointed out with respect to the NAO model, this model is going to be monitored by the members. "When low-density trust is prevalent, networks can still be effective and be a viable form of accomplishing collective goals. However, under this circumstance, network governance is likely to be brokered (...)" (PROVAN; KENIS, 2008 p.238).

An organization's goal rationale is essential for its success. Therefore, that element was included in the analysis made in this study. In a network-integrating framework, this new organization's **goal consensus** must be high, considering the goals this new organization plans to achieve must be clear for the participating networks, thus benefiting said networks and also, in the end, their members. "(...) high goal consensus is, obviously, an advantage in building network-level commitment (...)" (PROVAN; KENIS, 2008, p. 240).

Out of the elements addressing the effectiveness of network governance models, there is one that needs to be subdivided in the case of this study. The number of participants. The model studied comprises two levels, companies and networks. That being so, we chose to split that part into two different elements in order to better understand how each of those points could be analyzed. As our initial proposition, we followed the idea that the main point in this framework is to make it possible for a large number of companies to come together. Therefore, the number of companies must be high. On the other hand, the issue of the number of participating networks is

irrelevant, as long as the number of companies is high. Even though that last point is considered irrelevant, this level must not be disregarded. That is why it was included among the elements so it could be more properly evaluated in the interviews.

As previously mentioned, Albers (2010) presents two network governance dimensions: the structural dimension comprising three elements – centralization, formalization and specialization – and the instrumental dimensions, comprising another three elements – coordination, control and incentives. Such elements were included in our studies in order to advance our understanding of how the frameworks should be set up.

The structural dimension elements were analyzed as follows: centralization assesses how centralized the network's decision making is, considering the new integrating model proposed. Given the large number of participating companies pointed out, it is believed decision making is likely to be highly concentrated. "As the network's or alliance's number of participants grows, it becomes important to obtain a higher degree of decision making centralization and activity formalization so that the collective goals may be achieved." (WEGNER, 2011, p.58).

Putting accent on formalization, which refers to the degree of activity pre-definition, there is the need for high formalization, as can be seen below. "In the worst-case scenario, the lack of definition and the excess of discussions about specific issues may compromise the network's operations" (WEGNER, 2011, p.58). The third element is specialization, which refers to the specificity and variability of network members' duties. Also in keeping with the rationale above, specificity must be high and clear, and so must the members' duties.

Additionally, regarding the instrumental dimension of governance that encompasses the element of coordination describing how the network is set in order – which point is essential for the organization to perform well – we believe what the order is like under this new framework must be clear. This dimension also includes the element of incentive, which plays an important role when it comes to the participation of network members. Therefore, there should be a plan to encourage members to participate more. Finally, the control element is important to show the results the new model is being able to achieve. That is why there should be an indicator system to track the participants' improvement over time. After analyzing all of the elements, we arrived at an initial framework to be proposed, previously referred to as framework F0. The interviews with the experts were conducted based on such framework (Chart 1).

Insert Chart 1 Here

5.2 Development

In this phase, the interviews with the experts were incorporated to the theory framework to obtain their opinion about the governance elements and characteristics proposed in framework F0. The interviews lasted approximately 30 minutes, on average.

Trust was the first element analyzed. This element was deliberately brought up as the first discussion topic because it is an important issue we had realized encourages interviewees to discuss it. Overall, the three interviewees provided similar considerations about the element of trust. Interviewee 1 further said that in the case of a one-off project, such project would not require a high level of trust. Trust decreases the initially estimated risks for companies to be in a network (GULATI; NOHRIA; ZAHEER, 2000). All of the interviewees said trust was important, and interviewees 1 and 2 clearly stated that the trust level should be medium or higher. Hence, we realized the need to alter this element to a medium to high level.

The interviewees had similar opinions on the next element analyzed, goal consensus. The three interviewees underscored the need for an organization's goals to be clear, and highlighted that it is important for the networks that will be coming together to have a common goal. All of the interviewees emphasized both goal consensus and clear goals are important for this new framework's purpose. They believe a high level of goal consensus is necessary for this proposed framework to be more efficient. It became plainly evident how important it is for the framework proposed to really have clear goals and purposes. That point was emphasized by all of the experts. Therefore, the same idea initially proposed regarding the element of goal consensus was maintained.

