

# THE DYNAMICS OF COOPERATION: PROPOSAL OF A LIFE CYCLE MODEL OF SMALL-FIRM NETWORKS

## A DINÂMICA DA COOPERAÇÃO: PROPOSIÇÃO DE UM MODELO DE CICLO DE VIDA DE REDES DE PEQUENAS EMPRESAS

### Douglas Wegner

PhD in Administration from Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre (RS), Brazil

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### Heron Sérgio Moreira Begnis

PhD in Agribusiness from Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre (RS), Brazil

### Rejane Maria Alievi

PhD in Administration from Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre (RS), Brazil

### Alisson Eduardo Maehler

PhD in Administration from Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre (RS), Brazil

### ABSTRACT

The dynamics of interorganizational networks (IONs) is not yet extensively studied in the organizational theory and limited contributions have been made to practical management. This study aims to review the theory surrounding IONs life cycle and propose a model adapted to the features of small-firm networks (SFNs). A preliminary model was developed and seven dimensions for analysis were identified from a theoretical review and interviews with experts. As a result, this article presents a SFN life cycle model composed of six stages and their respective descriptions: Conception, Birth & Formalization, Development, Consolidation & Maturity, Decline and Dissolution. The presence of transformation or restructuring periods is pointed out as necessary for the networks to remain attractive over time or to reverse a declining trend.

**Keywords:** Interorganizational relations; small-firm networks; life cycle; cooperation dynamics; organizational studies.

### RESUMO

A dinâmica das redes interorganizacionais (RIOs) permanece pouco estudada na teoria organizacional e com limitadas contribuições à prática gerencial. Este estudo tem o objetivo de revisar a teoria sobre o ciclo de vida de RIOs e propor um modelo ajustado às características das redes de pequenas empresas. A partir da revisão teórica e entrevistas com especialistas, foi gerado um modelo preliminar e foram identificadas sete dimensões de análise. Como resultado, o artigo apresenta um modelo de ciclo de vida de RIOs composto por seis fases e suas respectivas descrições: Concepção, Nascimento & Formalização, Desenvolvimento, Consolidação & Maturidade, Declínio e Dissolução. A existência de períodos de transformação ou reestruturação é apontada como necessária para que as redes se mantenham atrativas ao longo do tempo ou consigam reverter uma tendência de declínio.

**Palavras-chave:** Relações interorganizacionais; redes de pequenas empresas; ciclo de vida; dinâmica da cooperação; estudos organizacionais.

#### Endereço dos autores:

Douglas Wegner  
dwegner@unisinovs.br

Heron Sérgio Moreira Begnis  
heron@unisc.br

Rejane Maria Alievi  
ralievi@unisc.br

Alisson Eduardo Maehler  
alissonmaehler@gmail.com

## 1. INTRODUCTION

Interorganizational relations of varied formats have been widely applied by enterprises in the business market, aiming to strengthen competitiveness, access into new markets, scale advantages, legitimacy and innovation development (HUMAN; PROVAN, 1997). As a result, the centralization of the individual firm in organizational studies has been questioned, and interorganizational relations have been treated with increasing interest (HAKANSSON et al., 2009). Despite all efforts to understand the nature of interorganizational relations, only few studies have been conducted to show the dynamics and the transitional stages that highlight such relations (JAP; ANDERSON, 2007). Although the concept of life cycle is well developed and widely researched in the study of individual firms (GREINER, 1972; KIMBERLY; MILES, 1980; CHILD; KIESER, 1981; QUINN; CAMERON, 1983; MILLER; FRIESEN, 1984; ADIZES, 1999), the same cannot be said in regards to interorganizational relations. Their dynamics remain poorly studied, and research focuses on a variety of collaborative models (DOZ, 1996; OELSNITZ; TIBERIUS, 2007; TIBERIUS, 2008).

One of the reasons for the limited number of studies is the many models of interorganizational networks (IONs), which demand understanding the characteristics of each formation (JAP; ANDERSON, 2007). Interorganizational relations may involve a vast set of configurations comprising strategic alliances, joint ventures, partnerships, business clusters, supply chains and business networks. This study focuses on a model known as small-firm networks (SFNs) (PERROW, 1992; HUMAN; PROVAN, 1997), in which firms from the same business sector cooperate to reach common goals, with power symmetry and without a leading organization coordinating the activities. In the specific case of SFNs, it is relevant to identify the life cycle stages that distinguish one from another to allow for a

better understanding of their development dynamics and to elaborate maturation strategies.

