Exploring the boundaries of intermediaries: An attempt to bridge the gap between value configuration and organizational architecture

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EXPLORING THE BOUNDARIES OF INTERMEDIARIES: AN ATTEMPT TO BRIDGE THE GAP BETWEEN VALUE CONFIGURATION AND ORGANIZATIONAL ARCHITECTURE

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Abstract

Few studies have explicitly examined the importance that a specific and unusual value configuration of a firm has on the architectural design of the same firm and vice-versa. In this paper we argue that firm-level value creation logic and organizational architecture are closely inter-related. More specifically, we suggest that considering matchmaking forms of market intermediation as value networks, allows one to deepen its understanding of how mediating firms –in opposition with manufacturing firms– shape their organizational boundaries. Using data on eBay Inc., we show that value configuration interacts with network embeddedness to determine organizational boundary decisions. Finally, as this is a first attempt to link value configuration analysis to the organizational architecture literature, we call for further empirical work to validate the results of this exploratory study.

Keywords:
Intermediaries; Value configuration; Organizational Architecture; Firm Boundaries

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1. Introduction

In attempting to explain competitive advantage, many scholars pay attention to firm boundaries and industry architecture [MacMillan and Farmer, 1979; White, 2002; Afuah, 2003; Santos and Eisenhardt, 2005; Jacobides and Billinger, 2006]. Simply put, an organizational boundary represents a demarcation between the organization and its environment [Santos and Eisenhardt, 2005: 491]. As such, an organizational boundary describes not only a firm’s scope of activities, but it also gives indications on how a firm decides its strategic positioning and where it creates value [Porter, 1985]. A firm can shape its boundaries in two ways. First, by moving along the industry value chain it belongs to, the firm defines its vertical boundaries. Second, through the level of production and the number of markets the firm addresses, the firm settles its horizontal boundaries. Considered as a whole, organizational boundaries determine the architecture of the firm.

The concept of organizational boundary has attracted considerable interest in management research. Drawing extensively from industrial organization economics, several studies focus on the reasons why firms shift the boundaries of their organization [e.g., Leiblein and Miller, 2003]. Such work generally refers to firm or organization boundaries. Besides, strategic management scholars identify boundary decisions as a way of influencing their environment and specifically the architecture of entire sectors [Jacobides, 2005; among others]. In this case, one talks about industry architecture. For example, in a recent study of the mortgage sector, Jacobides [2005] shows that the potential gains associated to specialized production or trade, at the firm level, have an impact on the architecture of the whole sector.

Although the convergence of industrial organization theory and strategic management research highlights the importance of the boundary concept in understanding several aspects of both industry structure [e.g., Jacobides et al., 2006] and competitive advantage [Porter, 1985], it does not clarify the existing links between the value configuration of a given firm and its boundary decisions. Value configurations represent alternative firm-level modes of value creation with distinctive logics underpinning how value is delivered to customers [Stabell and Fjeldstad, 1998]. For instance, a bank, a supermarket, a textile manufacture, and a hospital do not work on the bases of similar value configurations. Even if
organizational boundary decisions are frequently mentioned in the literature as influencing competitive advantage, current theories still lack clear explanations on how organizational architecture is shaped when facing organizations that strongly differ in their mode of value creation. Actually, most of current studies on the topic treat the problem in a rather general way, not considering the variety of value configurations, and focus more on manufacturing firms with a classic input-output perspective and the transformative logic behind it [Leiblein and Miller, 2003; Jacobides and Winter, 2005]. Put differently, while there is mounting evidence concerning organizational architecture and governance mode of firms’ sourcing decisions in general settings, we have little understanding of how organizations that do not fit the traditional value chain model shape their organizational architecture. This paper explores this void.

Some types of market intermediaries are relevant examples of firms that differ significantly from other firms regarding their value configuration. As noted in the first essay of the dissertation, market intermediaries are either merchants or matchmakers. In this paper we will focus on the matchmaking form of intermediation as it is the most interesting setting in terms of alternative mode of value creation (for evidence, cf. first essay). From this perspective, market intermediary can be seen as mediating organizations [Sasson, 2008: 893], that is, ‘third party firms that create value by providing an amalgam of networking services to their respective customer sets’. Hence, instead of transforming inputs into outputs, market intermediaries create value by linking groups of agents that are—or wish to be—interdependent [Thompson, 1967]. A special feature of intermediaries is the notion that their interactions with their customers are actually used to enable multilateral interactions between customers [Stabell and Fjeldstad, 1998: 428]. In this study, we explore the organizational boundary implications of a market intermediary, for which the traditional value chain representation (a continuum of value-adding activities) within a specific industry context, fails to give an acceptable explanation of the competitive dynamics at work. To understand how organizational boundary decisions are associated with different value configurations, we use a contingency perspective and put forward the idea that the effect of boundary choices is contingent upon value configuration. We argue that the mode of value creation is an important contingency factor, because firms do not shape their organizational boundaries without considering how they can best achieve a competitive advantage [Stabell
and Fjeldstad, 1998]. So, the boundary-performance relationship can be better understood by concurrently exploring a firm’s organizational boundary decisions and its value configuration.

Our approach is in line with the idea that firms do not always fit the industry structure view and are often embedded in networks including other firms and actors [Granovetter, 1985; Dyer and Singh, 1998]. A common theme in this respect is that the strategic behavior of firms can be analyzed through a relational view focusing on the firm’s entire network of relationship, in addition to the firm and industry level perspectives. We note that market intermediaries, because of the relationships they instigate, correspond to strategic networks [Dyer and Singh, 1998; Gulati, Nohria and Zaheer, 2000]. Our approach is also consistent with the emerging paradigm of the technological impact on organizational boundaries [Lewis and Sappington, 1991; Afuah, 2001, 2003]. Afuah [2003] maintains that the differentiated boundary model should be extended by identifying other types of boundaries in fields where network externalities are important. The author emphasizes that such research should be directed to ‘explore the role of network externalities in determining the impact of the emergence and diffusion of the internet on firm boundaries’ [Afuah, 2003: 50]. This is precisely our intention with the present paper. Finally, a growing body of literature has sought to understand why some industries shift from integration to disintegration and back [Jacobides, 2005]. For instance, Jacobides and Winter [2005] clarify how this strategic shift affects competitive dynamics at the level of the industry. Our study wants to ask the same question, but this time at the level of the firm. By simultaneously investigating a firm’s value configuration and organizational boundary decisions, we contribute to the organizational architecture literature. Because differences in value creation logic reflect different business economics, a special effort has to be made to include within the analysis firms that differ in the way they create value.

The central tenet of our argument is that how well a mediating firm performs does not only depend on its ability to shape boundaries. As noted, performance for intermediaries is also contingent upon the extent to which they are embedded in a strategic network. To examine this, we focus on an online mediating firm (eBay Inc.) as our research setting. In particular, we investigate eBay’s strategic decision to sell its communication branch (i.e.
Skype) to an investor group. This example of backward change in organizational boundary provides an ideal setting because eBay Inc., as a matchmaking platform, represents a market intermediary. Because eBay Inc.’s boundaries spread beyond the famous e-commerce platform (the company owns multiple platforms and services), the structure of the company is more complex than one would expect. In addition, compared to traditional firms, eBay Inc. is relatively independent from its competitive environment, to such an extent that the firm and the market here coincide, just as its suppliers and its clients do. Therefore, eBay Inc. is an interesting setting because it underwent a process of market creation within the Internet area. As recently shown by Santos and Eisenhardt [2009], this is particularly relevant when one wants to explore the logic of organizational boundaries. In sum, the eBay Inc. case will contribute to a better understanding of the design of organizational architecture for firms that rely on alternative modes of value creation. By considering market intermediation as an alternative form of value creation, we search for insights on how firms that address an atypical mode of value creation take decisions on their organizational boundaries. This question is still open, and we strongly believe that it has a theoretical as well as a managerial value of its own.

