Value Appropriation from Strategic Alliances by Necessity-driven Partners:
A Combined Resource-based and Transaction Cost Perspective of the Dutch
Paper and Board Industry.

Menno Jan van de Waterbeemd 6006604
Amsterdam, August 2010

Dr. J.M. Pinkse
ABSTRACT

This study focuses on the question when and how value appropriation can occur by a necessity-driven party in strategic alliances. Through an examination of the Dutch paper and board industry, this study proposes a normative framework that depicts the creation and appropriation of value within a strategic alliance. By drawing upon concepts from transaction cost theory and the resource based view, this study aims to bridge the gap from the notion of value creation as a ‘first order imperative’ and value appropriation as a ‘second order qualifying condition’ (Jacobides et al., 2006) to a view of intertwined and simultaneously occurring value creation and appropriation. Furthermore, this study introduces an ownership-dimension matrix of resources: two dimensions of resources identify the allocation of the resource; inside resources, or those resources that are directly contributed to an alliance, which impact both value creation and value appropriation; and outside resources, or such resources that are not contributed to the strategic alliance, yet have their impact on the value appropriation process of the strategic alliance. The ownership-side of the matrix consists of the possible owners of the resources in a strategic alliance: the local firm, the corporate parent or the industry. Such a typology of ownership aids managers in strategically positioning their companies for value appropriation from an alliance. The normative framework that is presented will help managers to understand the process of value creation and appropriation in strategic alliances and enable them to emphasize their strong suits vis-à-vis their prospective alliance partner. The study provides for a number of propositions that are aimed at developing a further understanding of the process of bargaining over value within strategic alliances.
# TABLE OF CONTENTS

## INTRODUCTION 1

## LITERATURE REVIEW 5
1 Strategic alliances 5
2 Transaction Cost Theory 7
3 Resource-based view 9
4 Combination of RBV and TCE 10
5 Valuation 13
   5.1 The concept of value & valuation 13
   5.2 Value creation & appropriation 15
   5.3 Intertwined process of value creation and appropriation 18
6 Value appropriating strategies 21
   6.1 Industry architecture & bottleneck positioning 22
   6.2 Learning capabilities 24
   6.3 Business models 24
   6.4 Critical note on value appropriating strategies 25
7 Proposed framework 28
   7.1 The two dimensions of resources: Inside vs. outside 28
   7.2 Ownership structures of resources 29

## RESEARCH DESIGN AND METHODS 34
1 Introduction 34
2 Research setting 35
3 Data collection 38
4 Data analysis 41
5 Limitations of the research method 42

## FINDINGS 42
1 Opportunities for the paper and board industry 43
2 Threats for the paper and board industry 46
3 Cross-industry collaboration: the paper and board perspective 48
4 Barriers and opportunities of cross-industry collaboration 50
5 Cross-industry collaboration: strengths & weaknesses 53
   5.1 Paper and board industry 53
   5.2 Agricultural industry 56
   5.3 Chemical industry 59
6 Successful collaborations 61

## DISCUSSION 64
Intertwined value creation and appropriation 66
Resources: determining their origin and potential 69

## CONCLUSION 75
Limitations and avenues for future research 77

## REFERENCES 80
INTRODUCTION

Interfirm collaborations are swiftly gaining popularity in the corporate arena as a means to pursuing a wide variety of strategies. Varying from risk sharing to learning skills and capabilities from a partner, strategic alliances have opened the eyes of managers to other possibilities to create value apart from owning valuable resources. Strategic alliances can come in various shapes and forms, depending on, among others, market characteristics, partner characteristics, the goal of the alliance and trust between the partners. The proper mix between such factors can lead to added value for the strategic alliance and subsequently for the alliance partners.

From an academic perspective, significant attention has been paid to strategic alliances, and mainly from a transaction cost perspective, thereby focussing on minimizing the costs of a transaction (authors include Hennart, 1988, Pisano and Teece, 1989, Williamson, 1991). As Geyskens et al. (2006) note: ‘transaction cost theory has become the predominant theoretical framework for explaining organizational boundary decisions’ (p.519). Furthermore, abundant literature exists on strategic alliancing out of opportunity, i.e. partners recognizing an opportunity in a market and acting upon it by joining forces (authors include Teece (1986), Hamel et al. (1989), Bradach and Eccles (1989) and Eisenhardt & Schoonhoven (1996)). One example in this respect is the strategic alliance between Krups and Heineken with Beertender: both parties recognized an opportunity in the market for a ‘home draught beer experience’1 and joined forces to jump to this opportunity. Yet surprisingly, little is known about strategic alliances that arise out of necessity, especially with regard to the appropriation of created value from an alliance. Different from the Beertender alliance, there are alliances that are formed out of necessity, rather than recognition of an opportunity. Such alliances can result in stronger market positions, such as was the case with the merger of the Dutch dairy-cooperations in 1997, facing increasing pressure on margins and higher costs, which caused them to join forces.2 Furthermore, necessity-driven alliances can be combined

---

1 Source: beertender.usa.heineken.com, last consulted on August 2, 2010.
purchasing cooperations to ensure better margins and more bargaining power, such as, for example, the Dutch purchase combination for Road Construction.\(^3\) Other drivers include joint sales operations, cost-cutting exercises, synergy-realisation, and more. Regardless of the reasons to cooperate, such alliances are entered into because management feels that they need to do so in order to keep their head above water in the future, not because they recognize an opportunity to enter new markets or create new products. As a means of clarification, this study regards necessity-driven alliances as necessary for the alliance partner to increase margins and regain profitability. Opportunity-driven alliance partners are considered to see the alliance as a welcome addition to the already profitable business of the alliance partner. One assumption that this study makes, is that alliance formation out of necessity will have an impact on the bargaining power of the necessity-driven firm. Being more eager to cooperate makes the party more vulnerable than when this eagerness is less or absent. Reflection of this difference is assumed to occur in the exercised bargaining power between alliance partners.

The aim of this paper is to shed light on such value creation and appropriation from an alliance from the perspective of the necessity-driven alliance partner. I intend to do so from both a transaction cost perspective as well as from a resource-based perspective. By focussing not only on the costs that are incurred by entering into a transaction, but also on the resources that enable value creation within an alliance, this paper seeks to further the understanding of alliance value appropriation from the perspective of the necessity-driven partner. Value, in spite of widespread ambiguity with regard to its meaning, has become a central concept in the resource based view. Transaction cost theory, on the other hand, is focused on lowering costs and thereby appropriation of value. By linking the resource based view and transaction cost theory on the one hand to value creation and value appropriation on the other, we can come to a better understanding what drives firms in strategic alliances. From a bargaining perspective, firms that need to collaborate tend to have weaker bargaining positions than firms for which such a need is absent. Consequently, the amount of value that can be appropriated by the necessity-driven partner may be limited. This paper proposes a normative framework that may be helpful for managers in

appropriating a sizeable portion of the value created by the alliance. Especially with regard to necessity-driven partners, such a framework may be able to provide them with means to ensure satisfactory value appropriation in their alliance with a less necessity-driven partner.

In order to develop such a normative framework of value appropriation for necessity-driven firms, this paper draws on the concept of value creation and value appropriation. Typically, the process of value creation is seen as a first imperative and value sharing ‘as a second order qualifying condition’ (Jacobides et al., 2006). However, by linking elements of transaction cost theory and the resource based view, I purport that the processes of both value creation and value appropriation are, in fact, intertwined elements in firm collaborations. The proposed framework will be tested empirically by means of an analysis of the Dutch Paper and Board industry. This industry has been under pressure for a long time as a result of challenges such as rising energy prices, strong suppliers and customers in their value chain, a polluting image with the general public and regulatory impediments. In order to turn the tide for the Dutch Paper and Board industry towards increasing profitability, it is currently seeking ways in which to collaborate with parties from other industries in order to face the aforementioned challenges. As a result of such pressures, the paper and board industry intends to enter into an alliance not so much as a result of opportunity recognition, but out of necessity. One of these collaborative efforts is entering into an alliance with other bio-based industries, such as the agricultural industry and the chemical industry in the Netherlands. The aim of such alliances is to benefit from each others raw materials or side products in their respective production processes. By using each others side streams and raw materials, these industries hope to maximize the use of these materials, increase their profits and lower their dependency of resource suppliers in the market. Moreover, the agricultural and chemical industries face similar challenges as the paper and board industry is currently facing, such as rising energy prices and increasing international competition. Therefore, cross-industry collaboration may prove to be a win-win situation for all parties involved. However, central to the paper and board industry is to make sure that within these collaborations, in which the paper and board industry may lack bargaining power in terms of cash position, size and
market position, it is able to position itself in such a manner that it can maximize its own ‘win’ in terms of reaping the benefits from the alliance with a potentially stronger partner. The normative framework proposed in the following section aims to guide managers in their choices in strategic alliance formation as the necessity-driven party.

One important element in this respect is the introduction of two dimensions of resources: inside resources, which are directly contributed to the alliance; and outside resources, which are not contributed to the alliance, but are used to impact the division of value between the parties. For example, corporate reputation cannot be contributed to an alliance, but it may be helpful in the bargaining process with the prospective alliance partner. This study sees resources such as corporate reputation as outside resources. Furthermore, this study differentiates between the owners and users of resources. For example, a local subsidiary of a multinational enterprise may be able to benefit from the proprietary knowledge of the corporate parent by using it in the alliance, but the local subsidiary does not own such a resource. Therefore, we distinguish between local entity resources; corporate resources; and industry resources. This distinction of ownership is important to keep in mind as managers, because proper use of the resources at hand will enable the appropriation of value for the firm. These concepts of resources will be elaborated on in the following section.

The data to conduct this analysis consists of questionnaires, filled out by the top management of the leading Dutch paper and board producing companies. Furthermore, information from the Knowledge Center for Paper and Board and interviews with a number of executives in the Dutch paper and board industry will form the basis for an assessment on the possibilities for maximization of value appropriation for the Dutch paper and board industry through innovative collaborations with other industries. The analysis of the Dutch paper and board industry, different from most case studies, is done ex ante, pro-actively and prescriptive. By focussing on the selection-stage of the process of alliance formation, this study is able to provide for an ex-ante view of how a seemingly weaker bargaining position can be strengthened in a strategic alliance. Future studies may focus on ex-post analysis of the outcome of such an alliance and extend the normative framework proposed in this study.
Firstly, in the literature review, we will draw upon transaction cost theory and the resource-based view in order to shed light on the theoretical background of strategic alliancing, followed by the methodology in section 2, the results in section 3, the discussion in section 4 and finally concluding remarks and avenues for future research in section 5. The discussion will introduce a number of propositions that may help to develop a better understanding on how value creation and appropriation take place within strategic alliances. Firstly, the relevant literature is presented in the following section.

LITERATURE REVIEW

1 Strategic alliances

Entering into strategic alliances has become an increasingly popular strategy for many firms, since it offers firms a range of opportunities, which were not achievable without partnering up with other firms. Parkhe (1991) has defined strategic alliances as the ‘relatively enduring interfirm cooperative arrangements, involving flows and linkages that utilize resources and/or governance structures from autonomous organizations, for the joint accomplishment of individual goals linked to the corporate mission of each sponsoring firm’ (Parkhe, 1991, p.581). Essentially, people, and firms for that matter, engage in cooperation because of appropriate payoff structures and self-interest (Axelrod, 1984). However, at closer range, there is a multitude of reasons to be found for firms to enter into strategic alliances. For example, firms may aim to conserve or build resources and share risks (Hamel et al, 1989; and Ohmae 1989) or come to transaction cost efficient structures (Williamson, 1991). Other motivations to enter into strategic alliances include gaining market power (Hagendoorn, 1993), signaling effects of enhanced legitimacy to other firms (Baum and Oliver, 1991), opportunities to learn new skills or competences (Prahalad and Hamel, 1990; Hamel et al., 1989) and market penetration (Kogut, 1991). Furthermore, alliances can help the firm build new process capabilities and ensure a higher chance of winning new product and technology battles as ‘... competitive renewal depends on building new process capabilities and winning new product and technology battles. Collaboration can be a low-cost strategy for doing both.’ (Hamel, Doz, Prahalad, 1989, p.139).
From a theoretical perspective, alliance formation has traditionally been approached from a transaction cost point of view by searching for an efficient mix of transaction costs, i.e. transaction cost theory⁴ (Hennart, 1988, Pisano and Teece, 1989, Shan, 1990, Williamson, 1991, Oxley, 1997). Transaction costs are all costs associated with a specific transaction, such as, for example, contracting costs, human resource costs, capital costs, marketing costs, etc. (Williamson, 1979, p.241). Due to perceived limitations in the explanatory power of transaction cost theory, which will be discussed in the following paragraphs, the resource based view gained explanatory power for why firms enter into alliances (Ghosal and Moran, 1995). Its focus on individual resources that can be learned, copied, enhanced and contribute value in combination with other resources proved its value in assessing why firms enter into alliances (T.K. Das, 2000, Eisenhardt and Schoonhoven, 1996, Kogut, 1988, Tyler and Steensma, 1995, 1998, Hamel et al., 1989). In the following paragraphs, the resource based view and transaction cost economics will be covered more extensively.

Apart from the resource based view and transaction costs economics, other theoretical streams have attempted to explain the emergence of strategic alliances and the reasons for such alliance formation. For example, Venkatraman, Koh & Loh (1994) note that from an institutional theory perspective, there is a bandwagon effect to strategic alliance formation, instigated by isomorphic pressures and copying behaviour (Venkatraman, Koh and Loh, 1994, p.505). Oliver combines insights from institutional theory and the resource based view, by suggesting that a firm’s sustainable advantage ‘depends on its ability to manage the institutional context of its resource decisions’ (Oliver, 1997, p.697).

Strategic alliances may also occur when the management of the company has social resource opportunities (Eisenhardt & Schoonhoven, 1996, p.137) or when previous (social) experiences come into play (Gulati, 1993). Other streams of research include game theory (Parkhe, 1993), social exchange theory (Axelrod, 1984) and power-dependence theory (Chisholm, 1989; Pfeffer & Salancik, 1978; Van de Ven & Walker, 1984).

⁴ The terms Transaction Cost Theory and Transaction Cost Economics are used interchangeably in this thesis.
Finally, corporate strategists emphasize the improvement of the strategic position of the firm as the reason to enter into strategic alliances (Porter and Fuller, 1986, Contractor and Lorange, 1988, Kogut, 1988a). A similar perspective is provided by Eisenhardt and Schoonhoven (1996), who note that the underlying logic of strategic alliance formation is one of strategic needs and social opportunities. Strategic needs arise when firms are in ‘vulnerable strategic positions due to the competitiveness of the industry or due to pioneering technical strategies’ (Eisenhardt & Schoonhoven, 1996, p.136), such as late entry into an industry (Mitchell and Singh, 1992). Building upon the work of strategic alliancing from a necessity-driven standpoint, this paper focuses on the appropriation of value once parties have entered into an alliance.

In order to provide a theoretically robust view for new (cross-industry) alliances, some more detailed insight is required to understand the underlying foundations of both transaction cost theory and the resource-based view. Furthermore, the concept of value, value creation and value appropriation will be described in the following paragraphs, followed by the introduction of a concept of intertwined value creation and appropriation in strategic alliances. First, the basic elements of transaction cost theory that are relevant to the formation of strategic alliances will be discussed in the following paragraph.

2 Transaction Cost Theory

Transaction Cost Theory (hereafter ‘TCT’) focuses on striking a balance between the costs and benefits of organizing business through hierarchy, the market or an intermediate combination of the two (Williamson, 1979, p.235). Transaction costs are the cost that a person or firm incurs by entering into an economic exchange. In other words: the costs of entering into a transaction in the market. The unit of analysis is the transaction. Williamson (1985) identified a number of elements that determine when markets, hierarchies or combinations are optimal: bounded rationality, asset specificity, and opportunistic behavior (Williamson, 1985, p.42). These intermediate forms of doing business inhibit both formal (e.g. written contracts or hostage exchanges) and informal mechanisms (e.g. trust) that

---

5 For instance, in situations with high uncertainty, high asset specificity and high frequency, hierarchies are perceived to be the more efficient structure.
can shape the stability of relationships between partners in collaboration (Bradach & Eccles, 1989, p.100).