Data collected from a number of countries point out the relevance of small-firm networks to increase the competitiveness of small- and medium-sized enterprises (SMEs) and protect them from large-scale competitors. In Germany, for instance, there are around 200,000 businesses allied in over 320 business networks, representing an annual turnover of 350 billion euros (VELTMANN, 2009). In Spain there are 350 business networks comprising 46,000 small- and medium-sized businesses and representing 7% of the country's gross domestic product (GDP) (ANCECO, 2012). In developing countries such as Brazil, data point to a formation of around 800 business networks over the last decade (SEBRAE, 2008; RIO GRANDE DO SUL, 2010); but more updated studies reveal that many networks go inactive or even close down activities after just a few years in the market (TOIGO; ALBA, 2010; SEBRAE, 2012), suggesting that it is easier to start them than to take them to the mature stage. Therefore, this study aims to propose a life cycle model adjusted to the features of SFNs and contribute to their maturity.

## 2. INTERORGANIZATIONAL NETWORKS LIFE CYCLE MODELS

Most of the studies that analyzed or proposed life cycle models for interorganizational networks are based on strategic alliances or partnerships with significant structuring and management differences from small-firm networks. Yet, such theoretical models made it possible to identify elements and contribute to the latter business networks.

Dwyer, Schurr and Oh (1987) highlight that most studies analyze IONs as discreet events and not as long-lasting relationships to develop. To fulfill this gap the authors propose a model with five stages. The Awareness stage refers to the

recognition that one firm may have to face another firm as a potential partner. However, it is necessary that some type of effective bilateral interaction is carried out to make the next stage possible. In the Exploration stage, any potential partner considers all duties as well as the benefits, risks and exchange possibilities that such partnership may offer. The third stage, called Expansion, is characterized by the increase in the benefits obtained by the partners through the partnership and an increasing interdependency. In the Commitment stage the partners have reached a high level of satisfaction and commitment of resources. Finally, the authors affirm that the possibility of removal or Dissolution were implicit in all stages of the model. This process has great consequences when the partners reach the status of high interdependency at the final stages of the model.

The life cycle model from D'Aunno and Zuckerman (1987) focuses on federations, which "consist of groups of three or more organizations that pool resources to achieve stated objectives. A distinct feature of federations is that their activities are coordinated and, to some extent, directed by a management group or organization" (D'AUNNO; ZUCKERMAN, 1987, p. 534). The model composed of four stages is based on the idea that turning over from one stage to the next is influenced by key factors. The first stage is characterized by the Emergence of a Coalition in which organizations identify goals and agree upon a set of purposes. The Transition into a Federation occurs in the second stage, when a management group coordinates and directs efforts. The coalition members get motivated to follow a management group when they realize they do not have the necessary time to manage the network activities. For the federation to reach Maturity, it is paramount for members to receive benefits. Once maturity has been reached, some Critical Crossroads can occur as members start to have a higher dependency on the federation to obtain relevant resources.

Ring and Van de Ven (1994) see the development and evolution of an ION as a repetitive sequence of Negotiation, Commitment and Execution stages in which each one is evaluated in terms of efficiency and equity. At the Negotiation stage all sides involved develop expectations in relation to their motivations and possible investments. The focus is the bargaining process within partners, as they seek to persuade and argue over possible terms and procedures involved. In the Commitment stage all sides must reach an agreement on the rules and obligations surrounding any future joint venture. A series of interactions may be necessary for the parts to reach a common ground. Finally, at the Execution stage commitments and rules are put into action. It is important to point out that throughout all the stages described by Ring and Van de Ven (1994) Assessments are carried out by the involved parts. If commitments are performed in an effective and fair manner, the participants tend to continue and even expand them.

Spekman et al. (1998) argue that little emphasis is given to the management of alliances and, as a matter of fact, there is little knowledge about the managing requirements alliances and IONs go through at the varied stages of a life cycle. Their model comprises seven stages. The first one is called Anticipation: it is the preliminary stage, in which an organization foresees possibilities, ideas and wishes for a strategic alliance. Engagement is the definition of mutual expectations amongst partners in relation to the alliance. It is the beginning of converging expectations into practical actions. Valuation is the period when the alliance terms are negotiated and established. The partners bring in competences and resources to the alliance and compare the respective relevance of such assets. Coordination describes the stage in which the alliance formally starts to operate and management structures emerge. The investment stage refers to the needs of partners to invest in the commitment of assets and resources towards alliance actions. Stabilization indicates the stage in which the alliance is a viable entity in operation.

The results are compared with objective measures, financial goals and operational parameters. The last stage of the life cycle is Decision, in which the course of action of the alliance is defined by reevaluating the results previously achieved.

As for the life cycle developed by Zineldin (2002), the author develops an analogy with a personal relationship, characterized as a dynamic process that demands action, interaction, trust, adjustment and commitment. The first stage is denominated Discovery, when organizations identify needs and predispositions to get into an interorganizational relation. If this process is satisfactory, the relationship goes to the Development stage. Here, members' interaction is crucial as the foundation and main rules of the relationship are established. The aim is to organize the relationship and confirm what mutual benefits may be reached. When the interorganizational relationship reaches the Commitment stage, the members are probably so involved that they feel encouraged to continue investing in the relation. In the Loyalty stage an ION is marked by the partners' commitment, flexibility, adjustment and a great competence to aggregate value.