The next section presents the theoretical background of the organizational architecture literature and the multiple value configuration theory. The third section presents the case, the data set as well as the methods. In the subsequent section, the findings are presented and testable propositions are derived. The final section discusses the implications of the study and considers the aspects of future empirical research for testing the validity of the propositions that are presented here.

2. Theoretical background

This section begins by outlining the recent advances in the organizational boundary literature. We present boundary decisions as focal modes of maintaining competitive advantage. We then discuss our use of value configuration analysis as a relevant framework

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1 eBay Inc. acquired Skype in 2005. On the 1st of September 2009, eBay announced the divestment deal (selling 65 p.c. of its shares of Skype to a private investment group). At the moment of writing these lines, the deal was expected to close in the last quarter of 2009.
to study market intermediaries, contrasting our approach of organizational boundaries with the prior literature.

2.1 Firm boundaries and organizational architecture

Research on organizational boundaries is sparse and has been constrained to academic settings with multiple theoretical lenses (for a review, see [Santos and Eisenhardt, 2005]). As noted, firm boundaries delimit the perimeter of action of a given firm. From this perspective, strategic positioning needs to consider both vertical and horizontal integration.

2.1.1 Vertical boundaries

In his insightful paper, Afuah [2003: 35] writes the following: ‘In converting inputs into outputs, an organization must often decide which inputs to produce internally and which ones to buy from an external supplier. [...] These decisions determine a firm’s vertical boundaries’. In reality, vertical boundaries can be constructed along a continuum from “make” (internal provision) to “buy” (subcontracting). Between these two extremes, space is provided for different levels of vertical relationships, called “collaborative dealing” by MacMillan and Farmer [1979]. In practice, alliances, licensing agreements and joint ventures are only few examples of such collaborative dealing. As noted by the authors, ‘collaborative dealing is neither necessarily exclusive dealing, nor is it vertical integration’ [MacMillan and Farmer, 1979: 282]. The notion of “make” refers to vertical integrated market relationships, a matter of interest that has been largely addressed in the beginning by both organizational (e.g., [Thompson, 1967]) and economic (e.g., [Williamson, 1975]) literatures. The transaction cost economics theory suggests that the main factors that lead to the internalizing option are related to issues dealing with information management, asset specificity and interaction frequency [Williamson, 1975, 1985]. According to Williamson [1975], the more market relationships are open to opportunism and information asymmetry, the more vertical integration should be preferred over market outsourcing. This is because vertical integration brings hierarchy to the transaction and aligns the interests of the two parties via a more effective transaction process. The argument is here that when governing and monitoring transactions induces high transaction costs, market contracting is rendered detrimental. So, when external production and transaction costs prevail over internal production and transaction costs, the firm has an incentive to be vertically integrated. Furthermore, Masten,
Meehan and Snyder [1991] show that expanding the vertical boundaries through integration allows the firm to decrease its internal organization costs. Thus, vertical boundary decisions are seen as a means of increasing efficiency and decreasing the incentives for parties to hold-up transactions [Williamson, 1975, 1985]. This legal conception views firms as governance mechanisms distinct from markets [Santos and Eisenhardt, 2005: 492].

According to the resource-based view, vertical integration may facilitate the acquisition of unique resources and core capabilities [Madhok, 1996], and enable an easier coordination of asset-specific activities [Poppo and Zenger, 1998] since resources and capabilities are not equally shared among firms [Wernerfelt, 1984]. The distribution of resources in an industry plays a major role in the design of vertical architecture [Jacobides and Winter, 2005]. In addition to a decrease in transaction costs, enlargement of vertical boundaries through hierarchical control thus also allows the firm to develop activities that leverage its current base of resources and capabilities. In other words, from a resource-based view, vertical boundary decisions offer the firm an opportunity to create competitive advantage by internalizing and exploiting core competencies [Leiblein and Miller, 2003] and to outsource activities that are based on different resources than its current resource configurations [Santos and Eisenhardt, 2005: 497]. Moreover, Santos and Eisenhardt [2005] note that because firms are constantly trying to match organizational resources with environmental opportunities to gain competitive advantage, it is important to adopt a dynamic view of a firm’s vertical boundaries.

However, arguments have been put forward in the literature to suggest that transactions could be better off if they were organized through the market rather than in-house. For instance, recent findings show that internalization is not expense free as bureaucratic costs are likely to increase, notably in the case of an acquisition [Schilling and Steensma, 2002: 389]. Moreover, in reaction to the transaction costs theory, various studies demonstrate the limits of the cost minimization argument for long-term and close inter-organizational ties within specific situations [MacMillan and Farmer, 1979; Dyer and Singh, 1998]. For instance, Dyer [1996] suggests that when facing a high degree of technological uncertainty, subcontracting is favored over internalization. As transaction costs economics only looks at individual make-or-buy transactions, several strategic theoreticians argue that this atomistic view misinterprets boundary decisions which are actually embedded in a network of
strategic relationships with stakeholders [Parmigiani and Mitchell, 2009]. Studies within the strategic community go beyond firm-level vertical dynamics to investigate the vertical architecture of entire sectors of activity [Jacobides, 2005; Jacobides and Winter, 2005]. Such work brings a dynamic view of the value system structure within industries [Porter, 1985] by examining the implications of boundary decisions in terms of industry vertical architecture and market creation [Jacobides, 2005; Jacobides et al., 2006; Santos and Eisenhardt, 2009]. For example, Jacobides [2005] demonstrates that the factors that underpin vertical disintegration (namely, benefits from specialization and potential gains from trade) differ from those that explain integration.

In sum, vertical boundaries might be shifted by firms either for exchange-efficiency reasons or for opportunity and strategic positioning reasons. In addition, recent work puts forward the idea that a combination of the aforementioned two reasons could also explain boundary decisions [Jacobides and Winter, 2005]. For instance, in the Industrial Organization literature, vertical integrations as well as vertical restraints\(^2\) are essentially seen as a way, on the one hand, to internalize vertical externalities like double marginalization effects, and on the other hand, to gain market power in upstream and/or downstream markets [Church, 2008; Rey and Vergé, 2008; Riordan, 2008]. Since there is a tension between arguments in favor of vertical integration and the benefits of subcontracting market governance, an emerging strand in the management literature proposes the concept of “concurrent sourcing” as an alternative to the simplistic bipolar make-or-buy decision [Mols, forthcoming]. Concurrent sourcing means that firms rely on both internal provision and outsourcing. While this phenomenon is described by Jacobides and Billinger [2006] as permeable vertical architectures, Heide [2003: 18] on his side prefers to call it a ‘plural governance mode’ of production. Parmigiani and Mitchell [2009] show for example that complementarity in a firm’s requirements has a significant impact on its concurrent sourcing decisions.