A decision along the institutional continuum of hierarchies to markets is preceded by the question how high the costs involved in a certain transaction are. As Coase (1937) stated, through forming organizations in which authority figures direct resources, certain costs that occur in the marketplace, i.e. ‘marketing costs’, are avoided (Coase, 1937, p.392). Such ‘marketing costs’ can consist of all non-idiosyncratic costs, which drive up the price of the transaction, including ex ante the cost of contracting and searching costs and ex post policing and enforcement costs (Williamson, 1985, p.20). A number of theorists have focused on explaining the concept of strategic alliances from a transaction cost perspective (Hennart 1988, 1991; Pisano and Teece 1989; Shan 1990; Williamson 1991).

Transaction cost theory has proven to be a useful measure in explaining collaborative behavior. However, TCT is subject to some limitations. With regard to its applicability, Ghoshal and Moran (1996) consider TCT to be static and drawing its strengths from routine situations (Ghoshal and Moral, 1996, p.14). Furthermore, they state that TCT fails to see the differences in governing organizations and markets and that TCT is built upon the assumption that actors always act opportunistically (Ghoshal & Moran, 1996, p.14). Also, it assumes the exchange relations between parties as given and it attempts to explain how these relationships will be formalized (Pisano, 1989). It sees the transaction as independent of other elements such as corporate reputation and trust is not a part of the equation between firms in TCT. However, in fact, Gulati notes that interfirm trust does play an important role in alliance formation. This interfirm trust is either based on previous experiences or it develops as the relationship matures (Gulati, 1996, p.108). In short, according to Eisenhardt and Schoonhoven (1996), TCT ‘cannot capture the strategic and social factors, which propel many firms into alliance formation’ (Eisenhardt and Schoonhoven, 1996, p.137).

Partially as a result of the lacking explanation of strategic alliances by TCT, the resource-based view of strategic alliances emerged. The following paragraph will cover the basic elements of the resource-based view and its role in studying strategic alliances.
3 Resource-based view

The resource-based view (hereafter ‘RBV’) focuses on resources of the firm that impact the firm’s performance. According to the seminal article of Barney (1991), resources need to be both valuable, rare (scarce), inimitable and non-substitutable in order to lead to a (temporary) competitive advantage (Barney, 1991, p.115). Wernerfelt (1984) defines resources as ‘those (tangible and intangible) assets which are tied semi-permanently to the firm’ (Wernerfelt, 1984, p.172). Rather than the neo-classical view of the firm, which regards the firm as a unitary agent, the RBV sees the firm as a nexus of contracts that consists of combinations of resources (Coff, 1999). Furthermore, in the RBV, the foundation for a firm’s success is its resources, as opposed to the neo-classical view of competitive context shaping the firm’s actions.

The RBV is, as are all theories and theories-to-be, subject to criticism. The RBV's view of the firm focuses on the firm itself, or what is inside the firm, instead of outside factors, as with neo-classical theory such as Porter's five forces (Porter, 1979). This entails the RBV assuming both stability in the product market and the notion that the value of resources is known (Priem & Butler, 2001, p.22). An important, yet ambiguous concept in the RBV is the value of resources. Since it remains unclear what value is in the RBV, it remains unclear what a competitive advantage of a firm is. These shortcomings limit the explanatory power of the RBV and, in combination with other elements such as a determination of the scope of a firm, limit the development of the RBV into a full-fledged theory (Priem & Butler, 2001, p. 25, 28).

Several theorists have linked the concept of RBV to the topic of strategic alliances (Blodgett, 1991; Eisenhardt & Schoonhoven, 1996; Kogut, 1988; Tyler & Steensma, 1995, 1998; and Das, 2000). Generally, from an RBV perspective, strategic alliances are formed as a result of strategic needs or opportunities in an attempt to create value through pooled resources. Such strategic needs or opportunities may arise out of vulnerable strategic positions or strong social positions (Eisenhardt and Schoonhoven, 1996, p.148; Das, 2000, p.31). Consequently, the type of alliance that parties engage in is determined by the resource profiles of partner firms (Das, 2000, p.31). One noteworthy element in

---

6 Paragraph 5 will go into detail on the subject of valuation in both RBV and TCT.
this respect is what Eisenhardt & Schoonhoven (1996) refer to as the ‘fundamental irony of alliancing’, which is that firms must have resources in order to get access to resources (Eisenhardt & Schoonhoven, 1996, p.137). Das (2000) proposes a resource-based framework of strategic alliances, describing, firstly, how resource characteristics of firms lead to alliance formation. Secondly, the type of resources (property-based vs. knowledge-based) determine the structural preferences of the alliance. And thirdly, alliance performance, in other words the amount of value created, is determined by resource alignment between the partners’ resources (Das, 2000, p.39).

In alignment with the internal view of the traditional RBV, the RBV of strategic alliances uses the same unit of analysis, but outside the traditional borders of the firm, i.e. its legal shell. It sees, in analogy with its view of the firm, a strategic alliance as a nexus of contracts between resources. Providers of such resources are, in fact, the partnering firms and these partner firms bargain to appropriate value from the strategic alliance. In general, the main concern of strategic alliances from a transaction cost perspective is transaction costs efficiency, i.e. striking a balance between the costs of monitoring and enforcement of a party’s interests in an alliance vs. the potential value that can be appropriated from the alliance. The central concept in the RBV is the potential of resources to create value for firms when certain prerequisites are met. By linking the concepts of the RBV to TCT, one can come to a better understanding of how such alliance formation works and what is driving firms to do so in their quest for value.

4 Combination of RBV and TCE
Authors that have been concerned with combining the RBV and TCT include Teece (1986), Montgomery and Hariharan (1989) and Silverman (1999). However, as far as I know, little academic attention has been devoted to combining the RBV and TCT from a strategic alliance perspective. As mentioned in the previous sections, RBV and TCT complement each other in the manner in which they approach the firm and/or strategic alliances. By combining the two, a more robust perspective on the formation of strategic alliances can be obtained. Both views that were described in the previous section acknowledge the dominant paradigm of the strategic alliance as a nexus of contracts.
Firms are typically characterized by a hierarchical structure of organization. The strategic alliance is different in this respect, since in most cases such a clear hierarchical structure is absent. Whereas firms have a single-minded focus for value creation for their internal stakeholders, in strategic alliances, the overall objective is also the creation of value, yet the partners have to divide the value created. Consequently, parties are concerned with the appropriation of said value and minimizing risks associated with the transaction at an earlier stage and battle one another sooner than within hierarchical organizations, where more attention is likely to be paid to cohesiveness and alignment towards a common goal. The challenge is to form the alliance in such a way that the trust and a sense of connectedness that is often (at least initially) prevalent in a firm, is also present in a strategic alliance. This ensures the largest amount of value creation and thus a larger value-pie to divide among partners.

This is where one of the complementarities of the RBV and TCT lies with regard to strategic alliances: the RBV focuses primarily on value creation and secondarily on value appropriation, whereas TCT focuses solely on value appropriation through opportunistic behavior (Williamson, 1979, p.234). As Das (2000) notes, ‘the resource-based view suggests that the rationale for alliances is the value-creation potential of firm resources that are pooled together’ (Das, 2000, p.31). Jacobides et al. (2006) suggest that ‘the possibility of creating value from innovation is best viewed as a first imperative, whereas problems relating to value sharing can be seen as a second order qualifying condition’ (p.18). Transaction cost economics, on the other hand, is concerned with minimizing transaction costs in order to appropriate the highest amount of value from a transaction. Consequently, the stance towards a strategic alliance differs. Whereas the RBV focuses on creating value for the alliance primarily and then focuses on value appropriation between partners, TCT focuses on minimizing transaction costs for the partner in order to appropriate value instantly. By integrating the appropriation focused stance of TCT with the value creation stance of the RBV, a better understanding can be obtained with regard to the creation and appropriation of value in a strategic alliance. The complementary potential of these standpoints will be discussed in more detail in paragraph 5.3.
The concepts of the RBV and TCT provide for a number of similarities that enable complementarities to exist. For one, they are not mutually exclusive. In other words, even though the RBV and TCT take different, yet not conflicting units of analysis, i.e. the resource vs. the transaction, they do not limit themselves to explaining strategic alliances at the expense of the other approach. Furthermore, transaction cost theory considers the market as an alternative governance mechanism for the firm (Williamson, 1998, p.32). The firm functions like a market, as an ‘arena within which individuals can interact’ (Kreps, 1990, p.96). This is in line with the RBV that sees the firm as a nexus of contracts. Consequently, TCT and RBV have another commonality, namely the fact that they view resources as unitary agents, i.e. resources that can interact with other resources. Furthermore, the concept of value appropriation, which will be discussed in the following paragraph, occurs in both TCT and RBV.

TCT may also be able to provide for a wider range of opportunities of strategic alliancing besides the traditional RBVs inclination to widen the corporate form to include as much resources as possible in order to exploit them7. TCT provides for an opportunity to look at market mechanisms to exploit certain resources without buying them (Silverman, 1999, p.1109). Central to this concept is the notion of the RBV that certain resources are, in fact, too asset specific to allow for contracting and that they need to be internalized (Chatterjee & Wernerfelt, 1991). Silverman purports that under certain conditions TCT can even provide the RBV with more exploitation opportunities with such asset specific resources (Silverman, 1999, p.1123).

Aside from the aforementioned commonalities, the RBV and TCT differ on a number of issues. First of all, the unit of analysis differs. The RBV focuses on resources of the firm, whereas TCT focuses on the transaction. Second, the costs of the transaction are deemed to be prevailing in TCT over strategic and social factors, whereas the RBV focuses less on cost minimization and more on the complementarities between resources. Third, TCT aims to achieve efficiency, whereas the RBV is driven by a theoretical logic of needs and opportunities (Eisenhardt and Schoonhoven, 1996, p.147). Furthermore, as we will see in the

---

7 One exception would be Teece (1980, 1982).
following paragraph, the RBV struggles with the concept of value (financial benefits, learning, capabilities, etc.), whereas for TCT value equals financial benefits through minimized transaction costs. This stems from the fact that RBV is resource driven. In other words, it focuses on value creation through value maximization, whereas TCT is cost driven. It focuses on value appropriation through cost minimization.

A specific argument with regard to strategic alliances that is worth noting, is that of Balakrishnan & Koza (1993, p.115), who suggest that whether or not partner firms are in the same industry will affect the choice between joint venture or acquisition, depending on information asymmetries, which are more likely to occur in dissimilar markets than in similar markets. Opposed to this statement are Hennart & Reddy (1997, p.2), who focus on resource integration, which can be accomplished regardless of industry affiliation.

As described above, the RBV and TCT, regardless of their differences, provide room for complementarities to enable further understanding of why firms enter into strategic alliances and how they do so. One central element that was noted above is the concept of value. TCT has a straightforward view on value, since it measures financial returns in terms of minimizing costs. The RBV has a more ambiguous stance towards value. The next paragraph will highlight the issues involved in valuation from an RBV perspective. Furthermore, attention will be paid to the subsequent concepts of value creation and value appropriation. By drawing upon the concept of value creation and appropriation and linking it to TCT, we can gain understanding on how the value creation and appropriation process develops as parties enter into strategic alliances.

5 Valuation

5.1 The concept of value & valuation

As stated above, firms enter into strategic alliances for two reasons in particular: appropriate payoff structures and self-interest (Axelrod, 1984). However, what appropriate payoff structures and self-interest are, is up to the individual firm to determine. For some firms, this entails financial gains. Other firms may be more interested in copying/adopting/learning/borrowing resources from other firms (Hamel, Doz & Prahalad, 1989, p.139). Yet even other firms may wish to enter
into alliances because they value reputation effects, market entry or other factors.

As stated above, transaction cost theory takes a straightforward approach to valuation: value can be determined by financial return on transactions caused by a minimization of the transaction costs involved (Williamson, 1979, p.240)⁸. The concept of value appears to be less clear in the RBV. As goes for the concept of competitive advantage, which is linked to the concept of value, there is considerable ambiguity in this respect (Stoelhorst & Bridoux, 2006, p.3). For example, Coff (1999) sees value as rents, Bowman and Ambrosini (2000) link value to profit, Lipmann & Rumelt (2003) focus on ‘simple rents’, i.e. payments to resources, and Stoelhorst & Bridoux (2006) take accounting profit as a determinant of value. In their effort to clarify matters, Stoelhorst & Bridoux (2006) link the concept of value creation to profit and the concept of value appropriation to rent. In sum, there is ambiguity on a definition of value in the RBV.

There are, in essence, two measures of valuation for resources: internal and external⁹. For example, asset-specific resources are often subject to imperfect factor markets, i.e. markets where parties cannot obtain resources, which are based on external valuation (Barney, 1986, p.1234). Furthermore, as Hamel (1991) notes: ‘Core competencies and value-creating disciplines are precisely the kind of firm-specific skills for which there are only imperfect external markets’ (Hamel, 1991, p.83). Consequently, the only parties able to assess the true value of said resources are the parties to the agreement. Therefore, the specific resource will, in such instances, be valued based on internal measures (i.e. on the dyadic relationship between parties). In such imperfect factor markets, resources such as dynamic capabilities may prove to be difficult, if not impossible, to value externally. This is in line with the Dynamic Capabilities View, which states that some resources cannot be bought, but must be built instead (Teece, Pisano & Shuen, 1997, p.515). Dynamic capabilities are ‘the firm’s ability to integrate, build,
and reconfigure internal and external competences to address rapidly changing environments’ (Teece, Pisano and Shuen, 1997, p.516).

On the other hand, outside valuation provides a practical means of comparison, and thereby measurement, for otherwise incomparable resources. Even in the case of imperfect factor markets for firm-specific resources, what little outside valuation there is, may be able to provide for a benchmark to which parties can measure the price they pay or receive. Barney (1986) introduced the concept of strategic factor markets, where ‘the resources necessary to implement a strategy are acquired’ (p.1231). Priem and Butler (2001) state that ‘it is the market environment, through opportunities and threats, that determines the degree of value held by each firm resource in the RBV’ (p.29). With regard to top-management and the degree in which they influence alliance formation, Eisenhardt & Schoonhoven (1996) state that the experience gained and the network developed outside the firm are important factors in alliance formation (Eisenhardt & Schoonhoven, 1996, p.137). Such experience and network may help managers to determine the value of a resource. Brandenburger & Stuart (1996) note that the valuation of resources is determined by the opportunities that the buyer/seller of a resource has outside the dyadic relationship of buyer and seller (p.12).

5.2 Value creation & appropriation

By pooling and combining resources, strategic alliances can create value. The higher quality a resource has, in terms its ability to contribute to the development of a competitive advantage, the higher the potential of value it can create. By combining two or more resources, an alliance aims to create more value than the sum of the individual resources.

Brandenburger & Stuart (1996) draw upon game theory to provide for a definition of value creation and value appropriation. The definition of value creation as given by the authors is the willingness-to-pay of the buyer, or what the maximum price is the buyer is willing to pay for a product, minus the opportunity costs of the seller, or for what price would the seller not want to sell his product (Brandenburger & Stuart, 1996, p.7; Peteraf & Barney, 2003, p.314). In the case of Brandenburger & Stuart (1996) and Peteraf & Barney (2003), value creation
takes place in a vertical value chain. Coff (1999) also describes how the generation of economic rent does not necessarily lead to a sustainable competitive advantage, since resource-owners may be able to appropriate generated rents, thereby differentiating between rent creation and generation (p.119). Lipmann & Rumelt (2003, p.1083) assign a number of positive aspects to the bargaining perspective, in that it integrates market power and efficiency, it does not need the concept of pricing as neo-classical economics does, and it can account for resource complementarities. Similar to the Payments Perspective introduced by Lipmann & Rumelt (2003b), I adopt the approach that within strategic alliances all of the alliance's revenues are payments to resources. The question that rises is how firms then divide these revenues. Since it may not always be clear which resources contributed to what part of the value created, bargaining comes into play. Bargaining over unpriced resources within a firm or within an alliance has been examined by means of cooperative game theory (see Lipmann & Rumelt, 2003; Brandeburger & Stuart, 1996, 2001). Cooperative game theory is conducted without predetermined moves and countermoves, as is the case with non-cooperative game theory. It 'characterizes the feasible and/or expected outcomes of self-interested bargaining and competition among a group of actors. A so-called 'cooperative' game can embody a situation of unbridled competition' (Lipmann & Rumelt, 2003, p.1072). Although the bargaining perspective offers a clear method of dividing surplus within a firm and/or strategic alliance, it adopts a number of assumptions. For example, the bargaining perspective does assume the value of resources to be given and the notion that resources or their owners are able to bargain for value.

