Networks for Innovation in the Brazilian Financial System: Case Studies

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Networks for Innovation in the Brazilian Financial System: Case Studies

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Abstract

In recent years, the literature has recounted great efforts to understand the phenomenon of strategies for cooperation, since inter-organizational networks, alliances and partnerships are now seen as important tools to the competitiveness of firms. This subject represents a challenge for researchers, since unanswered questions remain, such as, how companies generate their networks and how they manage their cooperative agreements. The need to investigate management tools is increasingly evident in the literature. Some authors argue that the different capacities to generate partnerships have become an important asset, capable of differentiating companies and generating competitive advantage. Although this consensus already exists, little is known about what instruments utilized in the networks and cooperative agreements allow certain partnerships to achieve their strategic objectives, and some companies to form this type of capability. Some authors seek explanations in concepts such as alliances capabilities. One important aspect of these capacities is the experience accumulated by companies which work in cooperative networks. Nevertheless, it is important to realize that collaborative experiences involve different aspects and do not depend solely on the frequency with which companies collaborates. Characteristics such as intensity, longevity and types of collaboration should be taken into account.

The importance of collaborative arrangements between organizations is perceived not merely in the academic literature, but also from the strategies adopted by the companies. In fact, one alternative that is being used by banks is the formation of networks and alliances that occur to meet the need for innovation. In accordance with international trends observed in financial sector networks, the importance of innovations of an organizational nature and alliances is seen as an important option in terms of innovation in the context of business in the Brazilian financial sector.

This article presents two case studies of inter-organizational networks formed by two Brazilian banks with a view to the joint development of innovations in banking services. One of them analyses the alliances established between a large bank and technology companies to develop a new bank service channel. The other case study presents the model for a private bank's correspondent network. These cases evaluate the management instruments established in these networks, particularly transfer flows and the generation of knowledge and information, control and coordination. To this end, a qualitative survey was used, carried out in the form of documentary analysis and in depth interviews with the managers of the alliances under examination. Analysis of the alliances' management instruments is based on the characterization of the organizational
functions; contracts; and their control and management processes. The two case studies presented provide an understanding of the dynamics and the ways in which banks generate their cooperative agreements for innovation. The analysis permits identification of the management's instruments and mapping of the transfer flows and generation of knowledge and information, control and coordination established in the alliances in question. From this perspective, the findings contribute to a better understanding of the micro fundamentals of partnerships' management.

Keywords: Inter-organizational networks - Innovation - Brazilian Financial System - alliances' management instruments
Introduction

The current business context is marked by intense R&D processes, by cooperation and by the acceleration of [increasingly faster] technological change. This leads markets to be more volatile, while product cycles are significantly shorter. Consequently, there is a need for increased flexibility and reduced lead times. These then force companies to structure themselves differently. Therefore, new ways to organize production have come into being, which prioritize horizontal information structures, decentralization of production or modularization, and new ways to organize work, to permit greater autonomy, versatility and distribution of information.

In the organizational field, these new structural forms represent a significant change from previous organizational structures, which were influenced by Fordism, specialization, the division of labor and by a separation among conception, execution and production control. Tigre (1998, p.91) emphasizes that “the need to adapt the productive process to frequent changes in product quantity, mix and design substantially reduces the advantages of hierarchical coordination. As a consequence, growing importance is given to company networks as an intermediate way to coordinate the vertical company with the atomized market.”

Undoubtedly, the number of strategic alliances, networks and other means of collaboration among organizations is growing. Among other factors, this movement stems from the growth of international markets, competition, uncertainty, the pace and costs of technological progress, as well as from the intense application of science to the productive process of goods and services (Johnson and Lundvall, 2000).

Specialized literature (Powell, 1988; Gulati, 1999) shows that companies increasingly use cooperation strategies. There has been a growing trend to set up networks and, particularly, to set up strategic alliances. Presently, strategic alliances have become one of the most common strategies adopted by companies, according to Gulati (1998). Schrifin, cited by Rond and Bouchikhi (2004), states that the number of new alliances set up each year exceeds 10,000. Hagerdoon (2002) presents empirical evidence that shows the evolution of this organizational trend toward collaboration in R&D in industrial sectors from 1960 to 1998. Moreover, this database shows that more flexible ways of cooperating, such as through networks and strategic alliances, have become more predominant compared to more formal relations, such as joint ventures.
The nature of these partnerships varies from formal contractual links to informal networks of knowledge exchange, including all the various forms of intermediate arrangements. These structures are being used by firms that voluntarily subordinate part of their autonomy in exchange for access to capabilities they do not possess. These companies are formally independent and their relations lead to a particular way of coordinating their economic activities (Britto, 2002). Due to the flexibility of their structures, they allow a mix between centralization and decentralization, which gains them mobility - an indispensable feature in an environments whose basic characteristic is dynamism.

Within this context, marked by the reality of networks, we can observe a collective process to deal with information and to seek solutions, which leads to common interests in relation to the available information and to the expertise available within the group. Further, it is possible to highlight the creation of a space which provides the opportunity to collectivize resources specific to the network, as well as to frame socially defined practices and rules that will guide interactions among the agents who comprise the network (Britto, 1999, p. 116).