2.1.2 Horizontal boundaries

Defining horizontal boundaries consists for a given firm in establishing the scale and scope of activities to perform [Santos and Eisenhardt, 2005]. To put it shortly, the horizontal

\(^2\) Vertical restraints are defined as ‘the various restrictions imposed by firms linked by vertical relationships’ [Lipczynski and Wilson, 2001: 294].

boundaries of a firm correspond to the size of this firm. ‘How much should the firm produce?’ and ‘How many markets should it address?’ are the two questions that underpin horizontal boundary choices. According to Afuah [2003], this decision is dependent on the capacity of the firm to exhibit economies of scale. Relying on a pure input-output perspective, the author argues that horizontal boundaries are a function of the firm’s unit costs and minimum efficient scale of production [Afuah, 2003: 38]. However, Santos and Eisenhardt [2005] note that this reasoning falls short in practice. In accordance with Teece [1982], the authors highlight the fact that horizontal boundaries are interlinked with governance costs as economies of scope can be achieved in a more efficient way when costs generated by asset specificity are low [Santos and Eisenhardt, 2005: 493].

2.2 A value configuration approach to organizational boundaries

With few exceptions, the current literature on organizational architecture and firm boundaries deals rather exclusively with examples of manufacturing firms and adopts invariably an input-output perspective in phase with the traditional value chain framework. To illustrate this observation, we mention some examples of empirical fields found in the literature: semiconductor and computer industry [Mosakowski, 1991; Afuah, 2001; Leiblein and Miller, 2003]; public utility firms [Steensma and Corley, 2001; Schilling and Steensma, 2002]; watch-manufacturing industry [Jacobides and Winter, 2005]; clothing industry [Jacobides and Billinger, 2006]; steel industry [Parmigiani and Mitchell, 2009]. All the sectors of this non-exhaustive list are concerned by manufacturing activities. Yet, different value creation logics represent firm-level differences which are neglected in previous work. Accordingly, Leiblein and Miller [2003: 840] admit that ‘the existing literature provides almost no discussion of the role of firm-level differences and how they might influence the boundaries of the firm’. Though on the one hand firms’ differences in terms of resources and capabilities affect boundary decisions [Madhok, 1996; Poppo and Zenger, 1998], we have little information on the other hand about the effect of divergent modes of value creation on such decisions. For instance, what happens for firms that are not concerned by manufacturing activities? Likewise, how do firms that are not involved in buying, transforming and reselling processes, manage their organizational architecture?
While the transaction costs economics approach suits well boundary analysis for traditional ‘industries characterized by intense price competition and stable structure’ [Santos and Eisenhardt, 2005: 493], we argue that this is not the case for other types of organizations (in particular, market intermediaries) that rely on a different mode of value creation. Along a similar reasoning, Stabell and Fjeldstad [1998] suggest that the value chain framework is more suitable to traditional manufacturing firms rather than to service settings. Likewise, we face difficulties in applying this widely accepted analytical tool to the study of the matchmaking form of market intermediation. What is put in the box, what is produced inside, and what comes out from the box, are actually inappropriate questions in the case of matchmakers.

Different processes of value creation exist in practice. By matching successfully two strands of the literature, Stabell and Fjeldstad [1998] argue that the organizational architecture is a function of the underlying value configurations of the firms [Stabell and Fjeldstad, 1998: 420]. Building on this line of inquiry, we explore how these differences in terms of value creation modes affect the boundary decisions, especially for market intermediaries and online matching platforms. Furthermore, we try to see how network boundaries should be conceptualized in this special case as the traditional linear chain model shows certain limits. We now turn to our motivation for examining value creation modes at the firm-level.

2.2.1 The generic value configuration model

As noted in the introduction, the value configuration analysis is described as ‘an approach to the analysis of firm-level competitive advantage based on a theory of three value creation technologies and logics’ [Stabell and Fjeldstad, 1998: 415]. Drawing on Thompson’s [1967] typology of various technologies, Stabell and his co-author [1998] determine three generic value configurations: the value chain model (largely dominant in the organizational architecture literature), the value shop model and the value network model. We give an overview of these models before focusing on the last one since it matches the case of market intermediaries, which we aim to study here.

From a value chain perspective, value is the total amount of fragmented value produced by the whole sequence of activities (the “chain”) that allows the firm to transform inputs into outputs [Porter, 1985]. In other words, the different activities by which a firm creates a
product are the building blocks that contribute individually to the valuable characteristics of the product. That is why the component in itself is considered as the medium for transferring value between suppliers and buyers. Finally, at a higher degree of abstraction, all individual value chains put together form the so-called value system, a sequentially interlinked activity chains that lead to the final product that is sold to the consumer.

According to Sheehan [2005], organizations that can be modeled as value shops aim to solve a particular problem that customers face. Value shops rely on expertise and on an intensive problem-solving technology [Thompson, 1967] to create customer value. For example, by providing strategic consulting services to customers, consultants are professionals that bring value in a radical different manner than components suppliers for instance. Hence, professional consulting firms might be modeled as value shops, i.e. ‘organizations with intensive technologies that improve performance and reduce costs through the assembly and matching of both problems and problem-solving resources’ [Stabell and Fjeldstad, 1998: 421]. Other firms, including those in architecture, energy exploration, law, and health care, fit the value shop model. In the literature, the value shop model is helpful for conceptualizing resource dynamics in technology and innovation settings [Woiceshyn and Falkenberg, 2008]. Gottschalk [2006] for information systems management, or Pike et al. [2005] for research and development processes, are only two examples of situations where the value shop configuration can be applied.

Since mediating technologies facilitate exchange relationships among customers [Thompson, 1967], Stabell and Fjeldstad [1998] define value networks as organizations that while relying on a mediating technology (e.g., telecommunication) link persons or groups of people who wish to be –or are by nature– interdependent. Telephone operators, Internet providers, postal services, but also retail banks [Sannes, 2001], are all examples of value networks. In the line of the network externalities theory [Katz and Shapiro, 1985], Stabell and Fjeldstad [1998: 427] assert that in a value network setting, ‘a critical determinant of value to any particular customers is the set, or network, of customers that are connected’. In this paper, we decide to rely on this “value network” concept to study one form of market intermediation, namely matchmaking platforms.

2.2.2 The boundaries of mediating firms
Value networks and corresponding modes of value creation can take many forms, spanning the dimensions of service capacity, level of network integration, and technology use [Stabell and Fjeldstad, 1998]. In our analysis, we focus on market intermediaries’ boundary decisions. As introduced at the beginning of the paper, market intermediaries can be divided into two groups of economic actors. This distinction leads to very different perspectives as regards the value they create. On the one hand, market intermediaries are involved in buying and reselling activities; intermediaries are then merchants [Hagiu, 2007]. On the other hand, intermediaries can also facilitate exchange relationships between interdependent actors without being involved in the transaction, but simply by bringing these actors together; in this case, intermediaries are value networks [Stabell and Fjeldstad, 1998], mediating organizations [Sasson, 2008], or even two-sided platforms if we refer to the literature in industrial economics [Jullien, 2005]. To avoid any confusion, we note that when using the term “intermediary” in the rest of the paper, it refers to this second group of intermediaries, namely mediating platforms or matchmakers.