The situation of value creation and division among the

![Figure 1. Value creation & appropriation (Brandenburger & Stuart, 1996)](image-url)
owners of resources in a strategic alliance is somewhat different, yet the same principles apply. In order to apply the figure of Brandenburger & Stuart (1996), we need to look at a strategic alliance as a construction of vertical relationships with regard to resource attribution. The opportunity costs are the costs of the resource suppliers that will cause them to refrain from entering into a strategic alliance and the willingness-to-pay is the maximum the partners are willing to pay for the outcome of the combined resources. Note that value creation is not limited to financial gains. Willingness-to-pay and opportunity costs can also be applicable to other resources, such as labour and knowledge. Actual pricing of the product or resource occurs after the process of value appropriation has taken place (Brandenburger & Stuart, 1996, p.9). Therefore, willingness-to-pay is a balance that each partner strikes individually in which it weighs the expected benefits of the alliance and the expected costs of the alliance, whether this is non-financial or financial. As stated above, willingness-to-pay and opportunity costs are determined by means of external valuation, being the opportunities that both the buyer and the supplier have outside the game (or transaction) (Brandenburger & Stuart, 1996, p.12).

Value appropriation occurs when parties bargain for the value they obtain for their attributed resources vis-à-vis the value generated by the product of combined resources. The willingness-to-pay represents the upper price limit of what a buyer would be willing to pay for a certain product. The opportunity cost represents the lowest price for which the supplier is willing to sell/make the product. The cost and price are what is determined by the strength of the firm vis-à-vis both the buyer and supplier, thereby influencing the amount of value appropriated by both the firm, the buyer and the supplier (Brandenburger & Stuart, 1996, p.10). For example, in a monopolistic market, the price of a certain good is likely to approach the willingness-to-pay of the buyer, since the firm has large bargaining power. In a highly competitive heterogeneous market, the firm has little bargaining power and, therefore, the price will be more towards the cost of making the product. In competitive supplier-markets, the firm has a strong bargaining position, which will drive the cost of production towards the opportunity cost of the supplier.
In strategic alliances, this figure also applies, albeit in a slightly different manner. In the value appropriation process within a strategic alliance, partner firms become both sellers and buyers of each others resources. For example, an alliance in which firm A contributes resource X, firm B is the buyer of resource X, because the partners are bargaining over the value of the attributed resource. Simultaneously, firm B contributes resource Y, of which firm A is the buyer. In essence, figure 1 depicts the bargaining situation in a strategic alliance, whereby the willingness-to-pay is the maximum value that the partner firm is willing to acknowledge to or pay for the resource of the other firm, the price is the value that is actually paid, the cost is the cost of attributing the resource for the attributing firm and the opportunity cost is the maximum cost for which the supplier of the attributing partner is willing to offer its resource to the attributing partner, who, in turn, attributes the resource to the alliance. Since the alliance in itself is a firm, both alliance partners act as buyers and suppliers of each others resources in the firm. Depending on the strength of the parties and their resources, a division of value will be made along the lines of figure 1.

5.3 Intertwined process of value creation and appropriation

As described above, the process of value appropriation commences as soon as firms intend to enter into an alliance. The search for partners to alliance with focuses on both value creation and value appropriation, since firms are looking for ways to appropriate value out of an alliance in which value is created through attributed resources, whether it is money, skills, reputation or otherwise. The bargaining (and selection) process to appropriate (future) value will start as soon as firms intend to enter into an alliance. As the alliance matures, firms will continue to bargain for value over, for example, the fruits of achieved synergies and development of their resources or the alliance. None withstanding, firms enter into alliances in order to create value, otherwise parties cannot appropriate it. However, this matter of sequentiality is poorly explained in the existing

---

10 The figure differs in relation to the scope of the relationships: the buyer and firm constitute the alliance partners, who either buy or sell their attributed resources to the other partner, and the supplier of said attributed resources lies outside of the strategic alliance, namely within the firm. Consequently, a second round of bargaining will take place within the partner firms. Moreover, a third round of bargaining will occur when the alliance sells the product or service to an outside buyer.
literature of both the RBV and TCT (see Williamson, 1979, Das, 2000; and Jacobides et al., 2006). The RBV notes that value creation and value appropriation are, in fact, two separate processes (Jacobides et al, 2006, p.18), whereas TCT focuses primarily on value appropriation through opportunistic behaviour and fails to explain value creation (Williamson, 1979, p.234). The process of value creation and value appropriation, as currently explained by the RBV and partially explained by TCT, is depicted in figure 2.

Central to TCT is that firms aim to minimize costs of a transaction ex ante (Williamson, 1979). Analogue to this principle, TCT acknowledges that firms commence with value appropriation from the outset of an alliance, since opportunistic behaviour is instigated by the aim to minimize transaction costs (Williamson, 1979, p.234). The concept of value creation, however, fails to be explained by TCT. The RBV, on the other hand, introduces the concept of value creation, but as a separate process from value appropriation. By drawing upon the concept of value creation of the RBV and value appropriation from TCT from the moment of initiation of an alliance, a new perspective emerges in which value creation and value appropriation are not separate processes, but, in fact, intertwined processes. Put differently, firms enter into alliances with the aim to
create value, from which they seek to appropriate a portion of said value. Given the structure and bargaining process in an alliance, the appropriation of potential value begins at the outset of an alliance, possibly even before value is created. Therefore, value creation and value appropriation do not occur separately and in consequential order, they are intertwined and occur simultaneously, as depicted in figure 3.

One important notion in this respect is the risk of value-limitation through egocentric alliance behaviour. The pursuit of value appropriation by individual partner firms may limit the creation of that same value in the alliance. As parties may focus too much on appropriating value from an alliance, they can destroy potential synergies, trust or complementarities, which are needed to create value in the first place. Therefore, when entering into strategic alliances, firms would do well to consciously seek a balance between what is best for them individually (value appropriation) and what is best for the alliance (value creation). It is such conflicts of interest that make strategic alliances complex and a cause for unsatisfactory alliance results. Strategies that aim to limit this conflict of interest
hazard include more cooperative models of alliancing, such as models in which firms can build ‘dedicated alliance functions’ that aim to integrate the two parties (Kale, Dyer & Singh, 2000), firms can enter into equity linkages in order to align mutual interests (Pisano, 1989; Hennart, 1988), build cooperative inter-organisational relationships (Ring & Van de Ven, 1994) or pay attention to joint learning in order to reduce adverse selection through alliances (Balakrishnan & Koza, 1993). Such strategies are, in fact, efforts to reduce the hazard of conflicts of interest.

Aside from the matters of intertwined value creation and appropriation and the accompanied conflicts of interest, theorists have aimed to develop theories and approaches to pursue maximum value appropriation both from an alliance as well as through an alliance. Three relevant strategies in this respect will be discussed below.

6 Value appropriating strategies
There are a number of strategies that propose how to appropriate value created within a value chain or strategic alliance, ranging from competitive models that involve fierce bargaining to more cooperative models described above (see also Kanter, 2000). The way in which firms can appropriate value is determined by a multitude of factors, such as market size, maturity of the market, (perceived) value of resources, market power and institutional framework. Value appropriating strategies also depend on market characteristics. For example, Stoelhorst & Bridoux (2006, p.17) note that in a situation of unrestricted bargaining (a situation in which all possible coalitions have been identified by the actors) as described by Brandenburger & Stuart (1996), actors ‘will, as a result of competition, capture at least the value that they would appropriate in alternative coalitions and will not be able to capture more than the value they add to the coalition’. Therefore, in such instances, the value that the individual actor creates is the upper limit of the value it can appropriate, since the elements of which this value composes are known and the market is small. In more complex markets such upper limits fade, since information costs and the complexity of attributing added value to a certain actor in the value chain increases. In such instances, firms
need to assess their ability to strategize their way towards value appropriation. The following subparagraphs will discuss three relevant strategies that can be helpful in the quest for maximum value appropriation from cooperation with others, both inside and outside the cooperation.

6.1 Industry architecture & bottleneck positioning
One approach to positioning for value appropriation is provided by Teece (1986), who states that the benefits of an innovation often do not flow to the innovating firm, but to the firms owning certain complementary assets. This situation occurs when markets fail to function well and imitation is easy (Teece, 1986, p.285). The author offers a framework of factors that determines who gains from innovation in the market and that consists of three building blocks: (i) the appropriability regime, such as the legal framework and nature of the technology; (ii) complementary assets, i.e. assets that are needed for a successful implementation in the market; and (iii) a dominant design paradigm, i.e. the emerged standard in the industry (Teece, 1986, p.286). Teece states that in order for innovating firms to reap the benefits from their innovations, they should ‘establish prior positions in these complementary assets’, such as the underlying industry infrastructure (Teece, 1986, p.285). Teece’s framework is both applicable to vertical value chains as well as strategic alliances, since these forms of cooperation are, in fact, horizontal value chains. Hence, the same principles of value appropriation apply.

Jacobides et al. (2006) build upon the insights of Teece (1986) by stating that such industry infrastructures can be influenced by firms in order to create an ‘architectural advantage’ and thereby appropriate value (Jacobides et al., 2006, p.1201). This means that firms can appropriate a large amount of value created by the innovation by determining the industry architecture, since industry architectures are often not yet present in new/emerging markets. Central in this respect is the complementarity of assets and the concept of co-specialization (the degree to which resources are inter-dependent). According to Teece (1986, p.304), co-specialization, in combination with the appropriability regime, determines the degree to which benefits can be reaped from innovation: if resources are co-specialized and the proper appropriability regime is present, value can be appropriated from an innovation. However, Teece’s argument
inhibits the notion that firms should then own such complementary and co-specialized assets in order to benefit from the innovation, thereby creating the ‘canonical Teecian co-specialization conundrum’ of having to own both the innovation as well as the complementary assets (Jacobides et al., 2006, p.1201). One solution to this co-specialization conundrum is to engage in strategic alliances. By pooling together (complementary) resources, firms that own innovations can appropriate large sums of the value created in the value chain. Jacobides et al. (2006) have a slightly different take on this matter and propose to widen the scope of the unit of analysis from bilateral dependencies to multilateral dependencies between parties. They state that depending on the degree of scarcity of complementary assets in the value chain, which are needed to build an architectural advantage, such complementary assets do not have to be limited in their mobility (through ownership or strategic alliancing). Complementary resources can be mobile when they are (sufficiently) present in ‘vertically adjacent’ parts of the value chain. Consequently, firms can reap the benefits from innovations by assuring both high complementarity and high mobility in these ‘vertically adjacent’ parts of the value chain. Thereby firms can enhance the likelihood of the establishment of an architectural advantage and the accompanied value appropriation, while avoiding a lock-in situation of Teece’s co-specialization conundrum (Jacobides et al., 2006, p.1201).

In short, the aim for firms that seek an ‘architectural advantage’ is to ensure that there is either sufficient competition for complementary assets or they should own complementary assets. In such instances, the innovating firm will be able to remain in control of the market and thereby appropriate maximized value created from its innovation. This is what Teece (1986, p.297) and Jacobides et al. (2006, p.9) refer to as ‘bottleneck positioning’ through architectural manipulation. Such bottlenecks determine ‘how an innovative combination creates and distributes value’ (Jacobides et al., 2006, p.10). By entering into strategic alliances, an intermediate form is offered. Strategic alliances can provide for access to complementary resources without the burden of ownership or high transaction costs instilled in market transactions.
6.2 Learning capabilities

From an internal perspective, Hamel, Doz & Prahalad (1989) emphasize taking a position in which a party can learn from the capabilities of its partner and not the other way around (Hamel, Doz & Prahalad, 1989, p.136). It entails absorbing the skills of your partner and thereby appropriating more (or a different type of) value than was stated in the formal contract. By doing so, firms can appropriate value that is instilled in the other party. This approach requires a pro-active stance towards learning the skills of the partner and a need for competitive benchmarking. Ultimately, this approach will enhance the capacity to learn and thereby create value for the firm. Prerequisites for such a learning-objective are a limited scope of the formal agreement, the establishment of specific performance requirements and the use of gatekeepers to limit the unintended transfer of knowledge at an operational level (Hamel, Doz & Prahalad, 1989, p.137). Such a strategy is mainly focussed on appropriating value that is already present in the partner firm and less on the combined creation of value and the appropriation of said value.

6.3 Business models

From a broader perspective, the business model design approach focuses on value creation and appropriation for the entire value chain through innovation of organisational forms. In recent years, research on business models is increasing (among which Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002; Hargadorn & Douglas, 2001). Amit & Zott (2001) define business model as ‘the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities’ (p.511). Chesbrough & Rosenbloom (2002) note that the business model mediates between the economic and technical domain, as it ‘provides a coherent framework that takes technological characteristics and potentials as inputs, and converts them through customers and markets into economic outputs’ (p.532). Amit & Zott (2007) distinguish two types of business models that can create wealth: (i) novelty-centered business model designs, which focus on creating either new markets or innovating transactions in existing markets; and (ii) efficiency-centered business model designs, which are focused on lowering transaction costs of the value chain in
existing markets (p.184). They find that ‘firms can innovate not only by recombining the resources they control, but also by harnessing those of the partners, suppliers, and customers who participate in their business model’ (Amit & Zott, 2007, p.195). Furthermore, they indicate that entrepreneurs should ‘look beyond firm and industry boundaries in order to create and capture business opportunities’ (p.195). Consequently, from a strategic alliance perspective, the bargaining power of partners in their respective value chains does not decrease as a result of business model design value creation (Amit & Zott, 2007, p.183). Hence, from a business model perspective, cross-industry alliances may prove to be a win-win situation for both the parties to the alliance as well as their respective value chains within their industries.

6.4 Critical note on value appropriation strategies

The theories discussed here are examples of how to position a firm for value appropriation, both within the alliance as well as in the vertical value chain. There are aspects within each of the discussed strategies that can aid managers in positioning the firm for satisfactory value appropriation. However, the theories discussed have limitations with regard to their usefulness in value appropriation.

First of all, with regard to Teece (1986), the framework he proposes is concerned with benefiting from an innovation by establishing a bottleneck in the vertical value chain. A prerequisite of such a strategy would, consequently, be that a firm has an innovation to begin with. By owning complementary assets (Teece, 1986) or ensuring high levels of competition in vertically adjacent value chains (Jacobides et al., 2006), firms can benefit from their innovation and appropriate value. As noted above, strategic alliances could serve as an intermediate form that provides access to complementary resources, while evading the burden of owning the complementary resource or the high transaction costs in a competitive complementary asset market. Thereby, value appropriation vis-à-vis the value chain can be achieved.

However, at the level of the alliance, value appropriation may prove to be less simple. As Teece states, the aim of the innovation-owning firm is to ‘establish prior position in complementary assets’ (Teece, 1986, p.285). Hence, the aim of such a resource owner in forming an alliance is to ensure that the alliance partner
contributes the complementary assets needed to increase the value of the innovation even further. This means that alliances entered into with innovations or otherwise superior resources are, in essence, opportunity driven. By establishing positions in complementary assets through alliances, firms have the opportunity to increase their value for the alliance and thereby for the innovation. However, this principle only applies to the innovating firm. The owner of the complementary asset, depending on the level of competition in the market for complementary assets, will need to team up with the innovating firm in order to survive in its market segment. Given this weak bargaining position of the complementary resource firm, it is at risk of losing the battle for value appropriation within the alliance, since the innovating firm is likely to have the most bargaining power, simply because it has the superior resource; the innovation. In such instances, the firm owning the complementary asset has to focus on factors outside the dyadic relationship of the alliance in order to create more bargaining power vis-à-vis the innovating firm. This outside focus will be discussed more extensively in the following paragraph.