In recent years, the literature reveals large investments by scholars in their quest to understand this phenomenon of cooperatives strategies, since networks have become an important tool for competition. There is a vast literature on networks. By means of a brief survey of specialized journals and magazines published in the last 20 years, the reader will be able to find numerous papers and studies on the subject. Research has converged on themes related to the design of alliances and to their regulation and performance. Nevertheless, the theme is still a challenge to researchers, as there are many issues that have drawn little attention but must be answered, such as the processes, evolution and management of partnerships (Rond and Bouchikhi, 2004).

In an attempt to contribute to this discussion, the current paper presents two case studies of networks set up by two Brazilian banks, aimed at developing innovation in banking products and services. One of them details a private bank's banking correspondent network model. The other analyzes the alliances established between a large bank and mobile telephony companies to develop a new channel to access banking services, the mobile telephone. These studies assess the management tools used within this network, particularly the flows of knowledge transfer and generation, information, control and coordination. It is believed that due to the scarcity of literature on setting up networks in the Brazilian financial system, especially those linked to its innovation processes, this paper can contribute to an understanding of this phenomenon.

Frame and White (2002) carried out a broad bibliographic survey of empirical studies of financial innovation and came to the conclusion that an important characteristic of this literature lies in the need for empirical studies that test hypotheses or carry out
quantitative analyses of financial innovation. They also cite the bibliographic review by Cohen (1995), which found 357 books and articles on the topic of innovation in general, none of which dealt with financial services.

Therefore, it is worth remarking that the specialized literature has a long tradition of studies on the industrial sector but, by and large, neglects the services sector, and especially the financial sector. Some initiatives such as CIS (Community Innovation Survey) and the SIID project reflect a change in position in this kind of literature. However, it is worth stressing that in Brazil, this subject is opening up a new space for research. The limited availability of studies on the Brazilian financial sector is aggravated due to the lack of domestic research on technological innovation, such as the Pesquisa Industrial de Inovação Tecnológica - PINTEC (Industrial Research on Technological Innovation) carried out by Instituto Brasileiro de Geografia e Estatística - IBGE (The Brazilian Institute for Geography and Statistics), which incorporates the financial services sector and thus allow a series of isolated analyses on the activities that make it up to be carried out, as well as international comparisons to be made. However, in spite of the fundamental and growing importance of the financial and services sector in contemporary society and economy, there is a lack - both in Brazil and internationally - of studies on inter-organizational networks and the generation and transfer of innovation in the financial sector.

In contrast to the literature, the country's major newspapers and magazines frequently highlight the fact that alliances are widely used by banks. Recent research, developed by IBM Consulting Service (2002) on trends in the world's financial sector, has found that leading banks will achieve better performance by transforming themselves into specialized companies. From this perspective, these institutions will manage internally only what is of strategic importance to their core business and will set up partnerships with experts in the sector for those activities that do not bring them a competitive advantage.

The present paper reports the results of the research project "The Domestic Financial System: Partnerships, Alliances and Innovation" developed by the Fundação Dom Cabral Serasa Services Innovation Center. The main goal of this research is to investigate, analyze, and report the processes of setting up and developing inter-organizational networks in the Brazilian financial system, mainly those linked to generating and transferring innovation.

This research was split into two stages. The first can be characterized as exploratory and is based on two sources of research, namely, a bibliographic survey that also encompasses data and secondary indicators on inter-organizational networks; and a qualitative research carried out by means of in-depth interviews with representatives of the domestic financial system through which we sought to understand their main perceptions, assessments and expectations about alliances, partnerships and innovation in their field. The empiric research was carried out between May and July, 2006 and
involved 16 (sixteen) banks. Its goal was to explore issues that deal with the processes of setting up and developing networks of companies in the domestic financial system. The banks studied form a representative sample, as the qualitative research encompassed institutions ranging from small, midsized to large, both domestic and foreign, private and state-owned. The second stage of the research was carried out in 2007 and seeks to describe and analyze, in-depth, some of the existing network management processes in the domestic financial system. Thus, it uses the strategy of researching inter-organizational network case studies carried out through document analysis and in-depth interviews with those who manage the alliances being studied. As previously mentioned, the research was carried out at two Brazilian banks. The study assesses the management tools set up within these alliances, particularly the flows of knowledge transfer and generation, information, control and coordination. The analysis of the management tools used in the alliances is based on characterizing their organizational functions; their contracts; and their control and management processes.

The two cases studies presented provide an understanding of the dynamics and how banks manage their cooperation agreements dedicated to innovation. The analysis lets us identify the management tools used and map the flows of knowledge transfer and generation, information, control and coordination established in the alliances being studied. From this perspective, the results achieved contribute to a deeper understanding of the micro fundamentals that make up partnership management. Furthermore, these cases also contribute towards understanding organizational innovation in the services sector, particularly in banks - an area that has been little explored in the literature up to now.