Intermediaries support value creation via different activities that cannot be easily substituted by direct exchange. Occupying a middle position, intermediaries facilitate multiple exchange relations between actors [Sasson, 2008]. They add value by adding services to transactions that might otherwise be conducted in a decentralized way [Vandermerwe and Rada, 1988]. From a transaction cost economics perspective, for intermediation to happen, the overall cost of the mediating exchange must be inferior to the cost of the decentralized or direct exchange where intermediaries are by-passed [Spulber, 2003]. While one strand of the literature is concerned with the factors that explain why intermediaries are able to perform transactional activities at a lower cost than the two market sides independently (e.g., [Spulber, 2003]), another strand focuses on the role and impact of intermediaries on supply and demand conditions in markets (e.g., [Sasson, 2008]). As recalled by Sasson in his recent paper, the role of market intermediaries (or “mediators” to use the author’s term) has been already explained ‘in terms of efficiency enhancing, resulting from superior search processes, legitimacy enhancing in the presence of uncertainty, and innovation enhancing’ [Sasson, 2008: 891]. We argue that such economic agents fit particularly well Stabell and Fjeldstad’s [1998] representation of value networks. According to authors and as noted above, the value created by these networks is the
organization and facilitation of exchange between customers. We now link the market mediation literature with the organizational architecture literature that has been reviewed and summed up in Section 2.1.

Although intermediaries occupy an essential position in the global economic landscape, it is surprising how little organization and strategy scholars know about the manner market intermediaries organize and shape their business. While it could maybe explain the hegemony of chain representation in the literature, this observation also put forth several issues for theorizing organizational architecture in nontraditional value configuration. First, considering the traditional value chain framework requires identifying suppliers and customers [Porter, 1985]. However, for market intermediaries, this is a tricky task. Indeed, as supplier-customer links may exist between the two interdependent market sides an intermediary brings together, regarding the intermediary they are all customers [Stabell and Fjeldstad, 1998]. For example, sellers on the eBay platform do not intervene within eBay’s “value chain” as suppliers. In fact, sellers are as much customers of the platform as those who buy on eBay. Second, network externalities influence the value of the delivered service of an intermediary, while they have no impact in traditional settings. Consider for instance a manufacturing firm producing bikes. Whenever the firm has ten or fifty small-part suppliers, it does not change the perceived value of the bike for customers. On the opposite, when considering now a phone operator, this has an importance. The more clients the phone operator has, the more his network is attractive for new entrants [Katz and Shapiro, 1985]. Third, while timing is important within value networks, it is not the case in the value chain perspective. Again, consider the bike manufacturer. One the one hand, the firm can adopt the just-in-time production model, so that it will be in permanence in contact with both its suppliers and its customers. On the other hand, the firm, because it has a large amount of bikes in its warehouses, can just decide to decrease its stock. From the customer’s point of view, whatever situation arises, he or she will remain indifferent in terms of perceived value of the bike. Conversely, in the case of the phone operator, it seems clear that a failure in terms of synchronization may lead to the breakdown of the whole system and the related value will then fall accordingly.

For those reasons in particular, we argue that the value relationships for networks, and especially for market intermediaries, are not the same as those for suppliers and customers
in an industry value chain. Because the chain model cannot deal successfully with both buyers and sellers as platform customers, we believe that the value chain view obscures rather than illuminates the organizational architecture for market intermediaries. Hence, in opposition to the traditional value chain perspective, we will adopt a value network perspective to analyze the network boundaries of intermediaries. Our positioning in these terms is in accordance with the value system of mediating organizations proposed by Stabell and Fjeldstad [1998] and defined as ‘a set of coproducing, layered and interconnected networks that enhance the range and reach of the services provided’ [Stabell and Fjeldstad, 1998: 429].

Nevertheless, the value chain framework keeps all its relevance, although with a small twist, when it comes to explain value creation from the customer’s perspective. The twist is that it is the separate value chains of the platform customers, and not the ill-defined “value chain” of the intermediary itself, that help define value creation. As indicated above, intermediaries create value by facilitating exchange relations between different groups of economic agents. In a business-to-business configuration for example, market intermediaries create value by allowing other firms to reshape their value chain in a more profitable way. Therefore, the link between value creation and organizational architecture does not stem directly from the value chain of the intermediary itself (which is ill-defined and should be replaced by the concept of value network), but from the change in the value chains of the agents that are put in relation with one another.

Figure 1: Matching value configurations to organizational architectures
Figure 1 provides a conceptual diagram of the different levels of analysis at which, starting from a value configuration differentiation, we can investigate organizational architecture. On the left-hand side of the diagram we illustrate a bundle of opportunity and risk factors that will influence the value configuration of a given firm. As noted, value configuration corresponds to the value creation technologies and logics followed by the firm. We conceptualize this value configuration choice via three strategic options: value chain, value shop and value network (see Section 2.2.1). Then, as the figure shows, although a large number of explanatory factors play a role in the shaping of organizational boundaries, the three choice outcomes are inherently linked to the prior value configuration decision. We propose to maintain the vertical approach of boundaries when facing value chain driven organizations. The existing literature on vertical integration indeed provides sufficient proofs of the relevance of this view for traditional manufacturing firms. So, vertical boundaries determine the organizational architecture of firms that can be modeled as value chains. Regarding the value shop model, we suggest to set the architectural issue in terms of “problem boundary”. The problem that the customer faces is here the measure unit of the activities of the firm [Stabell and Fjeldstad, 1998: 420]. The resources that the firm mobilizes to solve the problem directly depend on the perimeter of the given problem. As highlighted by Sheehan [2005], the value configuration and the organizational architecture of a knowledge-intensive firm depend on its problem-solving expertise. The author notes that when determining the extent to which it will solve a problem (i.e. scope of problem-solving activities), the value shop tries to find profitable niches. Here, problem boundaries determine the organizational architecture of firms that can be modeled as value shops. Finally, as suggested, we abandon the linear view of vertical boundaries in favor of network boundaries for the analysis of value networks. We propose that network boundaries determine the organizational architecture of firms that can be modeled as value networks. These concepts are in bold in the diagram given that we decide to focus on this particular value configuration in this paper.

Drawing on Stabell and Fjeldstad’s [1998] value configuration theory, we argue that the fact that intermediaries are value networks and differ from traditional firms in their value creation process (see first essay), has an impact on the way they manage their organizational
architecture. We strongly believe that, compared to the value chain framework, the value network approach can achieve better results in explaining intermediaries’ boundary decisions. By reassessing the notion of organizational architecture in such a way that it can help us acquire further insights into mediating modes of value creation, this paper wants to deepen the understanding of the link we make between value configuration and organizational architecture. Therefore, by paying attention to a specific case we try to identify explanatory factors of how network boundary decisions are taken by intermediaries.

3. Methods

The exploratory study is based on a qualitative research. Such an approach allows for more detailed insights of the motivations and processes under investigation [Eisenhardt, 1989]. Furthermore, because qualitative methods ‘can be used to uncover and understand what lies behind any phenomenon about which little is yet known’ [Strauss and Corbin, 1990: 19], this approach is relevant as intermediaries’ boundary decisions remain understudied in the existing literature.