Decision making proved to be an element the experts believe should be clearly concentrated. Decision making should be concentrated for an organization with a high number of participants to perform better (PROVAN; KENIS, 2008). Interviewee 3 said concentration would be a problem in the case of a framework under which more participants are meant to be represented. Considering the purpose of this study is to improve the networks' business opportunities, we believe that after the other remarks made by interviewee 3 with respect to this topic he ended up agreeing to the concentration, as long as the pursuit of business is the purpose of this new framework.

All three experts said that the number of companies participating in and associated to this new framework was relevant. Interviewee 3 said that in the absence of figures making gains higher than the network's current ones, there will be no need for the companies to be in this new form of association. At that point we saw the issue of interdependence was being clearly mentioned as one of the points required for cooperation. The experts pointed out that a large volume of business is important to take better advantage of market opportunities. In this case, as we are talking about networks of small companies, it is a large number of them. They said that, to actually do things differently than under the existing frameworks, there is really the need of having a large number of companies generating a large volume of business. Otherwise, participating in a model of the type proposed may not be positive. Therefore, the proposal suggested was confirmed by the experts.

Still on the idea of the organization size, one of the elements defined for this study was the number of networks. In this case, the interviewees provided different opinions but clearly stated that it initially depends on the network's purpose. The experts were not conclusive regarding this element, but they made it clear it depends on the purpose this network of networks is going to have. From several of their remarks, we realized that when it comes to networks operating in the same business, there can be few networks to move large volumes. However, in case of heterogeneous networks, it is important to have several networks to obtain higher gains. Therefore, we suggest adjusting the framework initially proposed to make clear the difference between these two possible ways for networks to come together: either heterogeneously or homogeneously.

The formalization element presented by Albers (2010) was described to the interviewees as the one making the new framework's activities clear. The experts showed concern about how clear the network's activities are. Interviewee 1 agreed that the network's activities should be clear so as to prevent conflicts between the members, which could lead the entire project to fail. He agreed with Wegner (2011) when the author says formalization decreases the potential friction between members.

Gauging and controlling network performance proved to be an important point during the interviews. They made it clear that assessing performance is important for the success of the framework proposed. All of the experts said tracking performance is essential for the members to realize the results of their participation in a larger framework. However, it is necessary to check whether the networks to be integrated already have indicators and the result-gauging culture. One of the experts said business leaders should be educated so they can understand that indicator-based monitoring helps them control whether their actions are bringing in results. Therefore, our initial proposition was confirmed, even though it was added the remark about the need for participating networks to already have indicators.

The element of incentive was considered to facilitate member commitment. Interviewee 3 once again highlighted it is important for members to see themselves within the network's overall purpose, and said the incentive issue is pointless in case they do not feel they are part of the purpose. Interviewee 1 said the incentive issue is delicate but it should exist nonetheless. Regarding this matter, he said having a clear pact for member participation is the most important thing. Interviewee 2 said incentives bring positive returns in terms of member commitment. Hence, it is important to have a specific plan for them. From a general look at the answers, we see they all said it is important and necessary to have a participation-incentivizing plan. Therefore, our initial proposition was confirmed.

With respect to the coordination element, interviewee 2 was of the opinion that the best practices currently used in the networks making up this new framework should be taken advantage of, so that their positive gains could be replicated across the board. It is important to consider the remark made by interviewee 3, who said the leadership of this new framework will have both positive and negative consequences regarding the way the network is going to be set up. After analyzing the answers, we believe our initial proposition was confirmed, given the clarity of the order would lessen the impact mentioned by interviewee 3.

Regarding the element of specialization, as interviewee 2 pointed out, we see that networks seeking to work together in search of market need to clearly define the roles each member is going to play to achieve their core goals. Interviewee 1 highlighted that the members' roles must be clear in the case of specific projects. Specialization is characteristic of networks whose members operate in a complementary manner (WEGNER, 2011). With respect to this element, after reviewing both the interviews and the literature, we realized the initial proposition should be adjusted as it proved to be mistaken.

After the experts' analysis, we redesigned framework F0 and arrived at framework F1. In this new framework, the elements adjusted after the experts analyzed the model were trust, number of networks, and specialization. With respect to the element of trust, according to the experts' considerations, we believe its level should be medium to high. At first it was suggested the number of networks was irrelevant, especially owing to the lack of literature

on the topic. The experts suggested there is a difference between heterogeneous and homogeneous networks. Frameworks whose members are similar need only a large number of companies. However, when members are disparate, the number of networks should ideally be higher. Additionally, regarding the element of specialization, which had initially been proposed to clearly specify roles in all of the cases, we realized specificity was needed only in heterogeneous networks. Chart 2 shows the comparison between frameworks F0 and F1, and highlights the elements adjusted.