Second, Hamel et al. (1989) are concerned with learning skills and capabilities. However, there are a number of situations in which one firm cannot learn from the other firm. Alliances entered into because of the partner’s market size, its patented innovations, its scale and nature of the partner’s industry cannot be learned or copied. Such a strategy inhibits the risk of creating distrust and limits any potential for value creation for the alliance. Therefore, as a focal strategy to enter into a strategic alliance, absorbing the skills and capabilities of a partner may prove to be counterproductive. Learning skills and capabilities may, nevertheless, occur as side effects, but it should not be put center stage when entering into an alliance.

Third, business model design innovation may not decrease bargaining power within the vertical value chain, but it provides no direction as to how such innovations can increase bargaining power. Furthermore, Amit & Zott (2007) recommend boundary-spanning organizational design, yet they fail to address the issue of value appropriation within the alliance. According to the authors, an innovative business model design can lead to value appropriation opportunities within the value chain, but it remains unclear how firms should appropriate value
within such boundary-spanning organizational designs. This element becomes even more relevant as the firm enters into an alliance out of necessity, instead of opportunity recognition, as such a situation requires careful weighing of value creation vs. value appropriation. Entering into boundary-spanning organizational designs may be able to answer the question of value appropriation in the respective value chains of the parties to the alliance, yet they fail to address the prerequisite question of how can firms appropriate value within the alliance. For example, if a firm contributes more to the alliance in terms of resources than it is able to appropriate from that alliance (i.e. it is losing value), its bargaining position in its value chain is likely to diminish as well, because the full capacity of its resources is not reached. Since the firm is not able to put its resources to better use, it will not maximize its return on those resources. Consequently, it will prove more difficult to appropriate value within the value chain, due to sub-optimal allocation of its resources.

Both the approach of Teece (1986) and Amit & Zott (2007) take the innovation or strength of a firm as the focal point of examination. Consequently, such strategies provide little guidance for necessity-based alliancing. Nevertheless, one important notion of the framework that is proposed by Teece (1986) and further elaborated on by Jacobides et al. (2006) is that firms should attempt to create a bottleneck position within this value chain. Although a bottleneck is more easily created when firms have superior resources, there are possibilities for less powerful parties to pursue a bottleneck position. By focusing on the business model to go from a technology or product to customer, Amit & Zott (2007) contribute the notion that value appropriation lies at the heart of the firm, whether it is within a value chain or within a strategic alliance. The approach of Hamel et al. (1989) may be applicable as a strategy for necessity-based alliancing, yet not as a primary goal. In all, there appears to be a need for a framework that enables managers of necessity-driven alliance seekers to be aware of the intertwined process of value creation and appropriation and to be attuned to the tools at hand to increase their bargaining within the alliance.

---

11 If firms fail to maximize the amount of value appropriation within the alliance, it would appear problematic to maximize value appropriation in their respective value chains. Therefore, the first step of analysis should be internal value appropriation (meaning between the alliance partners) and consequently within the value chain of both parties.
In all, the three value appropriation strategies contribute to a more thorough understanding of the possibilities of firms to appropriate value from strategic alliances. Although different units of analysis are taken, the strategies provide for interesting insights. Nevertheless, as we have seen, the theories are limited in their explanatory power with regard to necessity-based alliancing and value appropriation from the necessity-driven party. A clear framework specifically designed for that purpose may, therefore, contribute to the existing literature in this respect. The following paragraph will introduce such a framework.

7 Proposed framework
The existing literature of the resource-based view tends to focus on value or wealth creation from collaborations and is less concerned with value appropriation. Transaction cost theory, on the other hand, is focused solely on value appropriation. Therefore, a more integrated view of value creation and value appropriation would appear to complement the existing literature. Furthermore, although the strategies of value appropriation contribute useful elements to a thorough understanding of value appropriation from the viewpoint of necessity-driven alliance partners, they failed to provide for a satisfactory answer with regard to either the balance between value creation and appropriation or bargaining within the alliance as the party which does not contribute an innovation to the alliance.

7.1 The two dimensions of resources: Inside vs. outside
With regard to value appropriation, a simple logic of relative strength applies. As superior resources equal strength and strength equals bargaining power, value appears to flow to those that are in the strongest bargaining position. Bargaining power in strategic alliances is often seen as relative, as superior resources in alliances tend to be measured relative to the resources of the other party in the alliance. Based on the existing literature, the standard situation is when both parties contribute resources to an alliance. In such instances, the strength of their resources will dictate the division of value. For the purpose of this study, resources are considered to be tangible or intangible elements that can be
contributed to an alliance and thereby impact the bargaining power of the parties involved in the alliance. In other words, anything that can give a party to an alliance an edge in their negotiations over value with their alliance partner, can be seen as a resource.

However, not all resources can be treated in the same manner, since the nature and ownership structure differs substantially among resources. In reality, there are two dimensions with regard to resources that have an impact on the division of value within an alliance. The first dimension is the ‘inside’ dimension, which is concerned with the resources that are directly attributed to the alliance. Examples of such ‘inside resources’ are the employees, the material and the funds that are assigned to the alliance. Much like the traditional view of resources, the strength or the size of the contribution to an alliance will determine the division of value between the parties.

The second dimension is more subtle. This second dimension is concerned with such resources that are not directly attributed to the alliance, but which are used in order to impact the bargaining power of either firm in appropriating value from the alliance. Examples of such ‘outside’ resources are corporate brand name, financial power of a corporate parent, strength of industrial organisations, etc. Such ‘outside resources’ are not directly tied to the alliance, but they do form a part of the bargaining power of the local subsidiary.

7.2 Ownership structures of resources

Now that the concept of two dimensions of inside and outside resources is introduced, we can draw upon related literature to clarify the different ownership structures of resources. In a broader sense, Rosenzweig and Singh (1991) note that the multinational firm is dealing with ‘the complexities facing organisations that exist simultaneously in multiple environments’ (p.343). The authors note that multinational firms operate in an energetic field of global integration versus national responsiveness (p.344). Rosenzweig and Singh state that there are two different environments in which the local subsidiary is operating: the first is the local environment, with which the local entity has to conform. An example of this is the regulatory and legal requirements a local subsidiary is subjected to. The second environment has to do with the environment of the corporate group. Local
subsidiaries need to operate consistently with the policies of the corporate parent, but at the same time adhere to the demands of the local environment.

From the concept of organization-environment relations, a clear line can be drawn to attributing resources and owning them. Given this notion of different areas in which subsidiaries have to operate, we can divide resources and their ownership structures along similar lines: Some resources are owned by the local subsidiary of a multinational corporation. Examples of such resources are the employees and raw materials that are assigned to an alliance. The employees are contracted by the local entity and the raw materials are, in most cases, property of the local subsidiary. This group of resources, which is owned by the local entity, can be characterized as local entity resources. Other resources may be owned by the (foreign) corporate parent. Examples are: knowledge that the local subsidiary is allowed to use; funds, which are often allocated to the various local subsidiaries by the corporate parent; proprietary technology, which is often held by the corporate parent and licensed out to the local subsidiaries; and corporate reputation and brand name. Such resources, although not owned by the local subsidiary, can indeed form a portion of the bargaining power of such a firm when negotiating with an alliance partner. This pool of resources can be seen as corporate resources, i.e. owned by the corporate parent. Yet, complementarily to the analogy with the organization-environment relation of Rosenzweig and Singh (1991), the paper and board industry can identify a third owner of resources. This third owner is the industrial organization, which owns those resources that cannot directly be attributed to the local entity or the corporate parent: the political capital of a branch organization, the degree of cooperation within the industry and designer of the industry strategy. Such elements are not owned by an individual firm, but more the results of joint efforts of the firms in the industry. Nevertheless, such resources can prove helpful in appropriating value from an alliance. In the discussion section, a number of examples are given to show how and to what extent such resources can serve as an attribute to bargaining power of individual firms seeking an alliance. In this study, such resources are characterized as industry resources.
Summing up, there are two dimensions of resources: *inside resources* which are attributed directly to the alliance, and *outside resources*, which are not attributed to the alliance, but impact the division of value between the alliance partners. Thereafter, we have identified three possible owners of resources that are relevant to this study: the legal entity itself, owning *local entity resources*, the corporate parent, owning *corporate resources*, and the industry, owning *industry resources*. Figure 4 depicts the two dimensions and the three types of resource ownership.

![Figure 4. Dimension and ownership structure of resources](image)

As figure 4 depicts, resources that can contribute to an alliance are owned by one of three parties. Depending on whether they are attributed directly to the alliance or not, we can assess if the resource impacts value creation or value appropriation. In short, outside resources influence value appropriation and inside resources influence both value appropriation and value creation. For example, when entering into a strategic alliance, corporate reputation is, in most cases, an outside corporate resource: it is not contributed directly to the alliance and it is owned by the corporate parent. The outside resource can only be used to influence the bargaining process between the two alliance partners.

As figure 5 depicts, such outside resources of either firm A or firm B influence bargaining power and thus value appropriation from the alliance. With regard to the inside resource, such as employees that are assigned to the alliance, they are able to have an impact on both value creation and value appropriation.
Since value creation and value appropriation are intertwined processes, contribution of an inside resource can prove to impact both value creation and value appropriation, for the simple reason that a resource has to be attributed to the alliance in order to create value. Appropriation of such value occurs on the basis of bargaining over which party contributed which amount of inside resources, combined with the impact of outside resources. Please note that each owner of resources can either contribute inside resources to the alliance process as well as outside resources. Put differently, outside resources and inside resources are not synonyms for resources not owned by the firm and resources owned by the firm: to the contrary; a firm can have outside resources such as knowledge or distribution network, without attributing it to the alliance. Similarly, a corporate parent can contribute inside resources, such as knowledge or funds to the alliance. The key differential is whether the resource is actually attributed to the alliance or whether it is used to impact the bargaining process over the created value.

Adding the notion of the different dimensions and ownership structures of resources to the concept of intertwined value creation and value appropriation, which was discussed in the previous paragraphs, we arrive at the following conceptual model:

(see next page)
Figure 5. Intertwined value creation & appropriation: type of resource impacts value appropriation and value creation.

In short, value appropriation is driven by the bargaining power of firms. This bargaining power is based on the strength and value of the resources the firm owns. The appropriation of value created in a strategic alliance is not only based on the resources that are attributed to the alliance, but also on resources that fall outside of the scope of the alliance. Such outside resources (such as reputation, networks, financial strength, etc.) may be able to influence the bargaining power of parties. Arguably, firms that have strong bargaining positions within strategic alliances either have valuable resources attributed to the alliance or they benefit from their strong outside resources, such as market power and image. Consequently, such firms are likely to be able to create a bottleneck-position within the alliance and thus appropriate value from that alliance. The challenge for necessity-driven firms is to emphasize those outside resources that are able to relocate the bottleneck within the alliance and thereby increase bargaining power and appropriate more value from the alliance.
Moreover, resources do not even need to be owned by the subsidiary in order to impact bargaining power. As we have seen, corporate resources (inside and outside) and industry resources (inside and outside) can help the local subsidiary in bargaining for the value created in the alliance.

The following section will describe the methodology of data gathering, that was conducted in order to come to a thorough analysis of the factors of cross-industry strategic alliances between the Dutch paper- and board-industry and other Dutch bio-based industries, such as the chemical industry and the agro-industry.

**RESEARCH DESIGN AND METHODS**

1 *Introduction*

The central question that this study intends to answer is how necessity-driven firms are able to appropriate value from strategic alliances. This study proposes a normative framework that may be able to aid managers of firms, which are driven towards strategic alliances out of necessity, in ensuring that such firms are able to appropriate value from such an alliance, in spite of their, at first sight, seemingly weaker bargaining position. The framework finds its basis in the resource based view and transaction cost theory and it uses insights from the bargaining view to get an understanding of how the process of value creation and value appropriation in alliances actually works. The normative framework is constructed as a result of critical analysis and development of the existing literature, as seen in the previous section. Through exploratory research, I intend to create a proper foundation on which the normative framework is built.

Now that the foundations of the framework are presented, it is time to test the normative framework through an empirical analysis of the Dutch paper and board industry. An examination of this industry will allow for the normative framework to receive first hand empirical feedback and further development of the framework. Finally, the framework and the exploratory research may be able to serve as a starting point for further research and discussion on matters of value appropriation in alliances by necessity-driven partners. In order to conduct such an analysis, I chose to perform an in-depth single case study. As Eisenhardt (1989) states, a single in-depth case study can be used to generate a theory.
Moreover, she states that ‘the theory-building process relies on past literature and empirical observation or experience as well as on the insight of the theorist to build incrementally more powerful theories’ (Eisenhardt, 1989, p.548). Furthermore, Yin (2003) states that single case studies are suited to answer ‘how’ or ‘why’ questions. The case study facilitates the use of an inductive approach, which serves to ‘allow new theoretical insights to emerge from examination of relevant data collected from multiple sources, analyzed through constant comparison and validated by extant theories and ongoing re-examination of the data’ (Eisenhardt, 1989).

2 Research setting

The setting in which this study is conducted is the Dutch paper and board industry. As one of the oldest industries in the Netherlands (dating back to the fifteenth century a.d.) the paper and board industry is rooted deeply in the Dutch society and achieves high degrees of cooperation. This fact is exemplified by the existence of an active and visible branch organisation, Koninklijke VNP, which represents all of the paper and board producers in the Netherlands. In total, 20 paper and board companies are active in the Netherlands12. The majority of those are owned by foreign multinationals13. The industry is highly diverse: there are 24 different types of paper and board produced in the Netherlands. Nevertheless, this diverse industry with diverging interests has been able, through extensive cooperation, to benefit from economies of scale and regulatory benefits.

However, this high concentration and willingness to cooperate also stems from the fact that, in recent years, the industry has been subject to increasing competition over resources, regulatory impediments by the Dutch government, decrease in added value within the value chain, the image of polluting industry and the rise of the computer and e-reader. As a consequence, profitability of most of the companies within the industry has decreased significantly over the past years. In order to overcome the aforementioned challenges and to find ways to regain profitability, the industry has recognized that cooperation with other bio-

---

12 There used to be 21 paper and board producing companies active in the Netherlands, but Favini Apeldoorn BV has recently been declared bankrupt: [http://www.kvk.nl/handelsregister/zoekframeset.asp?url=https://server.db.kvk.nl/TST-BIN/ZS/ZSWWW01@&zk=1](http://www.kvk.nl/handelsregister/zoekframeset.asp?url=https://server.db.kvk.nl/TST-BIN/ZS/ZSWWW01@&zk=1), last consulted on July 6, 2010.

13 The percentage of companies owned by foreign companies is 70%.
based industries, such as the chemical industry and agro-industry, may provide for a means to lower their dependence on market prices for resources, enable stronger lobbying with the Dutch government, increase their added value in the value chain and turn around the often erroneous image of a polluting industry into a highly sustainable industry.

In order to counterbalance the pressure on the margins of paper and board producing companies, the Dutch paper and board industry joined forces with the Ministry of Economic Affairs in 2004 in developing the ambitious programme “Energy Transition for the Paper Production Chain”\textsuperscript{14}. The goal of this programme is threefold: (i) to reduce the energy consumption per end-product in the entire production chain with 50% by the year 2020; (ii) to strengthen the image of the sector as a leader in sustainability; and (iii) to improve the competitive position of the industry. To achieve this goal step-by-step, the programme consists of 5 sub-programmes that represent different stages and aspects of the overall goal:

- **P1: Energy Management** = changing the mindset of employees and implementation of best-practice processes at mill level.
- **P2: Energy Neutral Paper** = implementation of sustainable energy-supply and energy-conversion to reduce the dependency on fossil energy sources.
- **P3: Supply-chain of the future** = improve energy and material efficiency by creating new partnerships within the supply chain.
- **P4: The Multi-purpose Bio-refinery** = co-operation with other bio-based production chains in order to create a more efficient exploitation of the potential of each others raw material and side streams.
- **P5: Without Water** = the most ambitious goal of this programme: developing break-through technologies that enable paper production without water.