Besides the introduction and final comments, this paper includes four sections. The first section carries out a review of the literature on inter-organizational networks. The second summarizes the main trends in the financial sector, noticing the strategic option for inter-organizational networks, mainly those related to innovation processes. The third section briefly describes the methodology used to prepare the cases. Lastly, the fourth section presents two cases studies of networks set up by two Brazilian banks for joint development of banking products and services.
Many authors have written about the increasing importance of alliances (Keil, 2000; Grant, 1996; Powell et al., 1996). Others have questioned the effectiveness and the scope of the conceptual framework of the different currents and theoretical schools utilized in understanding the topic. Gulati et al. (2000), for example, investigate the effectiveness of the concepts and the focus of the analysis of such theories as the resource-based view, transaction costs and industrial organization in their quest for answers to the partnership phenomenon. Others have based their studies on the theories mentioned above or in others such as, for example, the games theory (Hennart, 1988; Dyer, 1997; Madhok and Tallman, 1998; Parkhe, 1993). Kogut (1998) assessed the issue with respect to joint ventures; Dyer and Singh (1998) and Bernardes (2000) dealt with networks that involve suppliers; Gulati (1995), Arino, De La Torre (1998), Barney, Hansen (1994), Dyer and Singh (1998) studied the issue of trust within a network context; Powell (1998) and Dyer and Singh (1998) developed the subject from a relational view perspective, etc. There are also those who seek to understand how learning happens within network environments (Hamel et al., 1989), among several other approaches.

The studies are also different in relation to the level of analysis that is used. Some studies focus on the relationships established among the institutions within the network. Among these, some deal with understanding the elements that allow the agreement to be setup. In relation to these links created among companies, we should highlight the papers that seek to investigate their relational capabilities (Dyer and Ouchi, 1993; Lorenzoni and Lipparini, 1999; Cooke and Morgan, 1998; Nohria, 1992). In their interpretation, companies are seen as agents that interact along their chain and that are dependent on their relationships. Consequently, they need to develop relationship skills so as to enhance their capability to coordinate the different agents inside and outside the organization. Aspects such as trust and reputation appear as important variables. According to Dyer and Singh (1998), this capacity for relating among themselves can be a source of competitive advantage to a company. This approach has been criticized by those who seek to understand networks from the perspective of transaction costs, since they analyze agreements in isolation and, consequently, do not deal with interaction issues. In the latter, networks are considered to be the second option vis-à-vis integration. Overall, these studies are not specific enough as to the results achieved through cooperative relationships and to the way institutions organize themselves to achieve their objectives.

As they deal with levels of analysis, other studies seek to understand the aspects linked to organizations, that is, they analyze cooperative relationships by means of intra-company variables. In general, these studies are based on theoretical referentials such as evolutionary theory, the resource-based view, dynamic capabilities, the competence-
based view and learning organization. Along this line of reasoning, these studies look at and seek to understand networks from the company perspective. Studies that intends to understand performance and the establishment of capabilities to manage alliances usually base themselves on this kind of conceptual and theoretical approach. In spite of this, Doz (1996) states that there are fewer research based on an evolutionary reading, especially if understanding the processes is taken into account.

Although many research papers investigate causes and failures, partnership management still awakens little attention from researchers. The literature increasingly points to the need to investigate cooperation agreement management, as it is still not clear how companies manage their networks and their cooperation agreements. Some authors state that different capabilities to manage partnerships become an important asset that can even differentiate companies and, therefore, generate competitive advantages. These authors believe it is necessary to carry out a deeper investigation of the establishment and development of this skill, i.e., network management and the consequent setting up of alliance capabilities (Heimeriks, 2004; Simonin, 1997). When dealing with this aspect it might be possible to find some of the important reasons that lead to numerous undesired break ups, as well as to the good results shown by some partnerships.

Coombs and Metcalfe (1998) state that one of the main characteristics of the modern innovation process is that it is a collective one. They also state that, usually, companies' competitive differentials are based on their capability to manage the cooperative relationships that a complex innovation process demands. This leads to a new reality: capabilities are exploited and created within the networks, and we understand that such arrangements are a response to the increasing complexity of the environment. Although this consensus already exists, little is known about which instruments are used within the networks and cooperation agreements that will allow certain partnerships to achieve their strategic goals and companies to develop this kind of capability (Kale, Dyer and Singh, 2002).

Much more than understanding a company as a mechanism to process information, take decisions and solve problems, companies have been analyzed from the perspective of seeking and creating knowledge. Within this context, the capability to deal with knowledge is understood as a function of the relationships established by the company, as they act as vehicles to disseminate, learn and create technologies and new knowledge. These links among companies can be either formal or informal and involve agreements to transfer and create new technologies. They can also involve quite sophisticated mechanisms to support network management and encompass third-party participation or each partner's proprietary structures. These structures have been used by companies that voluntarily subordinate part of their autonomy in exchange for access to capabilities they do not have. It is within this environment that studies on networks are justifiable, particularly those which seek to understand the processes that transfer, create and share knowledge. As stated by Powell (1998), we still know little about how such processes occur within the context of networks. To this can be added the need to go deeper into finding out which management tools and mechanisms are used by companies during this process.
General Trends in the Financial System

Despite the dearth of studies on the services sector, it has begun to be included in quantitative research such as that of the CIS (Community Innovation Survey) and PINTEC 2005 (Technological Innovation Research - IBGE), and sector-specific surveys such as the SIID project have also been carried out. These initiatives reflect a change in the positioning of the literature on economics, since until the mid-1980s it did not consider the services sector to be important from the point of view of wealth generation (productivity increase) or of innovative dynamics. Barras (1986) was the pioneer in changing this point of view by launching the bases to study innovation in services, although at first he considered it to be a sector that was dependent on or dominated by the industry.