This research involved the well-known Internet firm eBay Inc., which is much more than just a single e-commerce platform (ebay.com). In fact, rather than a Website, eBay Inc. should be viewed as a global virtual network of interrelated platforms and services. Before describing our research methodology, we provide an overview of our setting.

3.1 Beyond eBay.com

Founded on the 3rd of September 1995 by Pierre Omidyar, eBay Inc. connects millions of people around the world via different applications. At the time of the study, from early 2008 to late 2009, eBay Inc. was a worldwide leading company in three e-business segments: marketplaces, payments and communication (see Figure 2 for a visual presentation of eBay Inc.’s business3). The first segment provides the infrastructure to buyers and sellers (private and professionals) for enabling them to do global business on a variety of platforms

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3 The elaboration of Figure 2 is based on eBay’s Inc.’s 2008 annual report. The purpose here is not to give an exhaustive picture of the company, but rather to illustrate the fact that eBay’s scope of activity spreads beyond the well-known marketplace. We think that this is particularly relevant since we dedicate the paper to the study of organizational architecture within market intermediation.
(eBay.com, shopping.com, rent.com, etc.). The payment segment includes secured electronic payment solutions (e.g. PayPal) for Web driven transactions. These payment solutions are not only used on eBay Inc.’ marketplaces but are also sold to companies that need such technical solutions for conducting their business online. Finally, the communication segment, which consists of Skype, enables free virtual calls between Skype users and provides low-cost connectivity to traditional fixed-lined and mobile phones [EBay Inc., 2008].

![Figure 2: The business segments of eBay Inc. in 2008](image)

While eBay.com (the platform) has been the object of a lot of scientific work in the economic and management communities [Standifird, 2001; Melnik and Alm, 2002; Bajari and Hortacsu, 2003; Javalgi et al., 2004; Anwar et al., 2006; Li et al., 2008], it is important to differ the platform in itself from the firm. As a whole, eBay Inc. (the company) has received sparse attention from the scientific community. This is even truer if we consider the dynamics of eBay Inc.’s organizational design as the main point of interest. To better observe the process of boundary decisions and its explanatory factors within a market intermediation setting, we studied eBay’s internal structure as well as its recent decision to divest from its communication segment. This was the first time that eBay Inc. made a step backward in its expansion strategy.

### 3.2 Data collection and analysis
Our research focused on the organizational boundary decisions of eBay Inc. and, more specifically, on the Skype divestment deal announced on September 2009. Data were collected through a field study involving interviews from March 2008 through May 2009. We had two different groups of participants. On the one hand, we interviewed five eBay managers at the company’s head quarter in Brussels during a two months period (March - April 2008). On average, the interviews lasted 74 minutes. Among the respondents, one was, at that time, the country manager of eBay Belgium. Managers were asked to describe eBay’s role and to discuss the recent services that were added to the business. The interview guide included only open questions. On the other hand, we interviewed 40 professional sellers over a one year period (May 2008 - May 2009). All of the participants, as professionals, had a regularly activity on eBay’s principal marketplace. Many of the questions we asked were derived from the interesting themes that arose during our analysis of managers’ answers. Interviews from this second group of participants were semi-structured. We asked 14 closed questions dealing with professional background, time allocation, links between the activity and a particular sector, etc., in order to build a small common base of “demographic data” from all participants. Besides, we asked open questions about the research topic to allow for greater depth and specificity in each interview. However, we were open to digressions to the extent that they could help us to adjust our interpretations and bring new potential codes. Concise notes were made during the interviews and became “field notes” that set off directions to pursue over time [Van Maanen, 1988]. Interviewing professional sellers was justified by the need of data on how eBay Inc.’s regular clients appraise the services provided by the company. This would lead to interesting results in terms of perceived value of the different business segments of the company.

The interviews were all tape-recorded and fully transcribed, providing a rich source of qualitative data. Concurrently, we coded the text, using a coding scheme that emerged over time through iterative comparisons of coding outcomes (i.e. some codes were transformed and new ones were added) [Strauss and Corbin, 1990]. To facilitate the coding task, we used the latest version of the Nvivo qualitative analysis software. In clear, we placed portions of text (from a small phrase to an entire paragraph in few cases) into broad codes, which encompass theoretical concepts to categorize units of meanings. In this study, codes are rather comprehensive expressions than short-hand terms. Our code directory appears in the
Appendix. Finally, additional data were collected from several Websites. In particular, annual reports (covering the period 2005-2008) of eBay Inc. helped us build an understanding of the company’s history in terms of acquisitions and delivered services.

Data analysis required detailed reading of notes, interview transcripts, and documents, which led to the creation of rich research material. This material helped us identify key features of eBay’s Inc. organizational architecture, and the market intermediation field more generally. Of course, some of these features were unique to our setting. We illustrate this uniqueness –largely met in case studies– through two examples. First, we mention the internal restructuration of eBay Inc.’s Belgian division. At the beginning of our study, eBay Inc. had a national management team based in Brussels. However, after two waves of restructuration, more or less two thirds of the employees were fired and the few managers that survived to this restructuration joined the European headquarter of the company in Bern. As a consequence, Brussels’ headquarter had closed. This unexpected situation rendered more difficult the follow-up of the fast-evolving story through the contacts we had, as people involved at the beginning were simply no longer working for the company at the end of the research. Second, anecdotal evidence suggests that eBay Inc. has chosen to tackle the implementation of its services (the intermediation activities belonging to the three segments) in different ways. According to the national market features (technological advance, market size, sector concentration or fragmentation, etc.), eBay Inc. decides whether or not to extend its scope of activities. Indeed, the managers that we met commented not only activities related to eBay Belgium, but also several services and solutions that are available on foreign platforms, for instance in countries where the market is bigger. So, rather than seeing the case study as a sample of a unique reality [Bryman, 1988], it represents an opportunity to learn and permits the acquisition of experience that goes beyond the “boundaries of the case” [Stake, 1994].

In addition to assembling primary and secondary data, we also improved our own knowledge of the different segments of eBay Inc., since we had a personal account on eBay, PayPal and Skype, the three major entities within each segment of the company. During the time of the research, we conducted 46 transactions over eBay.com (9 as a private seller) and we paid 13 of the 37 purchases by using the PayPal system. Likewise, between March 2008 and September 2009, we frequently used Skype (especially for international calls).
Moreover, we spent a lot of time reading extensively the virtual pages of the Websites of the three company segments. Aware of the limited scientific significance of this personal experience, we actually believe that such an ongoing inquiry and participative approach, helped to gain global understanding of facts and to assuage the weaknesses that can derive from relying exclusively on a few sources of data.

4. Findings

In this section, we provide insights about several aspects of our findings, including the underlying properties of value networks and their impact on organizational architecture. First of all, it is important to reassert that our specific case study matches the definition of mediating platforms [Sasson, 2008]. Figure 2 provides evidence for this assumption because the business segments represent categories of networking services. These services are similar to intermediation activities, which are presented in the first essay of the dissertation. In addition, the literature establishes a link between this matchmaking form of intermediation and eBay Inc.:

‘EBay is not considered as a retailer because it owns no inventory and revenue consists of fees and commissions rather than traditional sales. [...] eBay relies on the transaction being facilitated directly between buyers and sellers providing the structure to allow them to come together’ [Javalgi et al., 2004: 467].