The fourth sub-program is P4: The Multi-purpose Bio-refinery. This program entails collaborations with other bio-based economies in order to benefit from complementarities. Such complementarities stem from the fact that the three industries use the same or similar basic resources to make their products.

\textsuperscript{14} Website Vereniging Nederlandse Papierindustrie: [www.vnp-online.nl](http://www.vnp-online.nl), last consulted Juli 6, 2010.
Moreover, there are numerous possibilities of rest streams or side products that the industries have that are perfectly suitable to be used in another bio-based industry. By combining wood-based products, consisting of both wood and used paper, land materials and side streams, products can be created, such as biochemicals, pulp, bio-fuels and energy. Such complementarities would enable both industries to benefit from each other. One noteworthy aspect is that such complementarities do require no or minor further development of techniques. With relatively simple procedures, side streams and rest products can be extracted and transported between alliance partners. Furthermore, through inter-industry alliances, the industries would be able to show how sustainable they already are and can become in the near future.

The two bio-based industries on which the focus of the paper and board industry lies with regard to possible partners in strategic alliances are the Dutch chemical industry and the Dutch agricultural industry.

The Dutch chemical industry is one of the largest industries in the Netherlands, with annual revenues of around €50 billion (2008) and employing over 60,000 employees, representing 10% of the overall workforce in the industrial sector. Over 400 companies are active in this industry, but the industry is characterized by a number of large companies, which include DSM, Akzo Nobel, Crucell, Organon, Solvay and ExxonMobil. The industry is highly dispersed and competition, especially among the larger players, is fierce. The industry is a large investor, with 19% of the nation’s investments occuring in this industry.

The agricultural industry is traditionally one of the most important industries in the Netherlands. Covering around 55% of the landmass of the Netherlands, the agro-industry achieved revenues of around €42 billion in 2005. The industry is highly diverse, ranging from live stock, to vegetables and

16 Website VNCI: www.vnci.nl, last consulted on August 2, 2010.
17 Website VNCI: www.vnci.nl, last consulted on August 2, 2010.
fruit growing and harvesting of products such as wheat and sugar\textsuperscript{19}. Given its importance to the Dutch economy and food security, this industry has traditionally been supported by the Dutch government through subsidies and related aid measures. There are several large players in the industry, which consist of large cooperations of farmers.

With regard to entering into alliances with such industries, there is the fear within the paper and board-industry that it will not be able to extract the value that is created by such alliances with other industries. This fear stems from the fact that, within their traditional value chains, the paper and board producing companies have seen a steady reduction of the compensation for their added value. Consequently, they have been able to extract less value from their value chain. Since the chemical and agro-industry consist of companies and clusters of companies that are a multitude in size of the Dutch paper and board producing companies, the aforementioned fear appears both justified and relevant. Aside from higher profitability, most chemical concerns have larger R&D budgets, stronger positions in the value chain, economies of scale and strong cash flows. Agricultural concerns are also large, highly organized and enjoy financial support from the Dutch government. The paper and board industry in the Netherlands, even combined, has only a fraction of the financial power firms such as DSM and Akzo Nobel have. Moreover, the paper and board industry is not the supplier of high-end patented technology to the alliance. Hence, the concern about how to extract value created in an alliance in the situation the paper and board-industry seems both valid and pressing. In order to gain insight into possible answers to this question of value appropriation from the viewpoint of the paper and board industry, I have constructed a normative framework that may provide useful for managers both in the Dutch paper and board industry as well as other necessity-driven firms seeking alliances.

\textbf{3 Data collection}

The collection of data was focussed around retrieving information from the strategic decision-makers of the paper and board industry. The framework

\textsuperscript{19} For more details, please consult \url{www.minlnv.nl}, last consulted on August 2, 2010.
requires further understanding of the strengths and weaknesses of the paper and board industry, both in general as vis-à-vis their prospective alliance partners. Furthermore, potential barriers and opportunities to collaborate were to be discovered. Such information allowed me to construct a founded idea of the situation in which the paper and board industry currently finds itself and the opportunities and threats they are facing with regard to entering into strategic alliances under P4. This picture allowed me to identify resources that could be emphasized to potentially create a bottleneck position vis-à-vis the alliance partners. The process of gathering this information was conducted in a number of ways: primary sources included a questionnaire, interviews and observations. Secondary sources included archival sources and other freely available information from both the industry as well as the Dutch Ministry of Environment. The data collection process thus consisted of a combination of qualitative and quantitative data. However, given the relatively small sample of the quantitative part (N=24), a qualitative approach to analysis was adopted. As a result of this small sample, the data is non-standardized and no sensible approach to either variation or error could be made (Miles & Huberman, 1994, p. 40). Therefore, the quantitative data is treated in a qualitative manner. This qualitative research is exploratory, which is considered useful if uncertainty exists with regard to the specific nature of the problem and there is a desire to explore the subject in a real life context (Saunders et al., 2007, p.470). Such research is in line with the underlying case study.

As noted above, the collection of data has served to determine which resources the Dutch paper and board industry may be able to emphasize in order to create a potential bottleneck position vis-à-vis the alliance partners. Since the paper and board industry required a strategic take on how to enter into alliances, albeit by (partly) joining forces as an industry or individually, the fundamental question in terms of data gathering was how to retrieve such strategic information. By subjecting the captains of the paper and board industry to a questionnaire in which they were asked, among other things, to position the paper and board industry vis-à-vis its potential alliance partners, these leaders were moved to think about the strengths, weaknesses, barriers and opportunities of such collaborations from all viewpoints. According to Saunders et al. (2007),
questionnaires work best in a manner that is ‘standardized that you can be confident will be interpreted the same way by all respondents’ (p.356). The questionnaire was part of a larger online questionnaire that was conducted among all the employees of the paper and board industry in 21 companies. The final part of the larger questionnaire, which covered the questions on strategic alliancing with other industries, was only accessible to the top-management of those 21 companies.

As Miles and Huberman (1994) note: ‘the questionnaire findings can be further deepened and tested systematically with the next round of qualitative work’ (p.41). In line with this argument, I conducted a total of ten semi-structured individual interviews with executives of the paper and board industry. The interviews were conducted in order to fill the gaps that remained in understanding the take of the industry on strategic alliancing with other bio-based industries. Six interviews were combinations of face-to-face interviews, via telephone as well as through email contact. Four of the interviews are in fact a few larger conversations with two leading figures in the paper and board industry. Interviews are considered as a ‘highly efficient way to gather rich, empirical data, particularly when the phenomenon of interest is episodic and infrequent’ (Eisenhardt & Graebner, 2007, p.28). Since such strategic alliances are, for now, both infrequent and episodic, interviews provided for a useful means of gathering information. The semi-structured interviews provided guidelines for the interview, but at the same time they encouraged free discussions with interviewees and formulating probing questions (Bernard, 1988). I deliberately aimed for interviewing both proponents and sceptics of cross-industry alliances, in order to ensure that the analysis reflected alternative views.

Furthermore, I was present at monthly industry-wide meetings concerning the Bio-based program, P4: The Multi-purpose Bio-refinery. In those meetings, which took place at the headquarters of the Knowledge Centre of Paper and Board in Arnhem, cross-industry strategic alliances were discussed and useful insights were gained to build the framework.

Lastly, freely available information and archival sources were used to build a thorough understanding on the inner workings of the paper and board industry and the policies of the Dutch government to invest in sustainable industries.
4 Data analysis

Although a portion of the data was retrieved quantitatively, the analysis of the obtained data was performed in a qualitative manner. Miles and Huberman (1994) note that qualitative data ‘can help by validating, interpreting, clarifying, and illustrating quantitative findings, as well as through strengthening and revising theory’ (p.41). The qualitative data was analyzed in the manner described below.

With regard to the questionnaire, a total of 24 top-executives completed the questionnaire, representing all the companies in the industry. The questionnaire consisted of a number of questions that were to be analyzed in a qualitative manner and two questions that produced quantitative data. By allowing for self-constructed answers and then partially weighing them against the outcomes of the more directional quantitative questions, I was able to cross-reference the answers provided in both types of questions. The anonymous answers to the questions in the questionnaire were grouped into categories in order to come to congruent language and wording. Most questions received response and in case the response was absent or incomprehensible, the result was counted as blank and removed from the analysis (Saunders et al., 2007, p.474). Along the spectrum of dimensions of qualitative analysis of Saunders et al. (2007), this analysis can be categorized as less structured, somewhere in between procedural and interpretive, and inductive (p.479).

The interviews were conducted with executives of the paper and board industry. The individual and semi-structured nature of the interviews allowed for interviewees to ventilate their viewpoints freely without the hamper of steered questions or external pressure (Rosenthal, 1966).

As briefly explained in the Introduction, this case study is performed prior to the actual formation of the alliance. This approach enables an ex-ante assessment of the perceived bargaining power of all possible parties to the alliance and provides the opportunity for the managers of the paper and board industry to possibly influence the direction of the alliance in the direction that they desire. Therefore, this study should be seen as both prescriptive and normative.
5 Limitations of the research method

In-depth case studies have been criticized for having a highly specific setting and lacking generalizability (Eisenhardt, 1989, p.545). Although there is merit to this argument, I have aimed to be particularly cautious in assigning generalized significance to typical paper and board attributes. Furthermore, as explained above, the purpose of the data is to test the normative framework developed on the basis of existing literature on the RBV, TCT and value creation and appropriation. Therefore, little generalizability can be attributed to the outcome of the data analysis. Further research and discussion is needed in order to develop a complete and more research-driven approach to value appropriation for necessity-driven firms in alliances. In terms of data collection, one limitation of this study is the absence of the other bio-based industry’s views. However, since the study is conducted in a normative manner, hindsight or ex-post analysis was not an option. Given the sensitivity of the topic and the high probability that this project will be executed, I was not able to obtain viewpoints of the other industries in this study. Another limitation is the relatively small size of the respondents of the questionnaire. However, as noted above, the emphasis of data collection was on strategic decision-makers. Therefore, I am pleased that the survey achieved a 100% response rate in terms of representation from every paper and board company in the Netherlands. In all, through a combination of both theoretical perspectives and a practical focus on the elements that enable the paper and board industry to appropriate value from alliances with other bio-based industries, a robust framework with relative certainty of execution could be developed.

FINDINGS

The findings from the collected data are described in this section. As mentioned above, data collection consisted of a combination of a questionnaire, interviews, observations and archival sources. Specific attention was paid to the relative position of the three industries vis-à-vis each other. The questionnaire was conducted among all paper and board producing firms in the Netherlands at management level. Questions about the sustainability, opportunities, strengths and weaknesses of the industry were asked in order to assess where the
opportunities lie for the paper- and board-industry to appropriate value in sustainable strategic alliances with other industries.

Since the interviews were constructed as a supplement to the questionnaires and the other data served as groundwork of those results, I have chosen to present the findings in a combined manner so as to paint a full and comprehensible picture of the data gathered. Therefore, firstly the data from the questionnaire is presented and then further explained on the basis of both the interviews and archival sources per topic.

The questionnaire consists of seven main questions, which are divided into subparts to allow for either multiple answers, multiple sub-questions or the opportunity to rank the answers given by the respondents. Given the limited number of questions in the questionnaire, the separate questions are briefly discussed below. In the following paragraphs, the outcome of the questions will be presented according to the order of the questionnaire. As noted above, the findings from the interviews complement the findings from the questionnaire. Furthermore, archival sources and freely accessible information is used to add to the findings from the questionnaire and interviews. The following subsections will present the topics on the basis of which information was selected and used.

**Opportunities for the paper and board industry**

The first question of the questionnaire pertains to what the possible factors to growth will be in the coming five years for the paper and board industry. The answers, which are provided in the graph below, are categorized according to the stage in the production process: input and output. The respondents were able to give three answers to questions 1, which all carried the same weights and were not ranked or depicted in any particular order. The rationale behind this first question is to find out where the paper and board industry sees its chances in the paper and board market in the future five years. This question thus focuses on an internal view of the paper and board industry.
Opportunities for growth Dutch p&amp;b in next 5 years: an overview

Graph 1.

Graph 1 depicts the division along the different stages in the production process. This is done so as to provide a clearer picture to enable any predisposition of the respondents towards either stage of the production process to become visible. As graph 1 shows, the respondents recognized most opportunities for growth in the coming 5 years in the input part of the production process. Given the results in graph 1, it appears that most managers are focused on the input side of the production process (55%) and to a lesser extent on output factors (17%) or new business (19%)\(^{20}\). Further on, I will go into more detail about a possible explanation for this factor. First, we see in which categories these opportunities can actually be divided, separated into an input-side and an output-side, so as to see the different types of opportunities: input-wise and output-wise.

\(^{20}\) New business is defined as different products or different markets for the existing products.
Opportunities for growth Dutch p&b industry in next 5 years: input-side

Graph 2.

Opportunities for growth Dutch p&b industry in next 5 years: output-side

Graph 3.

Graphs 2 and 3 provide for a more detailed division of the input and output sides of the production process. As one can see, the input factors are mainly focused on more sustainable methods of production and less energy consumption. Interestingly, 17% of the answers indicate that strategic alliances with other
industries (re-usage of sidestreams (P4)) is seen as an opportunity for growth in the next five years.

The interviews provided for a similar picture, where the respondents appeared to recognize opportunities to grow in the input of the production process, i.e. cheaper, different or more efficient raw materials, over output factors such as marketing and image. A possible explanation for this finding is the background and function of the majority of the respondents. Most of the managers that participated in this questionnaire are either chemists, biologists or otherwise ‘paper production’-oriented. Furthermore, the majority of the respondents are managers of paper mills, where the majority of the work focuses on the input side of paper production and sales. On this national level, less attention is paid to output-factors such as marketing and corporate image to end-consumers.

In line with the findings from the questionnaire, the interviews highlight that a portion of the respondents indicate that strategic alliances with other bio-based industries could be an opportunity for the paper industry in the next five years. However, the reasons for this opportunity seemed to steer in the direction of input factors, more than output factors. These findings appear to indicate that the paper and board industry would do well to focus not only on input-factors to increase their profitability, but also on output-factors. Such an input-oriented stance may limit the potential for more output-oriented approaches to doing business.

Now that we have seen the opportunities in the coming five years that are recognized by the paper and board industry, it is important to see which threats the paper and board industry sees itself facing in the near future. Together, the perceived future strengths and weaknesses form the basis on which elements the paper and board industry intends to focus to turn the tide towards increased profitability.

Threats for the paper and board industry

The second question of the questionnaire focuses on the possible threats to the paper and board industry in the coming five years. Respondents were able to provide three answers. As depicted in graph 4, a significant part of the concerns
for the paper and board industry in the near future is the availability and price of raw materials (36%). The rise of energy prices and subsidies for bio-mass and other ‘cleaner’ methods of producing electricity have put pressure on the prices and thereby the availability of raw materials, such as wood and chemicals used in the paper production process. This phenomenon forms one of the most fundamental problems the paper and board industry is facing: in its search for an answer to polluting and costly energy creators such as coal and oil, the Dutch government is increasingly putting effort in promoting bio-mass energy creation. Since trees still constitute the main component of paper and trees are becoming scarcer, most of the interviewees consider it questionable for the Dutch government to promote such an inferior use of this precious and valuable natural product by burning it\textsuperscript{21}.

\textit{Threat for growth Dutch p&b industry in next 5 years}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{threats.png}
\caption{Graph 4.}
\end{figure}

The interviewees indicated that increased prices of raw materials for the paper and board industry is a result of the recent focus on bio-mass energy of both the energy industry as well as the Dutch government. This process of burning valuable wood for ‘inferior’ purposes such as bio-mass energy creation is seen as

\textsuperscript{21} Perhaps an analogy could be made with the food shortage that is increasing as a result of the development of and subsidies on bio-fuels, made from corn and other raw products for food. Please see http://www.guardian.co.uk/world/2007/may/09/foodanddrink.renewableenergy.
detrimental for the paper and board industry. It allegedly drives up prices and creates extremely competitive markets for raw materials. Given the limited financial strength of paper and board companies in the Netherlands vis-à-vis energy producers, the industry fears this recent development and urges for governmental intervention or change of perspective.