The lack of studies is even greater when the focus is on the financial sector. Frame and White (2002) carried out a broad bibliographic survey of the empirical studies on financial innovation and concluded that "a striking feature of this literature is the relative dearth of empirical studies that test hypotheses or otherwise provide a quantitative analysis of financial innovation" (p. 1). They also cite a bibliographic study carried out by Cohen (1995) that found 357 books and articles on the theme of innovation in general, and none of them dealt with financial services. This fact reflects how difficult it is to measure innovation in this field. According to Mulders and Hertog (2003), this situation becomes more serious because not even financial institutions themselves have a clear definition of innovation or manage to measure it internally.

Frame and White (2002, p. 11) state that there is still a lack of studies describing the effect of networks on the financial system: "...neither the general innovation literature nor the financial innovation literature has satisfactory addressed how the presence of network externality effects (Rohlfs, 1974) influences the type and pace of innovation. With networks, the benefits to membership increase as more members join the network. Also, economies of scale and compatibility among members are usually important features of networks. The implications for innovation are cloudy, but potentially important. Incremental innovations within the compatibility of a network are clearly possible. But the scale-related problems of creating new networks may discourage such ‘large’ innovations".
Innovation in the financial sector

The main goal of this section is to present some indicators of innovation in the financial sector by exploring, in particular, the results of the 3rd Community Innovation Survey (referred to as CIS 3 from now on).

CIS 3 (1998-2001) proposes measurements for innovative activity in the various sectors of the economy. By analyzing financial services (“financial intermediation”), we can observe a larger number of innovative companies (58%) as compared to the services subgroup (40%) or to the general average (44%). Such data helps demystify the idea that services, notably those performed by the financial sector, do not create innovation.

As to the sources of innovation in the financial sector specifically, there are other important ones besides those that are internal to the company (34%), such as clients and consumers (24%), equipment, materials, components and software suppliers, as well as competitors (17%). In terms of cooperation, financial sector companies show a strong tendency to cooperate (21%), which is an average that is slightly inferior to that found in services (22%) but higher than that found for all sectors of the economy (19%).

Summing up, the evidence organized by CIS 3 not only shows that the financial sector is a dynamic one in terms of creating innovation but also that it depends, to a large extent, on partnership and cooperation in technological activities to be able to innovate. The IBM Consulting Service report (2005), which studies the trends in the sector for 2015, suggests that banks increasingly will focus on their competencies and set up partnerships with companies whose expertise lies in areas where banks do not have a competitive advantage.

Still on the subject of cooperation, Faerman et al. (2001) present four interlinked factors that can encourage or inhibit cooperation among banks, and these are: a willingness to cooperate; existing obstacles and incentives; leadership; and the number and variety of actors involved in the partnership. According to the authors, such cooperation efforts can be assisted or hindered by personal and institutional experiences. Variables such as trust and behavior are mentioned by the authors as incentives to setting up alliances and partnerships, while the opposite can be responsible for misgivings among actors.

Important changes in the financial sector such as consolidation, regulation, market specialization, changes in the need for labour and the new technologies have put pressure on retail banks' operational models and raised questions regarding the traditional strategies to add value through growth and efficiency (IBM, 2005). To these can be added the existence of a customer base that is increasingly well-informed and demanding, which demands greater response capability from banks. From this perspective, it becomes necessary that banks increasingly should seek solutions that will make their process easier and please their clients so that, consequently, they can remain in the market.
According to IBM (2005), creating and maintaining advantages within a market that is characterized by strong competition will demand that retail banks show extreme operational efficiency and excellence, so that leadership will fall to those institutions that are more willing to innovate in products, services and processes, and thus anticipate their customers' needs. Therefore, innovation stands out as the growth engine of banks. However, innovative activity is not carried out in isolation. Data presented in this section prove that inter-organizational networks are gradually coming to integrate banks' strategies not only for innovation in products, processes and organizational change but also to increase their market reach.

IBM states that, if they are to achieve leadership, banks will be restricted to their competencies and will set up strategic alliances to fill in their gaps. Putting it another way, "to put such [innovative] priorities into practice, banks will have to concentrate on their main strength - those activities in which they excel - and set up partnerships with the best experts in the sector for the remaining initiatives: gain more doing less" (IBM, 2005: 01).

In the retail banking competitive scenario for 2015, the advantages stemming from acquisitions, entry into new markets and offers of reworked products will not be lasting ones. On the other hand, the use of partnerships and outsourcing will place efficiency as a requisite of the sectorial competitive process (IBM, 2005). Therefore, focusing on differentiated and strategic points and setting up partnerships for the remaining activities are strategic priorities for retail banks within a context of increasingly strong competition.

As for the Brazilian financial system, two sources of data were systematized by the Serasa Services Innovation Center during the first stage of the project "The Domestic Financial System: Partnerships, Alliances and Innovation". The first source was a qualitative study carried out with 22 executives from 16 banks from the Brazilian financial sector and represented by large, mid and small-sized banks. According to these executives, the inter-organizational networks that are most cited due to their importance in the domestic financial system are those set up with technology companies; other banks; companies from various sectors; and bank correspondents.