Our data indicate that intermediaries adopt a strategic approach when taking decisions on their organizational architecture. Underlying these decisions is the use of specific abilities, such as controlling coproducing activities, managing network externalities, and generating complementarity across activities. Together, these abilities enable an intermediary to shape its organizational architecture and influence its network boundary decisions. We now focus on each of these abilities.

4.1 Network scope

As noted in Section 3.1, eBay Inc. as a firm is different from eBay’s Website. By providing several examples from the “traditional economy”, Stabell and Fjeldstad [1998] already highlighted the significance of making the distinction between a firm and its networking
services. If eBay Inc. is organized into different business segments, it is because facilitating transactions often involves a set of activities with specific costs and value economics. For instance, searching for a product, communicating with the seller, and paying online, represent three usual activities that entail various technological solutions. Therefore, we agree with the argument that ‘a concurrent and layered set of activities is required to service efficiently a random need for mediation services between a large number of customers’ [Stabell and Fjeldstad, 1998: 428]. This argument is used by the authors to suggest that, for the analysis of intermediaries and other value networks, co-performing levels of mediating services replace the traditional value chain model.

In the literature, network scope of market intermediaries refers to what extent an intermediary controls all levels of coproducing activities required to complete its matching role [Stabell and Fjeldstad, 1998]. As noted by the authors: ‘Choice of scope depends on whether suitable lower-level mediation services covering the relevant customers are available’ [Stabell and Fjeldstad, 1998: 432]. Consider now the “layers of coproducing activities” of eBay Inc. as the different business segments presented in Figure 2. If we agree on the idea that commerce is about searching for a product, communicating with the business partner, paying for the product, and delivering the product, it is obvious that eBay Inc. enables its customers (buyers and sellers) to do everything except the delivering of products. Actually, eBay Inc., as a firm relying on information and communication technologies, does not control the operational mediation services associated with logistics matters; neither does the company own the resources and capabilities to perform this physical activity. As put by a manager:

‘Logistics is not eBay’s core business and I think we should not enter the logistical field; it is an offline capability and it is not scalable. However, we must find innovative tools and set partnerships with logisticians so that we provide more value to our customers.’

This result leads to our first research proposition that links organizational architecture and network scope to the intermediary’s value configuration; this, by relying on the coproducing mediating activity concept.

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4 As the interviews were not conducted in English, we translated the chosen extracts into English for the purpose of this paper. Potential misinterpretations remain the responsibility of the author.
Proposition 1: The ability for an intermediary to control coproducing mediating activities impacts its boundary decisions, and hence, its organizational architecture.

4.2 Network externalities

What differentiates value networks from firms with another value configuration is the fact that ‘a critical determinant of value to any particular customer is the set, or network, of customers that are connected’ [Stabell and Fjeldstad, 1998: 427]. The latter observation is based on Katz and Shapiro’s [1985] work about the role of network externalities, especially in terms of demand-side economies of scale (i.e., each new member added to the network increases the value of the network) and in terms of supply-side economies of scale (i.e., each new member added to the network decreases the cost of the network). The communication segment of eBay Inc. is an example of network exhibiting positive network externalities. The more Skype users a person knows, the greater this person’s interest in joining the network. So, while scale is generally a cost driver in the value chain framework, it is also a value driver in the value network setting [Stabell and Fjeldstad, 1998: 434].

However, beyond the direct network externalities effects, one can deepen the analysis by considering indirect network externalities [Jullien, 2005]. While as for eBay Inc.’s communication segment all customers (Skype users) are alike, the situation is different inside the two other segments. Regarding marketplaces and payment services, eBay’s customers are either buyers or sellers. This is not an insignificant difference since it underpins a large number of studies on two-sided markets [e.g., Rochet and Tirole, 2006]. Two-sided markets enable exchange relations between two different but interdependent groups of actors [Jullien, 2005]. Here, the dependency among the two groups is the main “product” delivered by the platform. In theory, this dependency, conceptualized as indirect network externalities, induces that the benefit of one group of users largely depends on the presence of the other group and vice-versa [Rochet and Tirole, 2006]. So, this explains why size and composition of the user base are the critical drivers of value in value networks [Stabell and Fjeldstad, 1998: 431]. In a similar way, Sasson [2008: 893] claims that the value created by intermediaries is not only dependent on affiliation size, but ‘also on the
properties of the affiliates and their interactions’. For example, if no single buyer on the
Internet is willing to pay through the PayPal service, the value of the service is nil, even
though all sellers on the Internet were eager to adopt and offer this payment solution to
their customers. Likewise, a manager supports this view as regards the marketplace segment:

‘If you look at traditional intermediaries, like merchants for instance, there is not
necessarily this role of providing volume on both sides of the market. Our role at eBay is
clearly to bring an important flow on both sides of our marketplaces.’

Most of the managers we spoke to could not even describe the entire network in which
eBay Inc. is embedded. By network, we refer here to Sasson’s [2008: 893] definition of
mediator network, i.e. ‘all organizations that are affiliated with a specific mediator at a
specific point of time’. Managers usually refer to the company’s “global ecosystem”. Because
at that time the marketplace was managed at a national level, the managers could not get
this strategic and global overview. What they did know was that they were changing their
horizontal boundaries to increase their profit. For example, by opening the national platform
(eBay.be) to international sellers or by creating a special status for professional sellers with
brand new goods, the company extends its customer base and thus enlarges horizontally its
boundaries. It is interesting to note that by doing this, the company creates value at two
levels. First, it increases the firm’s revenues because more sellers are synonymous with more
fees and commissions. Second, it increases the perceived value from the buyer side due to
positive indirect network externalities as described above.

In sum, we argue that network scope is intertwined with network externalities. Before
investigating a recent change in eBay Inc.’s organizational architecture, we enounce a
second proposition derived from the findings hitherto described.

Proposition 2: The ability for an intermediary to manage direct and indirect
network externalities and their underlying properties, impact its boundary
decisions, and hence, its organizational architecture.

4.3 The prevalence of complementarity
Already in April 2009, eBay Inc. announced that its communication segment would be removed from the company’s portfolio in the short run. Only a few months later, on September 1, eBay Inc. said it had signed an agreement consisting of a $2.75 billion sale of Skype (i.e. the unique networking activity within eBay’s communication segment) to an investor group\(^5\). As this decision represents an important change regarding eBay Inc.’s network boundaries, we present some explanatory factors derived from our study that may explain this choice.

In 2005, when eBay Inc. acquired Skype, the objective was clearly to complement the other business segments of the company. As noted by a manager we met:

‘When we integrated Skype, the justification was theoretically relevant, namely, trade on the Internet is a threefold activity: first, providing a marketplace and related infrastructure – this was already eBay.com’s contribution; second, providing a secure payment system – this was our PayPal solution; and finally, trade involves also communication so as to allow buyers and sellers to interact as like in the traditional business life. At that time, Skype was the best operating technique on the market in the online voice communication industry.’