The strengths and weaknesses for the paper and board industry in the next five years are mainly focused on either access to or the price of raw materials. Increased sustainability in the production process is seen as a possible strength for the industry, whereas dependency on the market for raw materials is seen as detrimental, as long as the government is focused on energy creation out of biomass burning. In all, there is a clear focus on the input-side of the production process, especially with regard to the threats. As for the output-side, there appears to be potential to improve in that area, both in awareness among the people in the paper and board industry, as well as in focus on new products.

**Cross-industry collaboration: the paper and board perspective**

Subsequent to the data gathered on the opportunities and threats of the paper and board industry in the next five years, more detailed information on the reasons to cooperate with other industries and the opportunities and threats of such cooperative efforts is merited. Since it is now clear where the paper and board industry sees its opportunities and threats with regard to the near future, it is time to take the next step towards the reasons why seizing such opportunities involves cross-industry cooperation. Hence, this paragraph focuses more on why the paper and board industry wants to collaborate with other industries in order to face the threats and seize the opportunities of the near future.

The third question of the questionnaire is concerned with the reasons to cooperate with other bio-based industries from the view of the paper and board industry. Such reasons are to be read as what respondents expect or hope to gain from the collaboration or what pressures they hope to diminish through collaboration (such as the regulatory impediments and increasing costs of raw material). As graph 5 depicts, the opportunities to innovation comprise 30% of
the reasons to collaborate with other bio-based industries. Other reasons include a bundling of forces (10%), and availability of raw materials (16%). By focusing on innovation and bundling of forces, the alliance partners are creating a resource that is capitalizable vis-à-vis parties such as the Dutch government. Bundling forces will enable the Dutch bio-based industries to increase their bargaining power with the Dutch government, with the suppliers of their raw materials and with the public. Thereby, one possible outcome of the alliance is the creation of a resource, owned by the alliance partners collectively. Whether this resource will prove to be inside or outside depends on the manner in which the alliance partners choose to use the resource.

*Reasons for collaboration with other bio-based industries*

![Graph showing reasons for collaboration]

Innovation would appear to be conducted through a combination of the expertise of both industries regarding similar raw materials. Mainly chemical and biological processes are seen as opportunities to create new, more sustainable, cheaper and more efficient products. The innovative efforts appear to be driven by a common urge to reduce dependency on public markets for raw materials. The majority of the interviewees mention the threat of rising prices of raw materials and reduced availability of these materials as the drivers of the recent efforts to enter into strategic alliances with parties from other industries. This element strengthens the notion of the paper and board industry as a necessity-driven alliance partner.
One example of innovation in the bio-based refinery (cooperation between bio-based industries) is the HyGear project. This recently subsidized plan entails processing and fermentation of second generation bio-mass into isopropanol, butanol, ethanol and hydrogen. Through this project second generation bio-mass can be re-used and turned into first generation chemicals. Another example is the COSUN project, where the entire plant of the beet, including the beetroot, the leaves and the beet itself, can be used to develop highly valuable chemicals. These chemicals can be used in the food industry, the chemical industry, the paper and board industry and the energy industry, to name a few. Until now, the left-over parts of the beet, such as leaves and the beetroot, were used only marginally. This project intends to create new potential for the beet: ‘the unbeatable beet’. Other examples include the creation of ‘green’ oil through a process of pyrolyse (which is a research project involving BTG Bio Mass Technology Group BV and the University of Groningen) and the Orgaworld project, which is focusing on extracting fosfates out of organic sidestreams (or waste). Cooperation between industries is needed in order to get such projects off the ground. Strategic alliances with partner firms in neighboring industries will take these types of projects from the drawingtable to practice. One final project worth mentioning is the milkacid-production out of sidestreams of the paper and board industrie: PURAC. Sidestreams of paper producing companies contain (non-food) cellososis, chalk and other pollutants. PURAC aims to develop a pilot installation that can separate pollutants such as chalk and cellulosis from wastewater. This way, fermentation of high quality milkacid can be achieved.²²

**Barriers and opportunities of cross-industry collaboration**

Now that the reasons to cooperate are clear, meaning what do the managers in the paper and board industry expect to gain from cross-industry alliances, we need to gain insight as to which factors are likely to impact the success of an alliance. These factors include the political interest that lives for sustainability efforts and willingness of the parent company to invest in the bio-based refinery.

²²These projects are part of the projects that have received subsidies from the Ministry of Agriculture, Nature and Food Quality, which are part of the Innovationagenda Energy of the Ministry. For more information on this topic, please refer to http://www.minlnv.nl/portal/page?_pageid=116,1&_dad=portal&_schema=PORTAL, last consulted on August 20, 2010.
in the Netherlands. Such factors can either be seen as barriers or opportunities to the emergence of an alliance between industries.

The fourth question consists of fourteen possible barriers or opportunities to influence cross-industry collaboration. The fourteen elements were to be graded on a 5-point Likert-scale to indicate the extent to which respondents recognized the elements to be either an opportunity or a barrier to cross-industry collaboration. Figure 5 shows how the fourteen elements are perceived by the respondents. The different topics were predetermined and presented to the respondents in order to provide guidance in the manner in which the respondents think about the fruits of inter-industry collaboration. In doing so, the answers of the respondents could partially be cross-referenced against their answers to the third question.

### Opportunities & barriers to cooperation bio-based industries

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Degree of political interest/</th>
<th>Operational/logistical aspects</th>
<th>Technical aspects (opportunities to innovation)</th>
<th>Future return from collaborations</th>
<th>Competition law requirements</th>
<th>Environmental legal requirements</th>
<th>Willingness to invest by parent company</th>
<th>Diversity within p&amp;b industry</th>
<th>Scope of different industries: focus on their own industries</th>
<th>Possibilities to develop new products</th>
<th>Higher energy-prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrier</td>
<td>3,04</td>
<td>3,54</td>
<td>3,71</td>
<td>3,64</td>
<td>2,71</td>
<td>2,42</td>
<td>2,71</td>
<td>3,04</td>
<td>2,71</td>
<td>3,92</td>
<td>3,79</td>
</tr>
</tbody>
</table>
Figure 5 shows that elements such as innovation and reduction of prices of raw materials indeed form strong reasons to collaborate (for similar results, see graph 4). From these findings and the findings from the previous questions, it becomes clear that the largest opportunity and the largest threat, according to the paper and board industry, lies with the access and price of raw materials. Furthermore, environmental regulations and a lack of successful political efforts to take environmental initiatives\textsuperscript{23} are seen as barriers to come to such collaborations. Another finding that is worth noting is that the respondents indicate that the technical aspects provide an opportunity. And perhaps most important, the respondents noted that alliances would enable the paper and board industry to increase profitability. When asked to elaborate on this finding, the interviewees indicated that the end-products from cross-industry collaborations were likely to increase profitability for the paper and board industry. However, interviewees did fear the appropriation of the value created from the collaboration. This is striking, because on the one hand, the respondents recognize that strategic alliances can increase profitability for the paper and board industry, but at the same time, there is a fear of not being able to appropriate enough out of the alliance. This fear stems from the relative strength of the parties to an alliance. If a certain party is stronger than the paper and board industry, it is more likely to appropriate value from the alliance. Strength is determined by bargaining power, and bargaining power determines value appropriation. As explained in the literature review section, value appropriation from an alliance is determined by the presence and quality of the inside resources, i.e. the resources that are

\textsuperscript{23}The reportedly failed environmental summit in Copenhagen is an example of the absence of successful public initiatives to combat the environmental challenges the world is currently facing.
directly contributed to the alliance, and the outside resources, i.e. the resources that are derived from either the corporate parent or the local network; the branch organization. The following questions elaborate on this last element more.

**Cross-industry collaboration: strengths & weaknesses**

As mentioned above, value appropriation is determined by bargaining power between parties. In order to determine what factors contribute to the relative bargaining power of the paper and board industry, question five of the questionnaire requested the respondents to list the strengths and weaknesses of the paper and board industry vis-à-vis two other industries. The goal is to be able to recognize those elements that can be characterized as resources, after which these resources can be divided into the different categories of inside and outside resources. In order to achieve this goal, the respondents were asked to list the perceived strengths and weaknesses of two other bio-based industries: the chemical industry and the agro-industry. With this information, a clear picture of the perceived strengths and weaknesses of either industry can be obtained and ultimately a notion of the different categories of resources can be obtained.

**Paper and board industry**

As stated above, the fifth question of the questionnaire pertained to the strengths and weaknesses of the paper and board industry vis-à-vis the other industries. As graph 6 depicts, the perceived strength of the paper and board industry lies with the level of cooperation within the industry (32%), the political lobby of the industry (24%) and the sustainability of the industry (19%). The perceived sustainability relates to the environmentally friendly production processes in the industry. Remarkably, the respondents, all paper and board industry-related, indicated that the level of cooperation within the industry is perceived as the greatest strength (measured in percentages overall). Question five is designed for the respondent to give information relative to the other two bio-based industries, so as to create an idea of relative strengths and possibly inside or outside resources. As stated in the methodology section, the paper and board industry is highly organized, with at the center of the industry the Knowledge Center of Paper and Board, located in Arnhem, the Netherlands. All the paper and board
producing companies or subsidiaries of foreign companies are tied to the branch organization for the paper and board industry. The reason for this high level of cooperation within the industry is that individually the firms have proven to be too small to build political capital, to access funds and to battle with other industries, such as energy companies, who are now focusing on bio-mass fuels, which is driving up the price of raw materials for the paper and board industry. By joining forces, the paper and board industry has been able to concentrate and optimize their political power, which is mentioned as the second largest strength of the industry. The political power of the industry is mainly attributable to the very dedicated and active chairman of the branch organization, mr. Mees Hartvelt, who is also CEO of Crown Van Gelder, one of the independent paper producing companies. His efforts to position the paper and board industry in the political arena are widely acknowledged by the interviewees. One potential danger in this respect is the issue of continuity: Since Mr. Hartvelt is approaching his pension, the paper and board industry may need to start focusing on his successor to take over in a number of years. If not, the efforts of Mr. Hartvelt may be limited only to his period of chairmanship of the paper and board industry, which would be a shame.

\textit{Strengths \textit{p\&b} industry relative to other two bio-based industries}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{chart}
\caption{Graph 6.}
\end{figure}
In terms of relative weaknesses, being part of a (foreign) multinational is seen as the most significant weakness (50%). Other factors include the relatively small size of the industry (25%) and the image of the industry (15%). With regard to this last factor, interviewees indicated that the image of the paper and board industry appeared to be one of an ‘old polluting industry’ with an ‘old economy product’, which could be seen as becoming irrelevant with the rise of technologies such as the computer and the e-reader. Furthermore, the public perception appears to be one of a polluting and environmentally unfriendly industry. One striking element in this respect is that although 19% of the respondents see the industry’s sustainability as strength, 15% indicate that this strength is, in fact, poorly communicated to the outside world. One can link this fact to the results from the first question, in which graph 1 shows that the focus of the respondents on output factors is smaller than their focus on input factors. This link shows that further focus on output factors and especially on marketing and communicating those efforts are vital elements of a successful value appropriation strategy. With regard to being foreign owned, the majority of the Dutch paper and board producing companies is owned by foreign companies (70% = foreign owned). This corporate parent brings about significant differences. The paper and board industry has recognized being tied to a corporate parent as a burden in the respect of entering into strategic alliance, as graph 7 depicts. Often heard arguments in this respect are lack of leeway in terms of investments, limited financial resources are allocated to the country organization, increasing pressure to sustain margins, strategic steering by the parent, etc. Put differently, the majority of the paper and board industry fails to recognize having a corporate parent as advantageous. Therefore, the paper and board industry does not recognize being owned by a foreign company as a resource.

However, when it is used properly, being part of a concern can indeed function as an outside resource, which can increase the bargaining power of parties in a strategic alliance. As explained in the literature review, outside resources fall into three different categories, depending on who owns them: outside local entity resources, outside corporate resources, and outside industry resources. The example was given of foreign multinationals with strong corporate
reputations. This corporate reputation can be used by the country organization in the bargaining game. Other examples of such resources are the funds of the parent, which are allocated to the country organizations, the knowledge that is owned by the parent, such as intellectual property or specific knowledge offered to the group of companies, etc. The focal point lies in identifying the type of resource and then focus on whether this resource is attributable to the country organization, the corporate parent or the industry or branch organization of the Dutch paper and board industry.

Weaknesses p&b industry relative to other two bio-based industries

Graph 7.

Agro-industry
With regard to the agro-industry and its strength relative to the other two bio-based industries, the respondents indicated that the strength of the agro-industry lies in its ability to innovate (31%), the large size of the industry (25%) and the public interest that the industry serves (25%) (see graph 8). This last element requires some further explanation. In the interviews, the interviewees noted that there is a public interest to the agro-industry, since this industry produces food or products both for the domestic market as well as for export purposes. This factor makes the agro-industry important to the Dutch national government, since it
plays a key role in the Dutch economy. Given this key role, the agro-industry allegedly enjoys significantly more support from the Dutch government than other industries. Furthermore, the agricultural industry is much larger in terms of revenue than the paper and board industry. In 2005, the agricultural industry in the Netherlands saw turnovers of around €50 billion. The revenue of the Dutch paper and board industry lies around €1.5 billion annually.\textsuperscript{24} With regard to the first strength, the Dutch agricultural industry is known for its innovativeness and it serves, backed up by subsidies, as the birthplace of agricultural innovations, which arise as a result of cooperations between the Wageningen University, the LNV-Innovationnetwork and the innovation program TransForum\textsuperscript{25}. Hence, it is not remarkable that the paper and board industry sees this innovativeness as the largest strength of the agricultural industry.

\textit{Strengths agro-industry relative to other two bio-based industries}

\begin{center}
\includegraphics[width=0.5\textwidth]{Graph8.png}
\end{center}

Graph 8.

\textsuperscript{24} Source: \url{http://www.minlnv.nl/portal/page?_pageid=116,1640321&_dad=portal&_schema=PORTAL&p_file_id=26034}, last consulted on August 2, 2010. Also see: \url{www.vnp-online.nl}, last consulted on August 2, 2010.

From a weakness-perspective, the main argument is the diversity of the industry (44%) (see graph 9). Given its numerous types of products, methods of production and materials the agro-industry uses, they appear to lack a strong and central organization, such as is present in the paper and board industry. Furthermore, the political image of the agro-industry is one of being in a constant need of support via subsidies and help from the government (28%). Therefore, the strength of the agro-industry (public interest of the industry) can also be considered as a weakness. As a result of the public importance of the industry, the Dutch government is constantly supporting the industry and providing handouts to farmers in need via subsidies or otherwise. One question that is worth asking is whether the innovativeness of the agricultural industry would still be perceived as its primary strength if the industry were more self-sufficient. Finally, the agro-industry is, even more than the paper and board industry, seen as risk-averse, highly traditional and internally focused. Given the age of the industry and the fact that the core business has remained relatively the same over the years (growing agricultural products on land), the interviewees noted that farmers in the agro-industry were not internally motivated toward change. Combined with the ‘hand-out strategy’ of the Dutch government, the respondents indicated that the agro-industry had little incentive to become more risk-taking, outward focused and less traditional.

Weaknesses agro-industry relative to other two bio-based industries

Graph 9.
Chemical industry

Finally, the chemical industry is subjected to an analysis of relative strengths and weaknesses. Graph 10 shows that the chemical industry is perceived to be strong as a result of its size (33%), the knowledge that is present in the industry (22%) and the strength of its political lobby (17%). These strengths appear to be intertwined and self-enhancing to a certain extent. The size of the industry is a consequence of the knowledge and subsequent products that are developed with this knowledge. Selling these products increases the profitability, which enables the R&D departments to create more products. Consequently, the industry grows and so does its importance for the Dutch government, since it creates and holds jobs and exports to other countries. This self-enhancing cycle has led to the strongest bio-based industry in the Netherlands, according to the respondents.