Another database used for this work belongs to Valor Econômico newspaper, where news about existing partnerships in the financial sector was sought. For the period between January 03, 2005, and November 10, 2006, 1992 new partnerships and 26 different kinds of partnerships were found. Seventeen of these aim to issue private label cards. In second place stood payroll consigned credit and banking correspondents, each category encompassing 14 partnerships. Sales financing came next with 12 partnerships. The following are the other partnership highlights found: ATM and services network interlinking; partnerships with foreign banks to service money forwarded by Brazilians who live abroad; credit offers for micro and small businesses; agreements to participate in bid tenders for road building or equipment supply; developing a credit card together; enhancing POS functions; payroll; among others. Partners vary, and they can be domestic or foreign banks, retail chains, city governments, or even associations.
In 2000, there were 13,731 banking correspondents. By 2005, the number of banking correspondents had increased by 406% and now there were 69,546 of them. During the same period, the number of bank branches increased from 16,396 to 17,515 (a 6.8% increase) and the overall number of service centers increased by 129%, from 54,075 to 123,993. These figures demonstrate that banking correspondents have become an important strategy and a means for banks to expand. In 2001, there were 18,653 banking correspondents. However, in 2002 the Banco Central (Brazilian Central Bank) counted 35,511 banking correspondents, which represented an increase of about 90%. Such growth can be explained by the creation of Caixa Aqui and Banco Postal. The first stems from a partnership with Caixa Econômica Federal, and the second is a partnership between Correios (the Post Office Authority) and Banco Bradesco.

It is important to stress that these sources point to the importance of innovation of an organizational nature, that is, the use of networks as an important option in terms of innovation within the current business context in the sector. To this can be added innovation in banking products and services based on a multiplicity of banking services channels, whether by means of mobility solutions such as mobile telephony or by means of banking correspondents.

The data presented in this section show how important alliances are to banking strategy. Thus, due to concerns about the intense dynamism of the economy, increasingly demanding customers and strong competition, banks must keep seeking solutions that will increase their competitiveness vis-à-vis the market.
Methodology

The networks were studied by using a combination of qualitative research tools, document analysis, interviews with network actors, analysis of interview content, and a search of specialized bibliographies.

The explanatory case study analysis was employed. According to Yin (2005), this kind of study intends to explain as well as describe case studies. Moreover, the intent is to be able to generalize the lessons learned to theoretical propositions and not just to a population or universe.

In the case studies realized here, the intent is to understand how the networks are coordinated. Thus, we will discuss the tools that will permit these issues to be worked out among the companies that are part of this network.

We have opted for the case study methodology, since an answer to the question stated above would require a contemporary phenomenon to be observed. Therefore, it is an ongoing phenomenon whose limits between context and events are not clear, which again justifies our methodological option. However, we should stress that this study does not intend to investigate the results obtained by the network; it will investigate the tools used to manage it.

Another aspect that justifies the use of a case study through interviews is related to the fact that these networks are geographically disperse. Therefore, it would be impossible to carry out local observations of the interactions among agents.

The studies were carried out in nine stages: an analysis of the partnerships in the banking sector to select the cases that would be studied; contacts with the banks; bibliographic research on the topic; preparation of the interview framework; interviews with bank executives and other staff; an analysis of the documents supplied by the selected banks; participation in in-house training; an analysis of the data and the content of the interviews; and preparation of the report.

We would like to stress that, according to Yin (2001), document analysis is an important stage in formulating a case study, as it contributes to elucidating evidence that comes from other sources. In the cases that were studied, particular attention was given to in-house documents, i.e., those that were generated during the development of the partnerships.

While selecting the cases to be studied in 2006, examples of partnerships in the banking sector that features knowledge exchange and joint product or process development were sought. This search was carried out through newspaper news, academic
bibliography and searches on internet sites in the sector. Bank A and Bank B were outstanding among the sample of cases. Bank A case was chosen due to its innovative format and because it was the first bank to act almost exclusively through its correspondents. Bank B was selected due to its adoption of mobility solutions.

The first step was to research the bibliography on inter-organizational networks, alliance capabilities, management tools, innovation in the financial sector, correspondents in Brazil and internationally, and specialized literature to support the case involving Bank B and mobile telephone operators.

After several discussions about the texts, interview guidelines were prepared and applied to the banks' executives and other staff. The goal was to understand the characteristics of networks, the history of the partnerships, the roles of each of the actors involved in the process, and the main flows established among them. Moreover, it was our intention to identify which tools were used to manage the networks and which were used by the banks to manage their partnerships with the other companies. The last item was directed to identifying the bank's degree of concern with creating alliance capabilities. The interviews were based on basic questions that were supported by theories and hypotheses previously drawn from the specialized literature. Along with their development, new questions cropped up and were incorporated into the guidelines. The basis of the case study, therefore, evolved as one based on semi-structured interviews.