This shows that complementarity among business segments was the primary motivation underpinning this acquisition decision. Relying on Milgrom and Roberts’s work [1995], Parmigiani and Mitchell [2009: 1068] notice that complementarity in practice ‘most generally involves benefits that arise from making joint decisions about multiple goods and activities’. From this perspective, complementarity can be seen as the extent to which two mutually adapted activities can yield superior value in combination [Jacobides, Knudsen and Augier, 2006: 1201]. In eBay Inc.’s 2005 annual report we found evidence for segment complementarity:

‘While the Skype of today is largely focused on communications, we see incredible potential for its use in e-commerce. Integrating Skype into the eBay marketplace, for example, has the potential to reduce communications friction between buyers and sellers and increase the velocity of trade. Creating a PayPal wallet associated with each

\(^5\) Skype had been acquired by eBay Inc. in 2005 for $4 billion. However, in the latest annual report, the value of the communication segment was estimated at $1.4 billion.
Skype account can make it even easier for users to pay for Skype's fee-based services while at the same time increasing PayPal's payment volume.

Thus, the objective of the company was to improve the communication abilities of its users through an innovating technology. Before Skype, the single means available for sellers and buyers to interact was the internal email system. Actually, we now know that users on the platform definitely prefer this traditional communication channel than a voice application. For instance, while a majority of professional sellers from our sample were using the PayPal payment service, none of them were using Skype, at least for their business on the eBay platform. So, eBay Inc.'s argument about the friction in the online shopping experience due to email aspects (e.g., delays in response time and written misconstruction) appeared to be unfounded. Our results show that, at least for professional sellers, one of the biggest advantages of selling through eBay is the automation of the sale process. It allows sellers to do other things (e.g., care about their brick-and-mortar shop) while sales on eBay run automatically 24 hours a day. Therefore, the opportunity to ‘benefit from being able to communicate directly with each other in an instantaneous and private environment’ [eBay Inc.’s 2006 annual report, p. 9]⁶ is clearly not valued by professional sellers. According to a manager, there might be other reasons too:

‘Synergy around Skype is more complicated than what we thought at the beginning. [...] Users of eBay prefer to utilize our own mail communication tool because it preserves anonymity in the sense that the underlying private email address is not divulged. Speaking to a stranger remains harder than speaking to a friend; people therefore prefer to write down their questions and answers.’

As pointed out by Parmigiani and Mitchell [2009], complementarity encompasses the concept of synergy if complementarity is induced by economies of scope. When firms gain efficiencies by coordinating multiple activities to achieve a single objective, then economies of scope arise [Helfat and Eisenhardt, 2004]. In the present case, joining transaction and

⁶ As an anecdotal finding, it is interesting to note that this particular argument in favor of Skype’s growth strategy upon eBay’s ecommerce platform appears in all annual reports we analyzed, except the 2008 one. We interpret it as a sign that eBay began to recognize the absence of complementarity between its communication segment and the two other ones.
communication activities has not conducted apparently to benefits associated to complementarity. This does not mean that Skype was not performing well. Under eBay Inc.’s ownership, Skype has strengthened greatly on several aspects (user base, growth in revenues, technological innovations, quality delivered to customers, etc.) and it became a profitable business. Figure 3 illustrates Skype’s positive evolution during the time it was under eBay Inc.’s control through the growth of user base (solid line) and the increasing revenues (dotted line). However, because only a minority of Skype users generates revenues (this is due to a “freemium” business model [Anderson, 2009] where the basic entering service is offered for free), the communication segment currently is probably not monetized as much as it could [Knowledge@Wharton, 2009]. For this reason and given the potential value for future development, eBay Inc. retains a 35 p.c. equity share in Skype. So, inefficiencies or unprofitability cannot be put forth as reasons explaining the divestment decision. In commenting the sale of Skype, eBay Inc.’s CEO, John Donahoe, highlighted clearly the lack of complementarity between the current business segments:

‘[This is a] great deal unlocking immediate and long-term value for eBay. [...] Skype is a strong standalone business, but it does not have synergies with our e-commerce and online payments businesses. [...] It allows us to focus all of our energies on the opportunities in front of PayPal and eBay’

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This second set of results shows that complementarity across activities within value networks, like market intermediaries, constitutes a significant explanatory factor of network boundary decisions. Moreover, it seems that efficiency and profitability do not help explain network boundary decisions in value networks. These findings show an interesting degree of latitude in how intermediaries manage boundary decisions and shape organizational architecture for mediating services. In sum, we derive a third proposition from our findings.

**Proposition 3:** The ability for an intermediary to achieve a state where complementarity among its activities increases the value of the mediating service, more than the individual performance of these activities, impacts the boundary decisions of this intermediary, and hence, its organizational architecture.

5. Discussion

Although previous research on the interplay between firm boundary and organizational architecture has been fruitful, this literature has lacked an upstream approach to understand how different value configurations impact the boundary decisions of a particular organization. Rather, previous work has tended to focus on firm-level or industry-level
boundary dynamics relying on the traditional and dominant value chain perspective of value creation. In reaction to this homogeneity in research settings, Santos and Eisenhardt [2005] conclude their seminal paper on organization theory by calling for fresh ideas driven by boundary phenomena from contemporary practice. As put by the authors: ‘The contemporary landscape is being transformed by new boundary choices and nontraditional settings. Here, while extant theory may apply, it may be wiser to take an open-minded, problem-driven approach.’ [Santos and Eisenhardt, 2005: 505] This exploratory study is an attempt in this direction. Therefore, we begin with a typology seeking to differentiate the value creation processes in practice [Stabell and Fjeldstad, 1998]. Then, we select a particular mode of value creation (i.e., value network) and we link it to the market intermediation phenomenon and the literature on mediating organizations [e.g., Sasson, 2008]. Making this choice allows us to fill a gap in the literature. Indeed, intermediaries ‘are largely neglected objects of organizational theoretical and empirical inquiries’ [Sasson, 2008: 893].

Our research question explores various dimensions of intermediation activities, network boundary decisions and the consequences of these decisions on the organizational architecture of intermediaries. Our grounded theory approach to addressing the research question yields several remarks about the limitations of using a classic value chain and bi-dimensional framework (i.e. input/output view of transformative activities on the one hand, and vertical vs. horizontal boundaries on the other hand) for the analysis of intermediating platforms and other types of value networks.

Our study also provides a foundation upon which to develop a more comprehensive view of organizational boundaries, and at the same time, our approach calls for empirical validation of our findings. First, we show that one of the main factors that explain boundary decisions is the ability of the firm to control resources and capabilities in order to perform the mediating activities (Proposition 1). We then argue that network externalities, including indirect network externalities, combine with the value maximization criterion to influence the scope of the network (Proposition 2). Finally, our results point to the fact that intermediaries invoke business segment complementarity to ameliorate their competitive advantage and the efficiency of their organizational architecture (Proposition 3). These findings are summarized in Figure 4, which illustrates how value configuration, as regards
market intermediaries, can influence the organizational architecture of these networking firms.

**Proposition 1:**  
Ability to control mediating activities

**Proposition 2:**  
Ability to manage network externalities

**Proposition 3:**  
Ability to generate complementarity across the activities

**Figure 4: Explanatory factors of boundary decisions for intermediaries**

5.1 Implications for theory

Our findings should be considered through the prism of the ongoing debate on how to conceptualize organizational boundary decisions at the level of the firm [MacMillan and Farmer, 1979; Leiblein and Miller, 2003; Santos and Eisenhardt, 2005; Jacobides and Billinger, 2006]. As argued in the introduction, the relationship between value configuration and organizational architecture has a value of its own. In fact, the mode of value creation chosen by a firm may serve as a contingency factor explaining organizational boundary decisions. In this study, we argue that without considering firm-level differences in terms of value configurations, research on organizational boundary decisions is incomplete.