Another model is the one designed by Ahlström-Söderling (2003), which describes the activities of SFNs in Sweden. His model is based on the theory of the ecological system development and is composed of three stages: Formative, Normative and Integrative. In the Formative stage the system emerges from the union of complementary elements establishing links.

To form a strategic network, one or more investors need to come up with ideas to create new business opportunities based on cooperation. In the Normative stage the system seeks elements that offer support and improvement within the parameters established in the previous stage. There may be a rise of small hierarchies within the networks to increase business efficiency. Lastly, in the Integrative stage the system and its environment are mutually dependent and need to cooperate to reach better performances.

The model of Jiang, Li and Gao (2008) stresses that in the center of the academic gap surrounding ION dynamics and transience there may be a lack of rigorous evaluation of the alliance stability. The authors propose a sequence of stages in which the alliance reaches relative stability. Partner Selection is the first critical step. The selection is optimal when it considers of the profile of partners' resources, expected results, incentives and strategies. The potential partner's reputation, experience, reliability, competences and contributions can also be considered. In the Structuring and Negotiation stages, business partners must decide on adequate leadership forms and the scope of collaborative activities. After the negotiation of collaborative agreements, business partners will put them into operation in the Implementation stage. Finally, the fourth stage consists of the Performance Evaluation of the alliance.

Table 1 shows the stages presented in the seven theoretical models reviewed previously.

**Table 1** – Theoretical models and their stages

Theoretical model	Development stages				
D'Aunno and Zuckerman (1987)	Emergence of a Coalition		Transition into a Federation	Maturity of the Federation	Critical Crossroads
Dwyer, Schurr and Oh (1987)	Awareness	Exploration	Expansion	Commitment	Dissolution
Ring and Van de Ven (1994)	Negotiation		Commitment	Execution	Assessments
Spekman et al. (1998)	Anticipation	Engagement Valuation	Investment Coordination	Stabilization	Decision
Zineldin (2002)	Discovery	Development	Commitment	Loyalty	
Ahlström-Söderling (2003)	Formative		Normative	Integrative	
Jiang, Li and Gao (2008)	Partner Selection	Structuring/Negotiation	Implementation	Performance Evaluation	

Source: Own elaboration.

## 2.1. A common view of the models

The seven theoretical models reviewed present different perspectives for the analysis of ION life cycle. There is no consensus amongst the authors over the development stages, which may vary according to the type of interorganizational relation. Some authors follow the logic of the product life cycle model, with beginning, development and decline stages (DWYER; SCHURR; OH, 1987; D'AUNNO; ZUCKERMAN, 1987). Other studies find analogies with interpersonal relationships, comparing the stages of an ION life cycle to the evolution of a relationship (ZINELDIN, 2002; AHLSTRÖM-SÖDERLING, 2003). Besides, each author adds other stages or uses different terms in their models.

The model proposed by Ring and Van de Ven (1994) stands out by presenting a proposal that takes into consideration the cyclic character of evolution and development of IONs. The authors are not concerned about presenting stages, but about describing the process of negotiation, commitment, execution and evaluation that needs to be carried out throughout many stages for the relationship to reach better results. There is also controversy between models when it comes to the elements used to analyze the development stage of an ION. The importance of interpersonal relationships and partner's motivation are cited as relevant factors to provide cooperation (RING; VAN DE VEN, 1994; SPEKMAN et al., 1998; ZINELDIN, 2002). The elaboration of rules and norms for cooperation (DWYER; SCHURR; OH, 1987) and the predominance of collective interests over individual ones (D'AUNNO; ZUCKERMAN, 1987) are also mentioned. Another element pointed out refers to the need for strategic and cultural adjustments amongst partners, as a requirement for the development of cooperation (D'AUNNO; ZUCKERMAN, 1987; ZINELDIN, 2002).

It was also observed that even though many studies with theoretical proposals have been

identified, there is a scarcity of empiric studies or studies that exemplify how the model is applied to existing IONs. Most studies discussed in the previous section did not specifically consider SFNs. Their focus is usually on vertical buyer-seller relationships involving large and small firms. As an exception, Human and Provan (2000) used the model of D'Aunno and Zuckerman (1987) and compared two SFNs in the US wood product manufacturing industry. The research sought to understand how the legitimacy of networks evolved from a network pre-stage, through its constitution and growth. The research of McAdam et al. (2014) analyzed the development of horizontal innovation networks within the UK SME agri-food sector. The authors investigated a bakers' network and identified the stages in its life cycle: development of the network (stage 1), formal business venture (stage 2) and enhanced development of the network (stage 3). Based on the scarcity of studies addressing the dynamics of small-firm networks, our study proposes a life cycle model that considers the characteristics of this particular collaborative agreement. Such model may be useful for policy makers working in the development of SFNs, as well as the very organizations managing business networks.