Bank A interviews were carried out between July and October, 2007. Fourteen members of the bank staff, among them the general director, six superintendents and six employees linked to the network were interviewed for a total of 7 hours and 45 minutes, approximately. These interviews were transcribed, codified and analyzed using the NVivo software package.

In addition to the interviews, we analyzed material made available by Bank A about its history, correspondents, products and offers, among others. Together with new staff we took part in an in-house training program to make it easier to understand the bank's day-to-day operations; the training was given by Bank A managers and technical staff. The following areas were visited: administration, comptroller's (accounting); infrastructure; marketing and products; internal controls and MIS (Information System Management); treasury; the commercial department and networks. The training lasted for two days (a total of 6 hours). After applying the interviews, analyzing the documents made available, analyzing the literature and taking part in the in-house training program, we began to develop a process to analyze data in parallel with the literature in order to write the final report. The goal of this stage was to understand, from the bank's point of view, the strategic importance of setting up partnerships and the tools used to manage the goals of this network. The following stage will study the management networks that partner Bank A so as to gain a deeper understanding of how correspondents work.
For the second case study, the research team sought to interview the entire team involved in the Mobile Project (listed below) as well as five technical staff (senior aides or executive managers) from the other areas involved (technology; strategy, organization/alliances and partnerships; marketing and communications) who took part in the Mobile Project as representatives of their areas.

It must be remarked that the project team responsible for implementing the Mobile Project was initially made up of five members coordinated by the Retail Director: a) Project Coordinator - Retail Director; b) IT Analyst - Technology Director; c) IT Analyst - Technology Director; d) Senior Analyst - Commercial Director; and e) Senior Analyst - Retail Director. As it carried out its field work, the research team found out that Bank B has already internalized the management of this new banking service channel within the scope of the Virtual Channels Manager - Retail Director.

Due to the specific demands of the positions of each of the staff interviewed, the original guidelines underwent some adaptation. Thus, it was expected that we would be able to exploit fully the contribution of each of those involved in the network. It is worth stressing also that, due to the complexity of the network studied, we tried to carry out more than one interview with some of the technical staff of the banks mentioned above.

The interviews related to the case were carried out between July and December, 2007, and 10 Bank B staff were interviewed for a total of 13 hours and 30 minutes, approximately. These interviews were transcribed, codified and analyzed using the NVivo software package.

As mentioned, in addition to the in-depth interviews during the field work at Bank B, we read and analyzed in-house bank documents (presentations, technical notes; the contract to provide services via mobile phones; product and services briefings - Marketing and Communication Director; and the annual reports).

After accomplishing the field research and analyzing the documents made available, as well as the literature, we analyzed data in parallel with the literature to prepare the final report. This stage of the research is aimed at characterizing the structure of the "Bank B Mobile Banking" network and the tools used to manage it. The next stage of the research deals with interviewing technicians who work for Brazilian mobile telephone operators and are directly involved in managing this network.
Inter-Organizational Networks within the Brazilian Financial System

Case Studies of Networks Set up with Banking Correspondents and Mobile Telephone Operators

To understand how the trend toward forming networks affects the Brazilian financial sector, two case studies were carried out involving two Brazilian banks. These networks were aimed at jointly developing innovations in banking products and services. One of them is the banking correspondent network model for a small-sized bank. The other case study analyzes the alliances set up between a large bank and technology companies to develop a new banking services channel.

Banking correspondent network

The first case study deals with a network of domestic bank (here known as Bank A) and the structure it uses to manage its banking correspondents. Bank A's main goal is to reach a market niche which has not been explored by other banking products and services: the low income segments of the population often not serviced by other banks. According to material supplied by Bank A, a study revealed that the low income segments of the population believe that the cost-benefit relation between customers and bank offers few advantages. In their perception, services offered by banks, such as credit, for example, can be replaced by offers from relatives, from the retail trade and from shylocks. They state that they feel uncomfortable with the real and symbolic "barriers" (revolving doors, elegant surroundings, security officers, etc.) and that they perceive a lack of interest on the part of the banks in receiving their bills and in having a large number of people in their branches.

Banking correspondents help the banks' expansion strategy by becoming an extension of a bank branch, and they are in direct contact with the public while breaking the bottlenecks mentioned above. This business model was started in 2000 with the Caixa Econômica Federal's Caixa Aqui program operated between the bank and lottery ticket outlets. This program was aimed at the needs of Brazilians who did not have access to banks, a number estimated at 40 million by Neubuser et al. (2004). According to a study carried out by the World Bank in 2001 (Kumar, 2002), 30% of Brazilian municipalities did not yet have even one bank branch.
Some examples of broad networks of banking correspondents are those installed by large-size banks that use the channels of the large retail chains to offer credit, sell insurance, savings accounts and savings bonds investments, etc. to their customers.

Thus, Bank A has an important service in its banking correspondents. The network, which is made up by the bank, managing companies and service centers (stores that play the role of banking correspondents), is characterized by the latter's subordination to the bank. That is, this network is coordinated by Bank A, followed by the management companies which, in turn, coordinate the service centers that deal directly with the public, as per the figure below. This hierarchy stems from the responsibility borne by Bank A to the Banco Central do Brasil (Brazilian Central Bank) for all the operations carried out by banking correspondents.