Insert Chart 2 Here

5.3 Evaluation

In the evaluation phase, we interviewed another three people about the chosen governance elements. Regarding trust, interviewee 5 emphasized it is a key element. The point made by this interviewee is that members must not act opportunistically. Interviewee 6 said trust in this case is two-fold: by the business leader towards the network, and by the network towards the new organization. “The process of trust is essential” (interviewee 6). Interviewee 4 stated that this integration process could begin with a few actions so as to gradually bring the networks closer. “The relationship could begin with some small actions and grow over time.” That last remark is related to what interviewee 1 said when he stated that trust may be low in a specific project. According to Provan and Kenis (2008, p. 238), “network governance must be consistent with the general level of trust density that occurs across the network as a whole.” It is clear that trust may begin at lower levels, as long as it is through specific actions or projects.

Interviewee 5 highlighted that collective decisions are unable to please each and every member anyway, given decisions are made by simple majority. At times, nearly half of the members do not agree with said decisions. “Despite being democratic, there will always be those who end up dissatisfied, because the choice is made by 50% plus one.” Interviewee 4 believes centralized decision making is necessary; however, it is part of an evolution process. Interviewee 6 said decision making absolutely must be concentrated, “if decisions are too democratic, the actions do not take place.” Interviewee 5 further emphasized that, besides concentrated, decision making should be professional to prevent people from leaning towards choices that benefit only their company or network. “If decisions are made by a single person, such decisions may be steered towards meeting the needs of the network or company the decision-maker belongs to. That is why decision making needs to be professional.” It should be noted that interviewee 1 raised that same issue, and emphasized it is important to have representative leadership.

Interviewees 5 and 6 said the main point is to define the purpose of this new framework. They recalled situations in which they had participated in some sort of integration between networks and said networks ended up foundering because they failed to meet the participants' goals. It is clear that these interviewees meant to highlight the organization's lack of defined goals prior to its formation. Additionally, interviewees 4 and 5 highlighted that the main goals of a network-integrating framework should be business-oriented and focused on the networks' end-products or its representation. In the interviews with the experts, that aspect of having the new organization's purpose clearly defined was also emphasized. It was also evident there is a gap that is not being bridged by any entity representing cooperation networks.

Goals are important to keep the members committed, according to interviewee 6. Likewise, interviewees 4 and 5 presented the idea that member commitment is achieved via incentives, or even punishments. Interviewee 4 believes networks must evolve to be able to participate in this new format. Still regarding the importance of incentives, Wegner (2011) points out that “...especially in large groups, where social control has little influence on the participants' behavior.” Therefore, it is clear that, as the experts had previously mentioned, gauging results is vital for participants to realize the gains they have obtained since joining a larger organization. On the other hand, interviewee 4 said the issue of control is important. However, he believes few are the companies that have indicators, which makes it harder for networks to track such rates and will compromise this new framework. Interviewee 5 said some networks currently have indicator-based monitoring, but there are only a few of them. He also added that networks could stand to gain from network integration by exchanging their best practices.

When asked about the number of companies that should make up this new format, the interviewees followed similar rationales. They all made some relationship to the goal being pursued, and made it clear business volume was relevant. Their comments about the number of participating networks followed the same rationale, and highlighted that the highest possible number of networks should participate in case the organization is representation-oriented. They also suggested networks from different lines of business could operate jointly as long as they had something in common to negotiate. The element of coordination can be analyzed from the standpoint of the number of participants. “One consequence of standardizing the activities to be performed by each actor is that communicating with the other actors becomes less necessary” Wegner (2011, p.60).

Only two elements had to be revised, and complementary comments were added. Regarding the number of companies, it became clear the actual importance lies with volume, provided the new framework's purpose is to generate business. Control was another element driving comments. Everyone pointed out the existence of control mechanisms is important, but few are the companies and networks that have controls and indicators.