## 3. METHOD

The study was carried out with a qualitative approach in three stages. A bibliographic review was initially conducted over the existing literature on the issue, identifying seven proposals of ION life cycles (section 1). In the second stage, thorough interviews on the SFNs issue were carried out with seven experts – three of them academics (A1, A2 and A3), two network managers (NM1 and NM2) and two business consultants (BC1 and BC2) –, all selected by convenience due to their knowhow and experience. A semi-structured research protocol was followed, with an initial question on the

interviewees' experience in the matter, followed by questions regarding their opinion about the stages that characterize the SFN life cycle, elements considered relevant to identify the development stage of the networks. The interviews were carried out in the first semester of 2012, recorded and transcribed for further systematization and comparison.

Based upon the theoretical review and the information collected in the interviews, a preliminary life cycle model was elaborated in the third stage, which consists of six phases that characterize the stages each SFN may go through over its existence. This stage also included the selection of some dimensions that, in the opinion of experts, enable analyzing the IONs and identifying their stages of development. Out of all the dimensions pointed by the experts, the ones selected were cited in four interviews, at least. In the fourth stage of the study the model elaborated was once again submitted to seven experts (academics, network managers and consultants) selected by convenience. It was up to them to evaluate the model and describe the features of a small-firm network in each life cycle stage, using the dimensions identified as a reference. This sequence of stages, based on theory and experts' assessments in two distinct moments, had the aim of boosting the adherence of the proposed model to the SFNs' reality. The next sections describe the cited stages and present the life cycle model proposed in this study.

#### **4. DEVELOPING THE MODEL: INTERVIEWS WITH EXPERTS**

A1 argues that the SFN life cycle does not occur in a linear manner, but in a circular form, since the networks must be constantly updated. The first stage may be called Dating, when alignments and goal setting take place and partners evaluate future cooperation possibilities. In the Introduction stage the networks are already formed and the first joint

actions start; while in the third stage (Development) the networks start to mature through negotiation and collective strategies. The fourth stage is Maturing: the initial goals have been achieved, the competences are in full operation and expansion may take place. With targets set, it is time to start Innovation. At this point, the line of development takes a circle shape; partners must figure out ways to innovate and aggregate more services to the network. The stage that precedes the final one is called Decline and it means that important activities were left aside and not performed in one or more of the previous stages. Lastly, in the Dissolution stage the members end connections with the network and cease activities. For the analysis of these life cycle stages, A1 narrows down some criteria, such as the level of participation and trust among partners. It is also common that a natural selection occurs, which means the exit of members that were not interested in cooperation or did not identify themselves with the collective activities and left the SFN.

A2 pointed four stages to the network life cycle. The first one can be named Formation, a moment for member's prospects towards desired goals to be reached through cooperation. The second stage is named Consolidation, which consists in the elaboration of a network management structure, taking administrative activities into a professional level. The third stage is named Members' Exit, and it happens when members do not carry out advantageous activities in the network, consequently leading to the Network Termination. As a way to evaluate the life cycle stages proposed, A2 suggests assessing the level of formalization, maturation of a network brand and collective negotiation with suppliers and partners.

According to BC1, the SFN life cycle has five stages, the first one being Group Formation, which takes place when people need to get to know each other better and interpersonal trust must be established. The following stage is Development, when the network legal implementations emerge.

Maturity comes as the third stage, when all legal implementations have been set and concrete action starts to be performed to achieve network goals. At this stage, only the members who wish to strongly engage efforts to cooperate remain. The fourth stage is called Growth, when goals have been achieved and each one's responsibilities are charged. The fifth stage suggested by BC1 is Maintenance, when the network already holds its own management structure and starts to be known as a large organization. However, if this stage cannot be secured, another stage begins, known as Decline, in which participation and commitment lessen. To determine which life cycle stage a SFN is inserted in, BC1 suggests analysis criteria such as the level of commitment and engagement in meetings, support towards collective activities and strategic planning.

NM1 suggested the existence of four stages in the network life cycle. The Initial stage is characterized by the structuring and formation of a network. The second one is Maturation, when the network is aggregating more members and it has already established legal rules, besides holding at least one process of collective purchase, as this is one of the main goals for many networks. NM1 sees network Consolidation in the third stage. This refers to networks that realize that only negotiation and collective purchases are not enough, and find that it is possible to take other common actions. At the end of the cycle, the Post-Consolidated networks are found, very well structured and organized with a professional management team. As criteria for analysis to determine life cycle stages, NM1 mentions strategic planning, critical during the Maturation stage, as it determines the network continuity and all tasks and future goals to be developed. Well-structured services and the existence of a collective brand name characterize mature networks; while management professionalization characterizes post-consolidated networks.