Bank A plays the following role in this process: it receives money from creditors (transfers the money, reports bill payments, etc.); supplies the equipment needed for the center to operate (the equipment is loaned); supplies software; sets up agreements with private and state-owned utilities (making it feasible for the service center to receive payment of certain bills); and stores information originated from the service centers (bill payment, mobile phone recharge, loans, etc.).

The main function of management companies is to intermediate the relationship between Bank A and the service centers. They prospect for possible sites to set up bank correspondents; carry out the process of selecting and validating partners; control service centers operations via a system developed by the bank; set up the equipment; carry out training programs in products and processes; and support and maintain the service centers. Thus, management companies are responsible for relations with the service center. It is the center's responsibility to receive the client and perform the
necessary operations. This shows that banks do not usually maintain direct contact with the center; their main contact is with the management companies, who then intermediate the relationship between the bank and service centers.

According to the interviews, managing the operation and administering it falls under the responsibility of the management companies. They transfer payments, supply material for operations and publicity and formulate the guidelines to be followed. They provide the support needed for the operation of the service centers. The bank, in turn, offers the support and technology that the managing companies need.

The management companies are chosen through a detailed selection process carried out by the bank. First, Bank A checks whether the region that will be run by the management company has a qualified market and the potential to implement service centers. Afterwards, it carries out a due diligence process of this company and its owners, and their documents are analyzed by the bank's loan and risk department (balance, income tax returns, powers of attorney, etc.).

The management company then makes a deposit as a guarantee and signs a commercial contract that is sent to the Banco Central to inform it that that chain is authorized to work as a correspondent for Bank A. Bank A's responsibility vis-à-vis the Banco Central emphasizes the importance of hierarchy within this bank's network of correspondents.

The flows that circulate through these actors involve: information; knowledge; publicity; operations material; goals; and contracts. The information that circulates within such flows encompasses new technologies, new products and services, publicity and promotional material, operational equipment, product, services or processes adaptation, tools to manage goals, demand for technical support, and new processes.

These flows are transmitted through tools such as: intranet; e-mail; telephone; periodic newsletters; sporadic visits; meetings with the management networks; contracts; help desk channel; and training staff to launch new products and services. This exchange of knowledge and information is usually carried out informally by means of personal conversations, e-mails and telephone calls.

By analyzing these flows, it is possible to come to the conclusion that, although it is limited, there are participation and contributions by the service centers and management networks to the developing products and processes. This participation is limited due to the fact that the bank leads the process, and this stems from its responsibility vis-à-vis the Banco Central, as we have previously stressed. However, it is possible to state that this network is flexible, i.e., that the characteristics of each region are respected. According to the interviews carried out, the experience obtained from the relationship with the management network can be replicated in other networks, but regional and cultural differences are always taken into account.
Networks with mobile telephone operators

The second case study analyzes alliances set up between a large bank (here known as Bank B) and mobile telephony operators to develop a new channel to access banking services.

This network, in strategic terms, is based on the perspective of the existence of a multiplicity of banking services channels. This fact is made possible by technological advances in TICs and regulation changes, that is, the advent of banking correspondents; mobile telephones; POS (equipment points of sale); Internet banking; and ATMs.

Bank B had to set up partnerships with 7 (seven) mobile telephony operators to make this project feasible. As a matter of fact, to attain the needed technological integration between Bank B and the above-mentioned technology companies it was necessary to adapt and jointly develop different kinds of technologies. With this perspective, Bank B established strategic and commercial agreements with these mobile telephone operators and thus found itself technologically integrated with all the major technology companies in this segment which are active in Brazil.

Bank B has direct relations with all the mobile telephone operators in the network with which it direct establishes a flow of communications and knowledge. In its condition as network coordinator, Bank B occupies the position as the node of connection among the seven different sub-networks, which do not interact among themselves. In fact, as shown in Figure 02, the different branches of this network are not connected with each other, i.e., there is no flow of communication among the mobile telephone operators. To state it another way, the different sub-networks of the technology companies are linked one to another only through Bank B, with whom they relate individually. This is justified, from the point of view of those interviewed because these companies are competitors. Thus, there are structural holes among the different sub-networks within this technology network.

It is worth noting that, in relation to technology development, the mobile telephone operators sometimes include companies in the network. These help the former to solve specific technological problems. Bank B interacts indirectly with these outside companies through its contacts with the mobile telephone operators, although, occasionally, it might interact directly either by obtaining information about on-going development processes or through some joint interaction for the development of some specific technology (technological integration, development of applications, etc. Bank B, therefore, interacts with the mobile telephone operators and, occasionally, with their partners. It is worth emphasizing that since Bank B, in turn, has its own structures, it develops all the technology in-house and therefore has no need to include third parties in this network.
In its condition, as the node company in this network, Bank B has constituted itself into the transmitter of knowledge among the different operators which, as we have seen, have no contact with each other. In other words, playing the role of intermediary, the bank itself acts as the link for transfers among the mobile telephone operators. It is through this flow that know-how, applications, operations, or solutions, as well as successful strategies and business models that may have been developed by a particular company circulate. These flows of knowledge are essentially based on the absence of contractual barriers to the transfer of developments within this network. This is due to the fact that the bank owns its technology that supports the partnership. The knowledge that circulates freely is the development of the application of this technology by the operators.