The current literature has largely documented the vertical boundaries of firms that rely on a transformative logic of value creation. Some scholars have demonstrated that firm-level strategies and capabilities independently and significantly influence firms’ vertical boundary choices [Leiblein and Miller, 2003: 854]. Other studies have shown how the distribution of productive capabilities along the value chain in an industry has an impact on vertical scope [Jacobides and Winter, 2005]. Studies separately considering either firm-level or industry-level influences on boundary decisions are prevalent in the literature, yet these contributions are inconclusive in determining which type of organizational architecture is better or worse for firms. Further, except a few contributions (see, for example, [Jacobides,
the use of intermediation situations for analyzing organizational architecture is very limited in the literature. It is the vertical configuration, in terms of (dis)integration and transaction costs efficiency, rather than the mode of value creation, that is generally highlighted in existing work [e.g., Mosakowski, 1991].

Yet, several reasons encourage us to extend the analysis upstream by including the organization’s value configuration. First, we recall that firms differ significantly relative to each other in terms of their modes of delivering value to customers. Such differences have not yet been considered in the organizational architecture literature. These differences imply that firms are not confronted with the same activities, neither with the same environment. In the present study, the conceptualization of intermediaries as value networks highlights the inter-firm differences arising from disparity in business models and value creation processes [Stabell and Fjeldstad, 1998]. In practice, many organizations work as a network of interconnected mediation services. Most of the time, this structure impedes the application of a linear input-output framework (i.e. value chain) since there is no precise sequence of activities as it is the case for a manufacturing process. For example, it is difficult to determine the place of a matchmaker like eBay Inc. in a linear value chain because the platform does not buy the products to resell them to the buyers. Likewise, it is not easy to identify its suppliers and to decompose the “chain of activities” that leads to the mediating service that is delivered to the customers. Because mediating businesses differ greatly from transformative logics, a single representation of organizational boundary decisions is restrictive.

Second, the main value for matchmakers does not rely on products or tools that facilitate the match between customers, but rather on the dependency among customers. A special challenge for intermediaries, characterized here as mediating or matchmaking platforms [Hagiu, 2007; Sasson, 2008] is to reap the benefits of the mutual interdependence between groups of customers\(^8\) and offering a bundle of innovative activities and valuable networking services\(^9\). In this study, we have confirmed the importance of taking into consideration the effects of network externalities. In terms of organizational architecture, it is assumed that

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8 See the next essay of the dissertation for a more detailed discussion of these issues concerning indirect network externalities.

9 For this point, we refer to the first essay of the dissertation.
network scope and network externalities play a crucial role in the value appropriation processes. The role of intermediaries in these processes will differ depending upon their respective network boundary decisions, which in turn will determine their organizational architecture as well as their position in the mediating industry. Although network externalities have a crucial impact on boundary choices, indirect network externalities in particular [Rochet and Tirole, 2006] do not appear in traditional settings studied to date by organization architecture scholars.

Third, a possible reason for the role of value configuration on organizational architecture is related to the technological progress in mediating solutions. Several studies have pointed out that firms’ boundary choices are influenced by technological change [Lewis and Sappington, 1991; Afuah, 2001, 2003]. For instance, findings in previous research suggest that the emergence and the diffusion of the Internet may either restrain or expand vertical firm boundaries depending on the transaction and production costs that existed prior to the technological change [Afuah, 2003: 45]. Such a positioning requires that the firm exists prior to the diffusion of the technology. In our research setting, as well as for multiple Web-based networking platforms, the firm did not exist before but rather emerged with the Internet. In a certain sense, this allows a new entrant to both choose its value configuration and shape its organizational boundaries from scratch.

Finally, although prior research has highlighted the importance of complementarity in a component sourcing decision [e.g., Parmigiani and Mitchell, 2009], very few studies have discussed the role of complementarity in a market intermediation context. An intermediary can offer various networking services to her or his customers and charge them for using these services. Given that performance of intermediaries is generally perceived as a whole rather than through a decomposition of each service taken individually, performance cannot be meaningfully analyzed without considering the complementarity across the mediating activities. Our exploratory results suggest that scholars can better understand network boundary decisions by investigating the structure and the complementarity between networking services, rather than by restraining the analysis to their individual performance.

5.2 Implications for practice
Managerial implications follow directly from the foregoing discussion regarding the underlying properties of boundary decisions in a networking and mediating context. From a managerial point of view, intermediaries need to recognize the importance of the implications of a particular network boundary decision. The intermediary’s knowledge of what a customer appraises in terms of networking services becomes crucial. If we assume that matching interdependent groups of customers consists in a set of coproducing mediating activities, the involvement of intermediaries in these activities is essential. Also, the intermediary must disentangle the various effects (positive and negative) of size and composition of the market sides he or she wants to bring together. This is especially relevant when determining a network strategy because the ‘structural embeddedness of mediating organizations impacts the value to affiliates as well as to mediators’ as Sasson [2008: 893] expresses it. Our findings provide insights as to how intermediaries (and to a larger extent, value networks) might gain performance benefits by shaping their network boundaries. Our findings also encourage managers to think more broadly about the complementarity between different networking services, which until now are not offered concurrently as a unique package. However, to successfully provide a complementary set of services in a competitive environment, we suggest that merely selecting an apparent corresponding additional activity is not enough. For mediating organizations, complementarity also involves a consideration of complex interactions between groups of customers in a network context where customers are more or less embedded. Therefore, we suggest that understanding the network context and its underlying implications, as well as exploring the value actually perceived by customers, are important tasks for managers who try to shape their organization strategically. In sum, for value networks, management’s strategic decisions need to carefully balance scope, network and firm-specific factors.

5.3 Future research

Studying different value configurations provides a more comprehensive understanding of organizational architecture. Our research offers a preliminary step toward exploring the network boundaries of market intermediaries. Although we focus on the value network configuration, our results provide an impetus for future work to more fully investigate the
processes related to organizational boundary decisions in various value configurations, refining the existing general knowledge about organizational architecture.

The findings and implications of the study should also be considered in light of its limitations. Although we tried to tell a story of boundary decision within a nontraditional context, the timeframe of this research is short owing to the lack of reliable information on the end of the Skype divestment story. Another limitation of the research is related to the relatively small sample size of respondents. Then, our study focuses on value networks and does not rule out alternative conceptual models, but it is an initial step toward understanding the relationship between modes of value creation and organizational architectures.

Our approach opens new avenues for scholars to examine in more detail the impact of value configuration on boundary decisions from different viewpoints. For instance, the extent to which network boundary and vertical boundary decisions are motivated differently should receive more attention in future strategic management research. Further, when examining boundary decisions’ outcomes, researchers should pay close attention to which kind of firms in terms of value configuration are more likely to often adapt their organizational architecture.

Finally, we acknowledge that our theoretical suggestion to link value configuration and organizational architecture is not yet mature enough to envisage validation through large scale surveys. More qualitative research is required. In this respect, many opportunities exist for collaborative research between strategic management and industrial economics, especially when it comes to improving our understanding of the architecture of organizations.
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