The fifth interviewee (NM2) suggested a life cycle model of four stages. The first one can be called Birth, a moment of network formation and invitation of firms to join it. The second stage is Grading. Network manager 2 considers this stage the most important one, as he believes a network cannot grow or expand business without grading the business partners in relation to their goals and expectations. Maturity, the third stage of the cycle, is set by networks that already hold a consolidated management structure and are ready to expand business. The Decline stage comes last and can happen at any moment of a network life cycle, even shortly after the birth or grading stages. As criteria to evaluate and identify the life cycle of a network, NM2 cites firstly management professionalization. The more professional the management, the more the network can progress in terms of development.

A3 cites Constitution as the first stage of the life cycle, when cooperation takes shape and it is already possible to identify the key members to conduct the process. It is during this stage that the ground objectives are selected to show entrepreneurs that is possible to cooperate to reach collective goals. Right after this, the Initiation stage takes place, which consists in carrying out practical activities such as network formalization and legal constitution. The next stage is the Development, seen as a longer stage that can be divided into Basic Development and Advanced Development. The first one relies on the understanding among members about the meaning of cooperation and establishment of management rules. In the Advanced Development phase, joint actions are conducted. At the Consolidation stage, the network must decide to limit its activities to those carried out collectively, or to establish new goals and develop new services – and, by doing so, renewing its course of action. In case a network does not renew itself, it can be led to Dissolution and this stage becomes the last one of the life cycle.

Business consultant 2 (BC2) pointed to four network life cycle stages. The Initial stage focuses on meetings with businesspeople and task sharing. When a group already considers the possibility of contracting a manager, it means the network is initializing the Development stage. Following this stage, Maturing occurs, a stage in which the existence of solutions for a network brand and

negotiation are noticeable and the group starts to expand and attract new members. The fourth stage is Consolidation, a moment when the network has already a structured management team and there is a high level of mutual commitment amongst members.

Table 2 shows the stages suggested by the seven experts.

**Table 2** – Experts' suggestions

Experts	Development Stages					
Academic 1	Dating	Introduction	Development	Maturing	Innovation	Decline & Dissolution
Academic 2	Formation		Consolidation	Members' Exit	Network Termination	
Academic 3	Constitution	Basic Development	Advanced Development	Consolidation	Dissolution	
Business Consultant 1	Group Formation	Development	Maturity	Growth	Maintenance	Decline
Business Consultant 2	Initial	Development	Maturing	Maturity		
Network manager 1	Initial	Maturation	Consolidation	Post-Consolidation		
Network manager 2	Birth		Grading	Maturity	Decline	

Source: Own elaboration.

Experts were unanimous to say that interorganizational relations have a beginning (design and creation), a middle (development and consolidation) and an end (decline and closure of cooperative relation), even though there might be some variations in relation to the terminology and approaches suggested by each interviewee. The considerations from the experts in addition to theoretical models previously seen served as common ground to the elaboration of the life cycle model described in the next section.

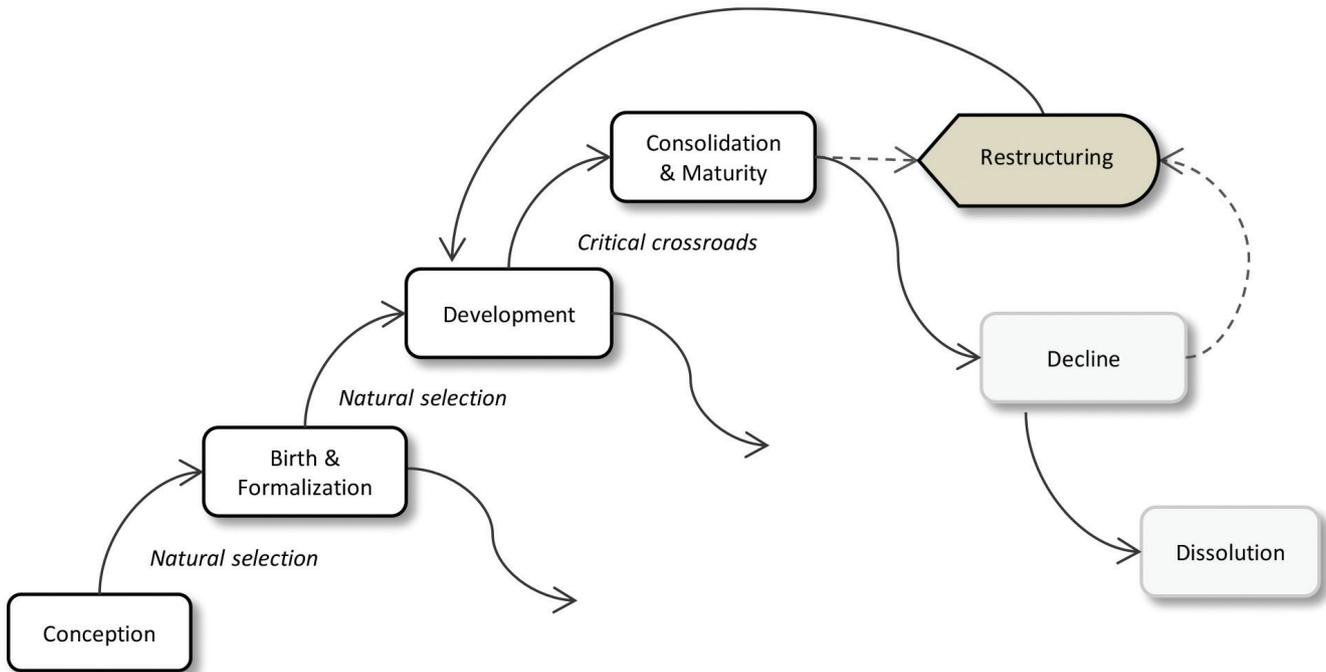
#### 4.1 Proposition and validation of a SFN life cycle model