The financial strength of the chemical industry cannot be matched by the paper and board industry, given annual revenues of over €50 billion in the chemical industry as opposed to annual revenues of €1.5 billion in 2009 for the paper and board industry. These figures indicate that it will be difficult for the paper and board companies that enter into strategic alliances with chemical companies to match the financial strength of the chemical companies. However, possibilities arise when the outside resources such as corporate reputation of the parent is involved.

*Strengths chemical industry relative to other two bio-based industries*

Graph 10.

---

26 Source: [www.vncin.nl](http://www.vncin.nl), last consulted on August 2, 2010. Also see: [www.vnp-online.nl](http://www.vnp-online.nl), last consulted on August 2, 2010.
Although the chemical industry is seen as the most powerful of the three industries, the respondents did recognize a number of weaknesses. The chemical industry’s image is one of using hazardous chemicals and pollution (28%). Since the industry’s production process involves extensive usage of chemistry, physics and biology, the chemical industry is often considered to be polluting and hazardous. Furthermore, there are a number of large and dominant players in the chemical industry and they appear to lack a high level of cooperation within the industry (22%). This lack of cooperation may stem from the fierce competition within the industry and the fact that this industry invests heavily in R&D, which is likely to lead to a secretive and individualistic nature. Finally, the industry is believed to lack a clear vision towards sustainability (22%). This is perhaps the most subjective argument, since the chemical industry itself has indicated to be well on its way towards cleaner and more sustainable practices.

*Weaknesses chemical industry relative to other two bio-based industries*

<table>
<thead>
<tr>
<th>Weakness</th>
<th>Relative to Other Two industries</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large size of individual companies in industry</td>
<td></td>
<td>22%</td>
</tr>
<tr>
<td>Image</td>
<td></td>
<td>17%</td>
</tr>
<tr>
<td>Limitations by government</td>
<td></td>
<td>28%</td>
</tr>
<tr>
<td>Lack of vision on sustainability in industry</td>
<td></td>
<td>11%</td>
</tr>
<tr>
<td>Random</td>
<td></td>
<td>22%</td>
</tr>
</tbody>
</table>

Graph 11.

---

27 The chemical industry accounts for 25% of the total amount of research done in the Netherlands. Source: [www.vnci.nl](http://www.vnci.nl), last consulted on August 2, 2010.

28 For example, DSM has put efforts into creating a perception of the company of sustainable and environmentally friendly by enlisting in the Dow Jones Sustainability Index and they have set up various programs to increase their (image of) sustainability. See [http://www.annualreport2009.dsm.com/pages/EN/Report_by_the_Manging_Board/Sustainability.html](http://www.annualreport2009.dsm.com/pages/EN/Report_by_the_Manging_Board/Sustainability.html), last consulted on August 1, 2010.
In all, the strengths of the chemical industry relative to other bio-based parties paint a picture of large financial power, highly independent firms and large investments in R&D. However, at the same time, the chemical industry is considered to have a polluting image, to be poorly organized and to lack vision in terms of sustainability. Although financial power, intellectual property and corporate reputation will account for strong outside or inside resources, the chemical industry appears to need vision towards sustainability and an image boost. Such elements could be part of the reasons why a chemical firm would want to engage in strategic alliances with other bio-based industries that have a better image.

**Successful collaborations**
The success of cross-industry collaborations depends on a number of factors. The final question in the questionnaire provided eight elements that were to be graded on a five-point Likert-scale from 'non-determining for the success of a collaboration' (1) to 'determining for the success of the collaboration' (5). This method enabled me to recognize what success is for the paper and board industry in cross-industry collaborations. As for the amount of profit generated, it was seen as slightly determining (3,38). The personal match between managers of future partners was seen as almost neutral (3,08). With regard to the ability to operationalize set goals, i.e. whether goals could actually be met, it was seen as rather determinative of success (3,88). Geographical location of the prospective partner is believed to have little effect on the success of the collaboration (2,92). Transfer of knowledge was indicated to be only slightly determining for the success of the alliance (3,38). Having an atmosphere of cooperation between parties was seen as relatively determining (3,67). The development of new processes and new products, being one of the main opportunities and reasons to cooperate in the first place (see question 4), is indicated as rather determinative (3,75). Finally, the power balance between alliance partners was seen as almost neutral (3,08), indicating that a power balance between alliances is perhaps not essential to successful cross-industry cooperation.

These numbers indicate that, apart from one element (geographical vicinity of the partner), all elements listed below leaned towards being
determining for the success of the alliance. Noteworthy in this respect is that the elements that scored highest are measurable elements. For example, the degree to which goals can be met is measurable, as is the number of innovations springing from the cooperation. Less quantifiable elements, such as the personal click between managers or the power balance between parties seemed to be less determining for the alliance's success for the respondents.

**Determining factors for success of the collaboration**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Not determining</th>
<th>Highly determining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation of profit</td>
<td>3,38</td>
<td></td>
</tr>
<tr>
<td>Personal click managers future partners</td>
<td>3,08</td>
<td></td>
</tr>
<tr>
<td>Operational achievability of set goals</td>
<td>3,88</td>
<td></td>
</tr>
<tr>
<td>Geographical vicinity of partner</td>
<td>2,92</td>
<td></td>
</tr>
<tr>
<td>Degree of knowledge transfer between parties</td>
<td>3,38</td>
<td></td>
</tr>
<tr>
<td>Atmosphere of collaboration</td>
<td>3,67</td>
<td></td>
</tr>
<tr>
<td>Development of new products and processes</td>
<td>3,75</td>
<td></td>
</tr>
<tr>
<td>Power-relational structure between parties</td>
<td>3,08</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7.

What constitutes success in the alliance?

Aside from the aforementioned factors that determine success of the collaboration, I found that managers were not yet entirely sure what would constitute as a success in such collaborations. Since it is hard to determine, ex ante, how much value can be created, let alone appropriated, it appeared hard for the interviewees to indicate what success was in this situation. Whereas some mentioned the creation of new products and through these products increased awareness with the end-consumer of the paper industry as a clean and sustainable industry, others indicated that success would be measured in
increased margins. Others noted that coming to such alliances would be a success in itself, provided that the alliance would not cost them. In all, success seemed hard to measure or determine, but it is determined per company and perhaps even per employee. However, since success is most often associated with financial returns, a large part of success will have to do with financial returns from the alliance.

Summary
In sum, the findings derived from the questionnaire, the interviews and archival sources have provided for a rich amount of data that indicate what the factors are that may determine, ex ante, if and how the paper and board industry can enter into strategic alliances with other bio-based industries. Such factors include the relative strengths and weaknesses of the respective industries and the opportunities and barriers to strategic alliance formation. The fact that the paper and board industry recognizes a number of increasing threats in the near future, such as the availability of raw materials, indicates that this industry is, in fact, seeking strategic alliances out of necessity. By assessing what is perceived as important for the paper and board industry, these findings will help in shaping and re-examining the normative framework of intertwined value creation and appropriation. Thereby, it becomes clear where the possible bottlenecks and opportunities lie for the industry in cross-industry cooperation and how bargaining can take place. This bargaining will take place on the basis of inside or outside resources. The data presented in this section provides a notion which resources may be determining in influencing value appropriation from the alliance. For example, the strong political lobby of the paper and board industry serves as a outside industry resource vis-à-vis the other industries. Also, the level of organization in the industry can prove to be an outside industry resource that can impact the process of value appropriation. Outside company resources include corporate reputation, funding and intellectual property. Through such outside company and industry resources, the power of large chemical or agricultural concerns could be limited to the benefit of the paper and board company within the alliance.
The following section will go into detail on what these findings entail for the practicability of the normative framework of intertwined value creation and appropriation. A number of propositions will be formulated in order to stimulate further research and to come to a better understanding on what drives necessity-driven parties in entering into cross-industry strategic alliances.

**DISCUSSION**

In order to assess the practicality of the normative framework of intertwined value creation and appropriation, the paper and board industry was subjected to a qualitative analysis. The goal for the paper and board industry was to find out where the possibilities for the paper and board industry may lie in order to come to value appropriation from strategic alliances. Since the basis of the framework is theoretical, a practical analysis would enable the strengths and weaknesses of the model to become visible. Through this effort, I intend to begin building a bridge between this theoretical framework and the practicality of the business world. In order to do so, certain concepts must be clarified. Upon clarifying these concepts, I state a number of propositions that are in need of further examination and assessment.

With regard to the concept of value, the existing literature indicates that agreement on a definition of value is absent, since it is both ambiguous and subjective (see paragraph 5.1 of the Literature Review section). The assessment of the paper and board industry paints a slightly different picture. As the findings show, perceived success of a strategic alliance can be dependent on a number of factors such as knowledge sharing and the ‘click’ between responsible managers, but most respondents indicate that on a fundamental level increased profitability is the most important parameter that measures success. This indicates that for the majority of the paper and board industry value equals profit. Any secondary effects are welcome as long as they are likely to lead to an increase in profit. This profit oriented stance is understandable, given the situation of the paper and board industry: decreasing margins as a result of competitive pressures in the value chain and rising prices of raw materials. Such a necessity drive towards collaboration leads to a focus on obtaining higher margins and increasing profitability in order to survive. Other value concepts such as learning capabilities
(Hamel, Prahalad & Doz, 1989) and forms of ‘empire building’ are not recognized as surrogates of profitability as the definition of value in the paper and board industry. This definition of value is likely to be attributed to the position of necessity-driven alliance seekers, since any other definition of value does not seem to fit with their immediate needs for survival.

The search for profit has lead the paper and board industry to identify a number of factors that may contribute to an increase in profit. These factors can be divided into input-factors and output-factors. The findings indicate that, given the nature of the production process of the paper and board industry, the industry is naturally inclined to focus on input factors such as the price of raw materials and less on output factors such as image, packaging or marketing. Given the increasing pressure on the input side of the production process, it may be sensible for the paper and board industry to focus not only on the input side, but also on the output side of the production process. The aim in such a case would be to increase margins by creating new products which are valued higher by buyers as a result of increased sustainability, presentation or otherwise, for which buyers or end-consumers are willing to pay a premium. Innovation through cross-industry strategic alliances can be a vital step in increasing value through a renewed focus on output.

Another benefit of strategic alliances is a reduced dependency on the market for raw materials. As the findings indicate, the most important driver to collaborate with other industries is the reduction of the availability and accompanied rising of prices of raw materials. Therefore, the efforts to enter into strategic alliances with other bio-based industries are, in fact, necessity-driven. Strategic alliances provide for a manner of production that is less dependent on the market for raw materials and at the same time is intended to increase the perceived value for buyers. Strategic alliances can thus become a win-win situation for the paper and board industry.

In recent years, managers of companies have been alleged to merge and acquire not with the goal of rising profits, but for the purpose of ego building. See also: Varsha Virani, Mergers and Acquisitions – A Case of System Failure: http://www.indianmba.com/Faculty_Column/FC632/fc632.html, last consulted on August 2, 2010.
On the basis of these findings, I state that the reasons to enter into strategic alliances are dependent on the type of industry that the firm is in.

Hence, the following proposition is made:

Proposition 1: In an industry, which is oriented towards production and to a lesser extent towards sales/marketing, strategic alliances are more likely to be focused on factors such as access to raw materials and price reduction in the production process.

Intertwined value creation and appropriation

In spite of the possibility of creating such a win-win situation within its own industry, the paper and board industry considers itself at risk of losing the bargaining game within the alliance with more powerful parties that are not driven towards strategic alliances by necessity but out of opportunity. This is where the normative framework of value creation and appropriation comes in.

The assessment of the paper and board industry shows that value creation and value appropriation, in fact, appear to be intertwined processes that occur simultaneously. By examining and sizing up a prospective partner, parties are already assessing to what extent they will be able to appropriate value vis-à-vis this partner. By listing the perceived relative strengths and weaknesses of either party, the paper and board industry intends to influence the emergence of the strategic alliance in its favor. However, it may be at risk of limiting value creation, since its approach is already focused on value appropriation. By bargaining too fiercely or choosing the partner too selectively, the industry may destroy the potential to create value. Therefore, a delicate balance must be struck between value appropriation and value creation. Where the RBV notes that value creation is a ‘first order imperative’ and value appropriation is a ‘second order qualifying condition’ (Jacobides et al., 2006), these concepts appear to be intertwined and occurring simultaneously. Given the strong focus of the paper and board industry on appropriating value before a potential alliance partner is defined, reassures my conviction that value creation and value appropriation appear to occur simultaneously and intertwined.
Consequently, I have arrived at the following proposition:

Proposition 2: Value creation and value appropriation within strategic alliances appear to occur not as separate, but as intertwined and simultaneous processes.

As mentioned in the previous sections, parties that are occupied with value appropriation as value creation has yet to take place or is occurring at the same time, appear to be at risk of limiting the potential pool of created value by selecting potential partners too stringently. The findings of this study appear not to support such a claim. One reason for this is that the paper and board industry has yet to form alliances with other industries. Consequently, the discovery of whether value creation or appropriation has proven to be limited by a too stringent focus on the other will probably occur in retrospect of future alliances. Therefore, I rely upon future research to investigate the phenomenon of limiting value creation by focusing too hard on value appropriation and vice versa. It is my contention that indeed strong focus on either value creation or value appropriation is at risk of limiting the potential of the other.

Striking such a balance depends on a careful exercise of bargaining, whereby parties must be attuned to two forces, which present themselves in two occasions: Firstly, parties must be careful not to limit the potential of value creation by being too risk-averse in their selection process of prospective parties. Perhaps certain parties are perceived to be so strong that the desired amount of value appropriation may seem unlikely. In this selection phase, it is imperative to stay attuned to the strengths of such partners, but not to be scared away because of them. Secondly, once a party is approached to enter into a strategic alliance, parties must ensure that the creation of value is as large as possible and at the same time keep an eye on the appropriation of value. Parties must occupy themselves with setting the boundaries of the cooperation in order to ensure appropriation of the created value, however, at the risk of destroying the relationship between parties when this boundary setting occurs too fiercely. A balance between trust and methods such as contractual enforcement must be
struck to enable the pool of value to be as large as possible. Such a balancing act is separated into two stages, as depicted in figure 7.

*The double balancing act: value creation & appropriation in 2 phases*

![Diagram of the double balancing act]

Applied to the paper and board industry, the first phase appears to be handled with care. The driver for prospective partners has been the technological capabilities that could be obtained by joining forces, irrespective of the possible bargaining power of parties. Such a stance indicates a focus on value creation. Value creation and value appropriation are, as the normative framework indicates, intertwined. Striking a balance between trust vs. distrust, openness vs. selectiveness, and integration vs. disintegration are vital choices that must be made in order to be successful in creating and appropriating value. Unfortunately, such choices are made by both parties. A lack of trust with one party will, in all probability, lead to reduced trust with the other party, causing a downward spiral towards distrust and limited benefits from the alliance.

Strikingly, the respondents indicated that this power-relational aspects is of limited importance to them regarding the alliance. Respondents appeared to be
focused more on the technological and innovative capabilities than on power-relational aspects of the strategic alliance. A possible explanation for this may be that necessity-driven firms are not in a position to question power-relational aspects, since they may experience less freedom in choosing their prospective partners. In short, they may have to deal with what they can get.

Proposition 3: Necessity-driven partners in strategic alliances tend to focus more on the innovative possibilities of the alliance than on power-relational aspects within the alliance.

This is not so say that necessity-driven firms should not focus on such power-relational aspects. To the contrary, necessity-driven firms should be very careful not to enter into strategic alliances with stronger partners blindly and discover in hindsight that the profits the firm hoped for have never reached them. As stated above, a careful balance must be struck in order to come to the maximum appropriation of value, while ensuring that the creation of value is maximized as well.

Resources: determining their origin and potential
In the literature section, I introduced a dimension-ownership matrix, which identified the different ownership structures and dimensions of resources in the arena of strategic alliances. As mentioned, resources can either be attributed to the alliance directly, thereby becoming inside resources, or they can be used to influence the division of value indirectly, thereby becoming outside resources. The focal point of distinction then is whether the resource is attributed to the alliance or not.