Insert Chart 3 Here

6. CONCLUDING REMARKS

Today, Brazil has become a focus of investment and is expanding the number of companies competing in the domestic market. Small and mid-sized companies had already been facing hardships and are suffering because of increased competition in the market. Cooperation rises as a defense strategy for SMCs, as it allows them to achieve gains they would be unable to on their own. Companies joining forces to compete together in the market has emerged as an alternative that yields good results. In such case, the companies group up in an inter-firm cooperation network. According to the aforementioned SEBRAE survey, approximately 800 networks of companies remain active in the country. However, those networks are strewn across nearly all Brazilian states, and some greater concentration of them can be found in larger states. Networks organizing solely in their regions end up having their results constrained, considering that the higher the number of companies in a network, the better the results they may achieve (BALESTRIN; VERSCHOORE, 2008).

Under the current network model, the relationship between network participants is conducted via closer contacts. Setting up a framework capable of interconnecting the arrangements already in existence may allow them to take advantage of such farther contacts. In that regard, this study began from the realization that the cooperation networks operating in the country have the opportunity to organize themselves in a group and expand their gains or create new business. Therefore, this study sought to analyze which governance elements would be necessary for regional cooperation networks to become integrated nationwide. Network integration cases can be already found. They are still recent, though.

Considering the opportunity for network integration and the vital importance of governance for its success, in this study we sought to analyze the governance elements for the network integration model. To do that, we used the design research method. The first phase comprised selecting the governance elements, which were defined based on the studies by Provan and Kenis (2008) and Albers (2010), and further complemented by the studies of Wegner (2011). The elements selected were trust, goal consensus, number of companies, number of networks, centralization, formalization, specialization, incentives, coordination, and control. Upon being selected, the elements were analyzed and framework F0 was proposed. Aided by the experts interviewed, framework F0 was discussed and framework F1, built. For the final evaluation, potential users were interviewed and added new information. That led to framework F2, the final version.

Concentrated decision making, represented by the element of centralization, and formalization, both elements presented by Albers (2010), had their characteristics emphasized by experts and network members. Concentrated decision making, the centralization element, and the high clarity of activities in the element of formalization were confirmed. As for the element of specialization, the initial proposal was adjusted. At first, we had proposed high specificity. However, at times during the interviews, we found the need to adjust and differentiate this characteristic depending on the networks' homogeneity. The elements of incentive, coordination and control had their characteristics confirmed by the interviewees. However, regarding control, they remarked it is difficult to be put in practice. With respect to incentives, our understanding that there must be incentives to expand member participation was supported.

The study presented in this paper was meant to bring contributions for a new organization format. It should be noted that, as a limitation, although there are organizations bringing together several networks, none has the format proposed. Hence, the surveys carried out and the interviewees described matters based on their experience in cooperation networks, despite this having been done using the model proposed. Another limitation is the regional issue, considering only experts and participants in southern Brazilian networks were interviewed.

Therefore, this study was meant to set up a framework containing network governance elements to integrate said networks. The framework proposed presents the characteristics of the elements and provide opportunities for future studies to complement it and propose models to create network-integrating organizations. Another possibility for future studies is the issue of heterogeneity or homogeneity in network integration. It came up during some interviews but was not looked into in more depth by this paper. A few questions can be raised about that: what would the relationship between networks operating in different lines of business be conducted? Regarding which goals could they operate together? Another point made is related to the networks' purposes for working

together. We found there are three main purposes that would get networks to join forces: two are related to business, purchases or jointly searching for market. The other purpose is related to cooperation network representation.