Based upon the theoretical models revised and the suggestions from the experts, a SFN life cycle model with six stages was proposed: Conception, Birth & Formalization, Development,

Maturity, Decline and Dissolution. Apart from these six stages, experts indicate that networks go through transformations during their life cycle as an essential condition to avoid decline and dissolution. That means a network can only remain in the Consolidation stage if it promotes deliberate restructuring of its activities to keep partners' interest towards cooperative activities. The peculiarities of each life cycle stage can be better comprehended by analyzing the set of seven parameters that characterize SFNs. These parameters were also pinpointed in the interviews with the experts and represent main elements of SFNs: network management, network governance, network processes definition and level of the services offered by the network to participating firms, level of information exchange, trust and interpersonal relations.

After identifying the stages that would compose the life cycle model, as well as the analysis parameters, these were once again submitted to seven experts. It was requested from each expert to describe

the analysis parameter in each life cycle stage, generating a matrix of information. From the set of answers, a detailed description of the SFN life cycle was elaborated (Figure 1) and is described next.



**Figure 1** – Proposed life cycle model

Source: Own elaboration.

1<sup>st</sup> stage: Conception. Entrepreneurs meet to discuss cooperation possibilities. There is no formal management in place and the governance mechanisms are under construction. There is a high level of participation from entrepreneurs in the proposed activities due to the state of motivation towards the potentialities of the collective work. However, some partners wait for real benefits before committing. There is little strategic information exchange; the focus is the exchange of information on operational aspects and explicit knowledge on the business sector. The level of interpersonal trust tends to be low as few people know each other. In many cases, external agents hold a very important role in the SFN conception by inviting potential partners and organizing meetings.

2<sup>nd</sup> stage: Birth & Formalization. The SFN goes from being just a project to being formalized by the members, who define a shareholders' board and work teams. Partners realize the need for better regulation and formalization of activities. There is a governance structure in place but not fully implemented yet. The governance model chosen is shared governance, in which businesspeople themselves are responsible for the activities. Partners who do not meet legal requirements or agree with the course taken by the SFN leave the group. The increase of interpersonal trust due to the formal mechanisms set and better mutual knowledge of the partners stimulates more exchange of information.

3<sup>rd</sup> stage: Development. The management structure and main processes have been defined

and are improved in this stage. The governance structure changes once members realize the need to improve decision-making processes and cooperation rules. When the network offers services that generate benefits to members, it seems to reduce the number of partners who attend events in person. Partners realize that the network development relies on transparent interpersonal relations and there is a great opportunity to exchange information and experience that create strong interpersonal connections. During this stage, the level of regulation also increases, especially if the number of partners grows. Regarding services, the network enlarges the scope and quality of services offered to the members.

4<sup>th</sup> stage: Maturity. The network takes its management to a professional level, hiring executives and a management staff, releasing the members from operational activities. The elected shareholders' board holds the decisive process. This change is a critical factor for success as it means transferring power to a main coordination unit (headquarter) and to professionals who are not elected managers. The governance is taken over by a Network Administrative Organization (NAO). There is a need to create new governance mechanisms, such as control and evaluation procedures. An expansion of network services takes place and the SFN begins to operate as a business unit that offers almost every service and solution the member firms need. This is the highest level of development a SFN can achieve.

5<sup>th</sup> stage: Decline. Structures, processes and network routines have not been adjusted and improved yet, generating demotivation amongst partners. Side groups appear with self-interests that try to influence the management, causing internal competition for power and space in the network management. The network governance has not evolved to follow the development or got backtracked, with a concentration of power on a few network members. Most entrepreneurs

prioritize sole action within their own business instead of collective goals and actions. The partners feel discouraged to exchange information. There is a rupture in trust amongst partners or in relation to the network management. Conflicts become regular amongst members or between subgroups within the network. Some members start to leave the network. It is only possible to reverse the network decline by renewing strategies and structures.