With regard to the paper and board industry, there are number of resources that can be either inside or outside resources. For example, paper producing firms that are subsidiaries of multinationals are able to use the corporate brand name of their parent company as a resource. They can do so in two ways: firstly, by tying this name to the alliance project. Thereby, the project gains proverbial weight, because it carries a widely known international brand name. Such an approach would result in the corporate brand name to be an inside
resource. However, the Dutch paper and board subsidiary may also use the corporate reputation of the conglomerate in its favor, by stressing the importance and use of the methods, systems and processes that are in place at the conglomerate. Such an approach would not lead to the corporate reputation to be attributed to the alliance, but it would enable the subsidiary to position itself as a company with strong ties with the corporate parent. The degree to which this would impact bargaining power is dependent on the total palette of resources that are put to use, inside or outside, and in which manner.

Apart from attributing a resource directly to the alliance or not, the impact of a resource depends on ownership resources and how to put such resources to use. As explained in the literature section, the resources that are able to impact the process of value creation and value appropriation in an alliance can be either owned by the local entity itself, its corporate parent or the industry in which it operates. One example of this last category is the high degree of organization within the paper and board industry. Such a resource can be used in the formation of an alliance. The manner in which it is used determines the success of the alliance. One possibly fruitful option to use this resource is as an inside corporate resource: the paper and board companies could position its Knowledge Center for Paper and Board as the contract party for purchasing of raw materials from companies from the other industries. This way, the chemical and agricultural concerns may be more enthusiastic about supplying raw materials to paper and board industries, since it saves them the burden of selecting and negotiating with the smaller paper and board producing companies. By putting an industry-wide organizational body at the head of such an operation, the paper and board producing companies would optimally use their strength vis-à-vis the other bio-based industries: its high degree of organization.

A different option for the paper and board companies in terms of optimally utilizing its industry resources, would be to focus on politicizing the strategic alliance. Since one of the strong suits of the paper and board industry is its political capital, the paper and board companies would do well to steer the alliance in the direction of a three-party arrangement: a company or companies from the paper and board industry, a company or companies from one of the two other bio-based industries and the Dutch government. By politicizing the alliance,
the paper and board industry has a large chance of being able to set the terms of the alliance and thereby shape the process of value appropriation. In doing so, the political capital of the Dutch paper and board industry becomes an inside industry resource and it is thus likely to impact both value creation and value appropriation.

Another way to use the high degree of organization is to allow for the alliance to become an industry-wide initiative for the paper and board-industry. This would open the door for the Dutch government to join via subsidies, marketing efforts, quality labels or otherwise. This may persuade the chemical and agro-concerns to join such a program. When there are more large competitors in an industry-wide alliance, this is likely to diminish the bargaining power of the individual concerns. The reason for this is that when the Dutch government is closely involved in this project, all the private parties in the alliance have a higher goal, which is to increase, or at least not to waist, their political capital. Consequently, the strengths of the agro- and chemical firms are diminished, which leaves more possibilities for the paper and board industry to bargain for value appropriation. Furthermore, the paper and board industry enjoys an image with the Dutch government of sustainability and continuously seeking methods to innovate. This is an element in which the Dutch agro and chemical industries are, allegedly, lagging behind. By emphasizing the innovative and sustainable goal, the chemical and agro-industry may see the benefits of such an alliance and thereby become more eager to participate. Consequently, their bargaining power will diminish.

Apart from strategic alliances that focus on the industry owned resources, paper and board industries must also assess their other resources; both at the level of the local entity as well as at the level of the corporate parent, if applicable. As mentioned above, foreign multinationals bring along reputation. Such corporate reputation can be used by the country organization in the bargaining game. Furthermore, the funds that are allocated by the corporate parent, limited as they may be, may also be a blessing in economically difficult times. The parent, being able to spread and reallocate funds from various countries or even parts of the world, provides the opportunity for the Dutch

---

30 70% of the Dutch paper and board producing companies is part of a larger multinational conglomerate.
country organization to have funds to invest even when the results of the country organization itself did not permit new investments. When it is the corporate parent deciding over the budget, country organizations are in a position to benefit from the pool of funds of the parent, the proprietary knowledge of the parent, the technological capabilities of the parent, etc. Independent producers, on the other hand, are bound to their own financial situation, level of proprietary knowledge, etc. Such a stance appears to be absent with the management of the paper and board producing companies, as they indicated being part of a foreign multinational as the biggest hinder for successful collaboration with other bio-based industries. Although top-down strategic decision making may hamper the development of strategic alliances with other bio-based industries, there are significant benefits to having a corporate parent with financial power, a strong corporate brand name and reputation.

Summing up, it appears that the strength for the paper and board companies that wish to enter into an alliance with other bio-based companies outside of the paper and board industry lies with the resources that it does not directly own, but it nevertheless can use these resources in the bargaining process. Based on these type of resources that are considered strengths by the paper and board industry, the following proposition is made:

*Proposition 4: A strong focus on those resources that are not owned by the local alliance entity ensures the largest potential for value appropriation in the strategic alliance.*

On the basis of the results presented in the previous section and the proposed use of resources above, we can make a preliminary analysis of what resources can be used in what way to ensure value appropriation by the paper and board industry. However, since this study is conducted ex ante and serves as a normative exploratory analysis, one cannot state which resources will be positioned in which manner. Furthermore, remains difficult, even ex-post, to determine which factor is accountable for which part of the bargaining power of the firm (see the section on limitations and further research). For the sake of clarity, the position of resources in the dimension-ownership matrix is dependent on two things: (i) the
resource has to be available to the alliance firm; (ii) the dimension of the resource is determined by the way in which the firm wishes to utilize its resource. In the matrix below, the resources are assigned to the different sextants as a result of the tactics proposed above.

<table>
<thead>
<tr>
<th>Ownership structure of resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned by legal entity (1)</td>
</tr>
<tr>
<td>Firm and alliance dependent</td>
</tr>
<tr>
<td>Inside resources</td>
</tr>
<tr>
<td>Owned by corporate parent (2)</td>
</tr>
<tr>
<td>Proprietary knowledge, funds, technology</td>
</tr>
<tr>
<td>Outside resources</td>
</tr>
<tr>
<td>Owned by industry (3)</td>
</tr>
<tr>
<td>High degree of organization</td>
</tr>
<tr>
<td>Firm and alliance dependent</td>
</tr>
<tr>
<td>Corporate reputation, brand, financial power, network, etc.</td>
</tr>
<tr>
<td>Political capital</td>
</tr>
</tbody>
</table>

Figure 9. Dimension-ownership matrix of resources

(1) The resources of the individual legal entity were not subject to this study. Any commitment of resources that are owned by the legal entity is seen as inside resource and other legal entity resources that may impact the process of value appropriation are considered to be outside resources.

(2) This section applies to 70% of the Dutch paper and board companies that are owned by foreign multinationals. It is dependent on the manner of implementation whether the resources in this category are inside or outside resources.

(3) Depending on the manner of implementation whether the resources in this category are inside or outside resources.

With regard to the paper and board industry, the findings do not provide guidance as to how the bargaining process will take place between the paper and board industry and the other bio-based industries. It does, however, allow the industry to examine, ex ante, what factors are deemed both necessary and important for the success of the strategic alliance from the perspective of the paper and board industry. Emphasis on certain resources and using them carefully, such as the examples of political capital and level of cooperation within the industry illustrate, can provide the paper and board industry with more bargaining power, which may lead to more value appropriation.
It becomes clear that this industry is facing financially stronger alliance partners that are likely to have stronger positions in their markets and, consequently, they may prove to be less eager to enter into strategic alliances than the paper and board industry. Put differently, the chemical and agro-industry appear to be less necessity-driven. This difference is probable to be translated into more bargaining power for the chemical and agricultural industry. Also with regard to inside resources, most of the firms in the paper and board industry have very limited funds to contribute to an alliance and they are under pressure from their corporate parents to improve results immediately at little extra cost. Therefore, since the paper and board industry is likely to be very limited in its contribution to the alliance, the other party will have to invest substantial capital and manpower. The focal point of the paper and board industry should then be to influence the direction and conditions of the alliance, since a stronger focus on inside resources will, in all probability, not yield satisfying results for the paper and board industry. By taking initial steps to come to strategic alliances, it already enjoys a first mover advantage over the other industries. It is able to set the terms of the alliance, to a certain degree, and thereby influence the process of value appropriation. As the findings show, strengths of the paper and board industry are its political ties, its image with the Dutch government, its high degree of cooperation within the industry, its drive towards innovation and its focus on sustainability. These are the resources that should be emphasized and focused on in designing the business model of the strategic alliance. In the paragraph above I mentioned a number of possibilities for the paper and board industry to play to these strengths. In the end, only careful allocation of these resources either as inside or outside resources will enable the paper and board industry to position itself for value appropriation in the bargaining game with more powerful players such as the chemical industry and the agricultural industry.

In all, there are a number of practical methods to increase your bargaining power or diminish the bargaining power of your prospective partner. From politicizing the alliance, to the branch organization being front and center in negotiating with other industries, the paper and board industry has opportunities to design an alliance along its desires and needs. Moreover, the paper and board
industry has a first mover advantage to take a necessary step towards the climate goals of 2020, set by the Dutch government. It is now time to maximize the potential of this advantage. By focusing not only on what parties directly contribute, but also on what outside resources can be used in the bargaining process, the paper and board industry is in a good position to both create and appropriate value or profit from prospective collaborations with the other bio-based industries.

**CONCLUSION**

This study set out to assess the possibilities for the paper and board industry to appropriate value from strategic alliances with other bio-based industry. The goal of such alliances is to limit the dependency of the industry on the market for raw materials and to seek a means to regain lost profitability and strength in the value chain. In order to address this issue, I approached the question at hand from a combined theoretical perspective. By linking concepts of transaction cost theory and the resource-based view, I was able to construct a normative framework on how value is created in strategic alliances and how it is divided among the alliance partners. Central to this framework is the notion, adapted from both resource-based view and transaction costs theory, that value creation and value appropriation are not separate processes, as stated by Jacobides et al. (2006) in their resource-based perspective, but intertwined and simultaneously occurring processes. Moreover, parties to an alliance are at risk of limiting the value creation within the alliance as a result of a too strict focus on value appropriation ex ante.

Furthermore, the appropriation and intertwined creation of value is determined by the relationship between parties and the bargaining power they enjoy. This bargaining power is not merely influenced by what resources are contributed directly to the alliance, such as funds, raw materials and labor (or ‘inside resources’). Resources outside of the dyadic relationship of the alliance, such as corporate reputation, competitiveness in the home-industry, financial power and ownership structures can determine the outcome of the bargaining game between the parties of the alliance. Therefore, alliance parties should be attuned not only to what they contribute to the alliance, but also what other
factors or outside resources they can put to use, so as to influence the bargaining game over the value of the alliance.

Such an awareness to focus on outside resources is particularly relevant when a party is faced with a possibly stronger alliance partner. Bargaining power is influenced by a multitude of factors, which can be categorized into inside and outside resources. Complementary to these resources, bargaining power is determined by the drivers to enter into strategic alliances. In case such drivers inhibit elements of necessity, as is the case with the paper and board industry, this is likely to impact the bargaining process between parties, especially when this need to collaborate is known by the prospective partner. Focus on which resources can be put to use in which manner may help the necessity-driven partner to appropriate its share of the value pie.

With regard to the paper and board industry, the analysis has shown that this industry is indeed necessity-driven in its desire to enter into strategic alliances. The pressure on access and prices of raw materials and limited added value in its value chain has caused the industry to look outside its own borders towards other bio-based industries, such as the Dutch chemical industry and the Dutch agricultural industry. As the examples in the findings section show, such collaborations show promising potential in terms of their technological and innovative possibilities. However, the justified and realistic fear of the paper and board industry is with regard to the extraction of value from an alliance, when it is facing a stronger alliance partner. As my analysis shows, there are a number of strong suits that the paper and board industry has over the other industries. The task for the management of the companies in the paper and board industry is to make sure that these strengths are utilized in order to increase the bargaining power of the paper and board industry vis-à-vis the other industries. I have elaborated on a number of such possibilities in the discussion section. In all, it remains to be seen whether the paper and board industry will be able to use the resources at hand to its benefit vis-à-vis the other bio-based industries. Possibilities include integration with the branch organization, politifying the alliance and internal industry-coordination to offset the pressure from more powerful bio-based companies. An important overarching element in this respect is to commence with care. If done so, the paper and board industry, in all
likelihood, would be able to increase their margins, reduce dependency on the
market for raw materials and position itself in the perception of the public as the
bio-based innovator that it is.

The popularity of strategic alliances has increased substantially in recent decades.
The notion of being able to use a certain resource without owning it is very
attractive to managers in all industries. However, this organizational form which
inhibits elements of both a market and a hierarchy comes at a cost. Since an
alliance is in essence a slave of two masters with diverging interests, strategic
alliances are likely to fail before they are able to reach their full potential.
Therefore, from a single alliance party-perspective, a careful ex ante analysis of all
parties to the alliance is vital to its success. Expectations should be managed in
order to prevent unrealistic goal setting and all relevant resources should be
identified in order to develop a notion of the possibilities of reaping the benefits
from a strategic alliance. Most importantly, parties must strike a delicate balance
between taking actions that enable value creation and taking actions that enable
value appropriation, since the two are not likely to go hand in hand in an
intertrust situation as a strategic alliance. Such a delicate balance will, in spite of
the drivers of alliance formation, enable parties to appropriate their fair share of
value from an alliance.

Limitations and avenues for future research
The normative framework that is introduced in this study was tested through an
analysis of the Dutch paper and board industry and its process of thought
regarding entering into strategic alliances with other bio-based industries.
Through this test, a number of elements about the framework have become more
clear, whereas other elements are in need of further study.

First of all, the difference between the framework and the existing RBV and
TCT literature (to my knowledge) is the notion that the concepts of value creation
and value appropriation appear to be intertwined. In my analysis, I have found
that such an intertwined process will, in all probability, take place in strategic
alliances of the bio-based industries. However, further research is needed to test
this framework in the post-selection phase. Research should focus more on a two-
step process, whereby the parties bargaining power of parties is analyzed before and after the formation of an alliance. This would allow for the propositions posited above to be tested and it would reduce the normative nature of the current framework and shed valuable light on how bargaining can take place in strategic alliances. Hopefully, this study was able to take a first step to this goal.

Second, future research would do well to focus on further excavating the drivers of a strategic alliance, since they form the basis on which decisions are made. As assumed, entering into strategic alliances out of necessity is likely to result in a weaker bargaining position than out of opportunity. However, to what extent this necessity drive impacts the bargaining position of parties, should be a topic for further study.

Third, with regard to the focus on resources, albeit inside or outside, this element has proven to be a tough nut to crack. From a theoretical perspective, the claim of focusing on both outside resources and inside resources appears both logical and valid, in practice it may be harder to execute. The bargaining power of parties is influenced by numerous factors, whereby some factors are likely weigh more than others on the scale of value appropriation. Although it is imperative for both parties to emphasize their strong points, it may be that the other party will still enjoy more bargaining power. It may be true that a certain resource can increase bargaining power, but it remains uncertain as to how a weaker party can untilize this potential. Perhaps no golden standard exists in this respect. Determining what factors can serve as outside resources is a first step, but the required second step is how firms use these resources in their negotiations. This study has laid out the groundworks of this second step, by analyzing the Dutch paper and board industry in their quest for value appropriation in strategic alliances. Future research should focus on furthering this process and potentially pave the way towards uniform standards of quantifiable bargaining power. Due to the qualitative nature of this study and of the concept of bargaining power in general, it has proven to be difficult to measure and quantify bargaining power. Future research may be able to make such bargaining power measurable by taking a different methodological stance, such as, for example, extensive longitudinal quantitative research, which would increase the generalizability of
the framework and would allow for initial steps to be taken in the direction of linking bargaining power directly to profits.
REFERENCES


Chisholm, D. (1989), Coordination without Hierarchy, Informal Structures in


Hamel, G. (1991), 'Competition for Competence and Inter-Partner Learning