REFERENCES

- Albers, S. (2005). *The design of alliance governance systems*. Kölner Wissenschaftsverlag.
- Albers, S. (2010). Configurations of alliance governance systems. *Schmalenbach Business Review*, 62, 204-233.
- Balestrin, A., & Vargas, L. M. (2004). A dimensão estratégica das redes horizontais de PMEs: teorizações e evidências. *Revista de Administração Contemporânea*, 8, 203-227.
- Balestrin, A., & Verschoore, J. (2008). *Redes de cooperação empresarial: estratégias de gestão na nova economia*. Bookman.
- Balestrin, A., Verschoore, J. & Antunes, J.A. V. (2010). Gestão de Redes de Cooperação Empresarial. In: Antunes, J.A. V., Balestrin, A. & Verschoore, J; *Práticas de Gestão de Redes de Cooperação*. Unisinos.
- Borgatti, S. P., & Foster, P. C. (2003). The network paradigm in organizational research: A review and typology. *Journal of management*, 29(6), 991-1013.
- Burt, R. S. (2000). The network structure of social capital. *Research in Organizational Behavior*, 22, 345-423.
- Burt, R. S. (2004). Structural holes and good ideas1. *American Journal of Sociology*, 110(2), 349-399.
- Burt, R. S. (2009). *Structural holes: The social structure of competition*. Harvard University Press.
- Castells, M. (2000). *A sociedade em rede (Vol. 1)*. Paz e Terra.
- Fung, V. K., Fung, W. K., & Wind, Y. J. (2007). *Competindo em um mundo plano: como construir empresas para um mundo sem fronteiras*. Bookman.
- Grandori, A., & Soda, G. (1995). Inter-firm networks: antecedents, mechanisms and forms. *Organization Studies*, 16(2), 183-214.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78 (6), 1360-1380.
- Hite, J. M., & Hesterly, W. S. (2001). The evolution of firm networks: From emergence to early growth of the firm. *Strategic Management Journal*, 22(3), 275-286.
- Howells, J. (2006). Intermediation and the role of intermediaries in innovation. *Research Policy*, 35(5), 715-728.
- Human, S. E., & Provan, K. G. (1997). An emergent theory of structure and outcomes in small-firm strategic manufacturing networks. *Academy of Management Journal*, 40(2), 368-403.
- Jarillo, J. C. (1993). *Strategic networks: creating the borderless organization*. Routledge.
- Jones, C., Hesterly, W. S., & Borgatti, S. P. (1997). A general theory of network governance: Exchange conditions and social mechanisms. *Academy of Management Review*, 22(4), 911-945.
- Manson, N. J. (2006). Is operations research really research? *ORiON: The Journal of ORSSA*, 22(2), 155-180.
- March, S. T., & Smith, G. F. (1995). Design and natural science research on information technology. *Decision Support Systems*, 15(4), 251-266.
- Podolny, J. M., & Page, K. L. (1998). Network forms of organization. *Annual Review of Sociology*, 24, 57-76.
- Provan, K. G., & Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness. *Journal of Public Administration Research and Theory*, 18(2), 229-252.
- Provan, K. G., & Milward, H. B. (1995). A preliminary theory of interorganizational network effectiveness: A comparative study of four community mental health systems. *Administrative Science Quarterly*, 40, 1-33.
- Roth, A. L., Wegner, D., Júnior, J. A. V. A., & Padula, A. D. (2012). Diferenças e inter-relações dos conceitos de governança e gestão de redes horizontais de empresas: contribuições para o campo de estudos. *Revista de Administração da Universidade de São Paulo - RAUSP*, 47(1), 112-123.
- Takeda, H., Veerkamp, P., & Yoshikawa, H. (1990). Modeling design process. *Artificial Intelligence Magazine*, 11(4), 37-48.
- Thorelli, H. B. (1986). Networks: between markets and hierarchies. *Strategic Management Journal*, 7(1), 37-51.
- Vaishnavi, V., & Kuechler, W. (2005). Design research in information systems. Available from: <<http://www.isworld.org/Researchdesign/drisISworld.htm>>
- Wegner, D. (2011). Governança, gestão e capital social em redes horizontais de empresas: uma análise de suas relações com o desempenho das empresas participantes. Doctoral Thesis, PPGA/UFRGS.
- Wegner, D., & Padula, A. D. (2010). Tendências da cooperação em redes horizontais de empresas: o exemplo das redes varejistas na Alemanha. *Revista de Administração da Universidade de São Paulo - RAUSP*, 45(3), 221-237.
- Zaheer, A., Gulati, R., & Nohria, N. (2000). Strategic networks. *Strategic Management Journal*, 21(3), 203-215.