6<sup>th</sup> stage: Dissolution. Even though a shareholders' board may still be in place, it no longer manages the network. Governance rules are no longer followed. There is no more commitment from network members, and participation in the activities is almost null. Most members leave the network and only the ones strongly interested in cooperation remain. The network no longer holds legitimacy to demand remaining members to follow rules. It is hardly possible to reverse the situation and it is likely that the network will dissolve and formally finish its collective activities.

Restructuring, cited by many experts and also pointed by Ahlström-Söderling (2003), is not a stage of the SFN life cycle as such, but a necessary situation to ensure the network endures time. According to the experts, even mature networks need to go through transformations to avoid the decline and dissolution stages. The justification is that business partners always expect a higher level of benefits out of the networks, even if performing independently they could not get the advantages provided by the collective strategies. By promoting changes, the SFN may be able to return to the Development stage in the life cycle, demanding extra effort to get back to the Consolidation stage, in which the internal environment seems to favor the promotion of strategic changes since a structured management, a high level of benefits, exchange of information, high interpersonal trust and a clear strategic direction is in place. However, promoting deeper transformations can be difficult when the network is in the Decline stage, as the internal

environment is not favorable and it is more challenging to keep businesspeople interested in cooperation. Some networks in the Decline stage may promote modifications to put them back on the development track; however, such change requires a significant effort and a group of partners highly motivated and committed to the proposal.

## 5. FINAL REMARKS

Few studies analyze the dynamics of cooperation and there is a lack of models in the literature specifically addressing SFN life cycles, even though many authors have explored this issue in alliances (MURRAY; and MAHON, 1993; SPEKMAN et al., 1998; JIANG; LI; GAO, 2008), partnerships (DWYER; SCHURR; OH, 1987) and client-supplier relations (ZINELDIN, 2002). Therefore, the present study aimed to review the theory on ION life cycle and propose a model adapted to SFN features. The goal was achieved through a qualitative methodological approach that consisted of cross-analyzing the theoretical framework over two rounds of consultations to experts in the matter, including academics, business consultants and network managers.

The theoretical contribution of the study relies on the proposition of a model describing the life cycle of SFNs throughout six stages. Moreover, a period of restructuring was identified in the literature and pointed out by experts as indispensable to the network's survival. Each one of the life cycle stages was thoroughly described by experts based upon seven analysis parameters taken from the literature

and interviews. The model and the description of the life cycle stages are a milestone to the theory surrounding interorganizational networks and contribute to fulfill the theoretical gap pointed by Doz (1996), Oelsnitz and Tiberius (2007) and Tiberius (2008). Although several theoretical approaches were identified in the literature review, a lack of empirical studies on small-firm networks was spotted. Only the studies of Human and Provan (2000), Ahlström-Söderling (2003) and McAdam et al. (2014) focused on small-firm networks.

From a managerial point of view, the study offers a model that allows an appraisal of which stage in the life cycle an interorganizational network is at. The model can be used by network managers, consultants, entrepreneurs and public policy authorities in order to stimulate the maturation of business networks. It serves as a base to define strategies that can lead to the network maturation or avoid its dissolution and closure. The model may also be used by policy makers to build incentive policies for the development of business networks. This is a relevant contribution, considering that studies such as the ones by Toigo and Alba (2010) identified a high rate of SFN closure in Brazil, unable to reach maturity.

The model was developed from the review of relevant literature and contribution of business networks experts. It is possible that empirically some divergences from the theoretical model appear. Future studies should apply the proposed model through analyses and classification of a set of SFNs in the suggested stages. Empirical studies are also important to confirm the existence of transformation and restructuring periods in SFNs, as pointed by the experts.

## REFERÊNCIAS

ADIZES, I. *Managing corporate lifecycles*. Englewood Cliffs: Prentice Hall Press, 1999.

AHLSTRÖM-SÖDERLING, R. SME strategic business networks seen as learning organizations. *Journal of Small Business and Enterprise Development*, v. 10, n. 4, p. 444-454, 2003.