On the other hand, during the creation of this new banking services channel, there was no internal division of labor among the mobile telephone operators such that each of them would be responsible for a specific development in the network. In the absence of contracts to guarantee exclusivity of the technologies developed with the mobile telephone operators, the pioneering of the joint developments with some technology companies is related to the stage of development of the companies, as well as their technological specificities.

The flow of knowledge and exchanges of information between Bank B and the mobile
telephone operators are transmitted, mainly, by such tools as e-mails; telephone calls; periodic meetings with network managers; staff exchanges; and joint work among the technical staff of the Bank and the companies. These instruments, it can be concluded, are mostly informal, occurring mostly in the direct relationship among the responsible agents - personal conversations, e-mails and telephone calls.

Due to the need to concentrate efforts, to seek synergy among the internal areas of the bank and the various mobile telephone operators involved, it was understood that there was a need to create a project team to implement the new service channel. This team was initially made up of five members: a project coordinator, two analysts from the technology area and two analysts from the commercial and retail areas. In addition to this structure, it was observed that the project involves different in-house areas such as technology, communications, marketing and the legal department (and some employees who occasionally are allocated to support the development of the new channel). From the interviewees' perspective, keeping this project within an area that manages other banking services channels will lead to unquestionable gains in synergy with the other channels, and that it could be internalized into the organizational structure as an additional channel, at its conclusion.

Lastly, it is interesting to note that, from the respondents' perspective, the results achieved by the partnership were considered to be successful both with respect to its innovation capabilities and to the creation of a new banking services channel.

It is worth mentioning that there is an area inside the bank where, apparently, these experiences are concentrated and which supports the partnership by carrying out market research and channel internalization, the design of the framework and the project team. On the other hand, however, the respondents did not clearly perceive the role of this department inside the bank as a locus to store the learning stemming from the accumulation of these experiences, that is, from alliance capabilities. The goal of this department, which is linked to the presidency, is to help align the partnership's strategies to the bank's global strategy.

In relation to the database tool, Bank B created an executive secretariat where technical notes are stored. However, it can be observed that these notes specifically register the knowledge produced within the partnership and not the management tools.

Based on this case, we question the possibility of transferring or replicating experience in a future partnership, due to the absence of a framework focusing on storing this knowledge, differently from what is pointed out in literature. It can be observed that the bank privileges people as tools for knowledge transfer, and not specific functions or positions. People are the element that will reproduce knowledge, in contrast to what is pointed out in the specialized literature.
Final Considerations

The analysis presented contributes to a better understanding of network management processes. According to Doz (1996) and Kale et al. (2002), there is an important gap in literature. We have described the framework of the two networks that were studied and which are core elements in their coordination. The main flows identified were control and generation and transfer of knowledge. The tools identified were similar, consisting of meetings, specific communications channels, visits, etc. For both cases, the main characteristic is related to informality.

The partnership involving Bank A's banking correspondents aims to establish an extension of the bank branch by creating direct contact with the public. It involves relations directly between the bank and the management companies, and indirectly between the bank and correspondents. The latter are made up of small-sized companies divided by region and thus not in direct competition with one another. As to the network set up by Bank B and mobile telephone operators, its goal is to develop a new banking services channel. The partners are large-sized companies that compete among themselves. This structure influences the specific structure of each partnership in terms of goals and profiles.

In the case of Bank A, there is a more centralized hierarchical control structure. Bank A establishes communications, control and transfer flows of both tangibles and intangibles directly with the management companies and, in turn, these carry out their main function by intermediating the relationship between the bank and the service centers. Additionally, they exert more direct control over correspondents, a clear division of roles among the three agents that make up the network, and a well-defined hierarchical structure.

In turn, Bank B presents a less explicit hierarchical structure which might stem from the dynamic goal of the partnership, i.e., jointly developing a new technology. Thus, the structure of the network is much less formal and allows the emergence of articulation mechanisms among its agents and management.

As to communication flows, it is worth noting that within Bank B's network, the partner companies do not exchange knowledge and information. This flow happens through Bank B, which is the link that transfers them. One of the possibilities that may explain such a situation is the competition among technology companies. On the other hand, in Bank A's network flows happen vertically within the network, ascending and descending, that is, from the bank to the management company and from it to the correspondents, and vice versa. This direction of flow is due to the hierarchical characteristics of the network. However, it should be stressed that knowledge flows downward and information flows upwards. This happens due to the low degree of management sophistication at the lowest links of the network.
A grand concern with the internal appropriation of management knowledge generated within the network on the part of Bank B was not detected. According to the interviewees, the bank has a broad portfolio of partnerships in its different businesses and transferring specific management knowledge would not be feasible due to the specificity of each business and, consequently, to the goal of the networks. Thus, differently from what is pointed out in literature (Duysters and Heimeriks, 2003; Heimeriks, 2004; Heimeriks et al., 2004; Heimeriks and Duysters, 2004), Bank B is not worried about setting up a formal structure or instruments to store this knowledge. Bearing in mind that Bank A originated from a business model structured in networks - a network of correspondents - the bank's structure was designed to guarantee that such knowledge would be stored.


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