Chart 1: Framework F0

Element	Proposition	Elements Authors	Proposition Authors
Trust	Medium level of trust	Provan and Kenis (2008)	Provan and Kenis (2008) Albers (2005) Albers (2010) Wegner (2011) Roth, Wegner, Antunes and Padula (2012) Wegner and Padula (2010)
Goal Consensus	High level of consensus on the goals		
Number of participating companies	Large number of participants		
Number of participating networks	Irrelevant, as long as the number of companies is high.		
Centralization	Highly concentrated decision making	Albers (2010)	
Formalization	Very clear network activities		
Specialization	High specificity		
Incentives	Incentive plan		
Coordination	Strong coordination and oversight		
Control	Indicator system		

Chart 2: Framework F0 and F1

Element	FO	F1	Evidence
Trust	<i>Medium level of trust</i>	Medium to high level of trust	Interviewee 2 "...the level should be medium or higher..." Interviewee 3 "I believe the level should be medium or higher..."
Goal Consensus	High level of consensus on the goals	High level of consensus on the goals	Interviewee 2: "Importance-wise, goals are more important than trust..." Interviewee 3: "if it is clear in the network I am in, it must be clear in this new framework..."
Number of participating companies	Large number of participants	Large number of participants	Interviewee 3: "For this framework to be looking at the big picture, a large volume of business is necessary" Interviewee 1: "There must be a large number of companies to obtain gains."
Number of participating networks	<i>Irrelevant, as long as the number of companies is high.</i>	If homogeneous, it depends on the number of companies.	Interviewee 3: "It depends on the purpose of this new business... if the purpose is buying together, volume is important, so a larger number of companies... if it is representation-oriented instead of business-, it should have many networks."
Centralization	Highly concentrated decision making	Highly concentrated decision making	Interviewee 2: "The tools should be decided together, but after that decisions should be concentrated to occur better"
Formalization	Very clear network activities	Very clear network activities	Interviewee 1: "The activities of this framework and of the participating networks must be clear so as to avoid conflicts."
Specialization	<i>High specificity</i>	If heterogeneous, it must be clear; if homogeneous, it is not so necessary	Interviewee 3: "Goals are essential and the activities stem from the network's core purpose."
Incentives	Incentive plan	Incentive plan	Interviewee 2: "Incentives facilitate member commitment... they give positive returns on commitment."
Coordination	Strong coordination and oversight	Strong coordination and oversight	Interviewee 2: "What the order within the network is going to be like must be clear"

			Interviewee 3: “It is directly related to network leadership”
Control	Indicator system to track participants' results	Indicator system to track participants' results	Interviewee 1: “Any center we open has a performance indicator to show its positive gains. I believe performance should be measured in a network of networks for the same reason.” Interviewee 2: “After you get an advantage you no longer notice it. Now, by keeping track of it, the advantage is clear... It is a way of knowing whether this framework is working.”

Chart 3: Framework F1 and F2

Element	F1	F2	Evidence
Trust	Medium to high level of trust	Medium to high level of trust	Interviewee 6 “the process of trust is essential in this process” Interviewee “I believe the level should be medium or higher...”
Goal Consensus	High level of consensus on the goals	High level of consensus on the goals	Interviewee 2: “Importance-wise, goals are more important than trust...” Interviewee 3: “if it is clear in the network I am in, it must be clear in this new framework...”
Number of participating companies	<i>Large number of participants</i>	A large number, but volume is more important.	Interviewee 6 “...just like with networks, volume is essential for the bottom line...”
Number of participating networks	If homogeneous, it depends on the number of companies.	If homogeneous, it depends on the number of companies.	Interviewee 6 “...networks from different lines of business could team up, as long as they had something in common to negotiate...”
Centralization	Highly concentrated decision making	Highly concentrated decision making	Interviewee 6 “if decisions are too democratic, the actions do not take place” Interviewee 1: “Decision making should be highly concentrated so consensus is not necessary, as it will be difficult to reach such consensus”
Formalization	Very clear network activities	Very clear network activities	Interviewee 1: “The activities of this framework and of the participating networks must be clear so as to avoid conflicts.”
Specialization	If heterogeneous, it must be clear; if homogeneous, it is not so necessary	If heterogeneous, it must be clear; if homogeneous, it is not so necessary	“This element is typical of networks where participants have complementary resources and perform specific tasks to achieve the network's core purpose.” Wegner (2011, p.59)
Incentives	Incentive plan	Incentive plan	Interviewee 5 “it only works when participants have something more positive to share in.”
Coordination	Strong coordination and oversight	Strong coordination and oversight	“One consequence of standardizing the activities to be performed by each actor is that communicating with the other actors becomes less necessary” Wegner (2011, p.60).
Control	<i>Indicator system to track results</i>	An indicator system is important.	Interviewee 4 “Indicators are important; without control it is impossible to run anything.”