## REFERÊNCIAS

- ASOCIACIÓN NACIONAL DE CENTRALES DE COMPRA Y SERVICIOS. 2012. Available from: <<http://www.anceco.com>>. Access date: 15 Dec. 2013.
- CHILD, J.; KIESER, A. Development of organizations over time. In: STARBUCK, W.; NYSTROM, P. (Eds.). *Handbook of Organizational Design*. New York: Oxford, 1981. p. 28-64.
- D'AUNNO, T. A.; ZUCKERMAN, H. S. A life-cycle model of organizational federations: the case of hospitals. *The Academy of Management Review*, v. 12, n. 3, p. 534-545, 1987.
- DOZ, Y. The evolution of cooperation in strategic alliances: initial conditions or learning processes? *Strategic Management Journal*, v. 17, n. 1, p. 55-83, 1996.
- DWYER, F. R.; SCHURR, P. H.; OH, S. *Developing buyer-seller relationships*. *Journal of Marketing*, v. 51, n. 4, p. 11-27, 1987.
- GREINER, L. E. Evolution and revolution as organizations grow. *Harvard Business Review*, v. 50, n. 4, p. 37-46, 1972.
- HAKANSSON, H. et al. *Business in networks*. Chichester: Wiley, 2009.
- HUMAN, S. E.; PROVAN, K. G. Legitimacy building in the evolution of small-firm multilateral networks: a comparative study of success and demise. *Administrative Science Quarterly*, v. 45, n. 2, p. 327-365, 2000.
- HUMAN, S. E.; PROVAN, K. G. An emergent theory of structure and outcomes in small-firm strategic manufacturing networks. *The Academy of Management Journal*, v. 40, n. 2, p. 368-403, 1997.
- JAP, S. D.; ANDERSON, E. Testing a life-cycle theory of cooperative interorganizational relationships: movement across stages and performance. *Management Science*, v. 53, n. 2, p. 260-275, 2007.
- JIANG, X.; LI, Y.; GAO, S. The stability of strategic alliances: characteristics, factors and stages. *Journal of International Management*, v. 14, n. 2, p. 173-189, 2008.
- KIMBERLY, J.; MILES, R. H. *The organizational life cycle*. San Francisco: Jossey-Bass, 1980.
- McADAM, M. et al. Development of small and medium-sized enterprise horizontal innovation networks: UK agri-food sector study. *International Small Business Journal*, v. 32, n. 7, p. 830-853, 2014.
- MILLER, D.; FRIESEN, P. A longitudinal study of corporate life cycle. *Management Science*, v. 30, n. 10, p. 1161-1183, 1984.
- MURRAY, E. A.; MAHON, J. F. Strategic alliances: gateway to the new Europe? *Long Range Planning*, v. 26, n. 4, p. 102-111, 1993.
- OELSNITZ, D.; TIBERIUS, V. A. Zur Dynamisierung interorganisationaler Lernstrategien: Pfade zwischen Kooperation und Wettbewerb. In: SCHREYÖGG, G.; SYDOW, J. (Eds.). *Kooperation und Konkurrenz*. Wiesbaden: Gabler, 2007, p. 121-159.
- PERROW, C. Small-firm networks. In: NOHRIA, N.; ECCLES, R. G. *Networks and organizations: structure, form, and action*. Cambridge: Harvard University Press, 1992.
- QUINN, R.; CAMERON, K. Organizational life cycles and shifting criteria of effectiveness: some preliminary evidence. *Management Science*, v. 29, n. 1, p. 33-51, 1983.

## REFERÊNCIAS

- RING, P. S.; VAN DE VEN, A. H. Developmental processes of interorganizational relationships. *The Academy of Management Review*, v. 19, n. 1, p. 90-118, 1994.
- RIO GRANDE DO SUL. Secretaria do Desenvolvimento e Assuntos Internacionais. *Programas e Ações do Governo*. 2010. Available from: <[www.sedai.rs.gov.br/redes\\_cooperacao.php#mapa](http://www.sedai.rs.gov.br/redes_cooperacao.php#mapa)>. Access date: 25 Mar. 2012
- SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. *Mapeamento das centrais e redes de negócio*. 2008. Available from: <<http://www.sebrae.com.br/customizado/aceso-a-mercados/sebrae-mercado/centrais-de-negocios>>. Access date: 15 Dec. 2013
- \_\_\_\_\_. *Mapeamento das centrais e redes de negócio*. 2012. Available from: <[www.sebrae.com.br/customizado/aceso-a-mercados/sebrae-mercado/centrais-de-negocios](http://www.sebrae.com.br/customizado/aceso-a-mercados/sebrae-mercado/centrais-de-negocios)>. Access date: 15 Dec. 2013
- SPEKMAN, R. E. et al. Alliance management: a view from the past and a look to the future. *Journal of Management Studies*, v. 35, n. 6, p. 747-772, 1998.
- TIBERIUS, V. *Prozesse und Dynamik des Netzwerkwandels*. Wiesbaden: Gabler, 2008.
- TOIGO, T.; ALBA, G. R. Programa Redes de Cooperação do Estado do Rio Grande do Sul: perfil das redes de empresas acompanhadas pela Universidade de Caxias do Sul. In: SEMINÁRIOS EM ADMINISTRAÇÃO, 13. *Anais...* São Paulo, 2010.
- VELTMANN, L. Eckpfeiler des Erfolgs im Mittelstand. In: \_\_\_\_\_. *Verbundgruppe & Kooperation*, Berlin: Ausgabe, p. 8-10, 2009.
- ZINELDIN, M. Developing and managing a romantic business relationship: life cycle and strategies. *Managerial Auditing Journal*, v. 17, n. 9, p. 546-558, 2002.