



contracting for knowledge transfer. The study builds on notions of knowledge transfer, based on empirical research conducted between 2003 and 2007 to examine real-world contracts in manufacturer-retailer networks. In this study, knowledge transfer is not understood as what organizations have learned cognitively, but to what extent they have developed the capability to engage in give-and-take activities that generate joint gains. The study draws conclusions on the role of contracts for knowledge transfer and more widely on the dialectic nature of knowledge in business networks.

## INTRODUCTION

Within the recent management and organizational literature there is a growing interest in contracts as repositories of knowledge and platforms for learning process (Mayer and Argyres, 2004; Argyres and Mayer, 2007; Argyres, Bercovitz and Mayer, 2007). At a time of rapid technological developments in the area of telecommunication and biochemistry, global competition, and value creation shifting from natural resources to intellectual assets, it is now widely acknowledged that companies are confronted with the challenge of continuous knowledge transfer which is only possible through give-and-take processes with other organizations. For many firms, the need sustain a continuous knowledge transfer through inter-firm contracting is increasingly crucial because a great deal of their business activity appears to be occurring via strategic partnerships, alliances or other forms of inter-firm arrangements.

The recent stream of research marks a significant departure from previous research about the role of contracts. Contract scholarship has started to be concerned with learning and evolution which are central themes in inter-organizational studies. More importantly, contract scholarship has started to look at the exact form or design of contracts and considers contract design as a firm capability. Argyres and Mayer (2007) make the case that in complex and repeated exchange relationships, developing contract design capabilities involves learning how much and what types of provisions to include in a contract. Recent research in high-technology contracts moves on to examine these critical types of contractual provisions, such as contingency planning and task description, and provides evidence that repeated exchange between two firms may lead to greater effort at contingency planning in subsequent contracts (Argyres et al., 2007). These empirical findings are consistent with learning effects, but the observation of repeated exchange between companies raises also the question of how companies cope with the problem of designing a continuous contracting in circumstances of a) information asymmetries and b) unforeseen contingencies, circumstances which are typical in many business networks. Contingency planning in subsequent contracts is useful if contracting parties can specify certain contingencies (Bazerman and Gillespie 1999). Contingent contracts, however, cannot to deal with inherent uncertainty. Uncertainty is not the same as risk: while risks can be calculated, uncertainty is an amorphous topology for which companies cannot assign any probabilities (Duncan, 1972; Downey, Hellriegel, and Slogum 1975). For this reason, it is nearly impossible for contracting firms to define all the terms and contingencies in complete contracts (Hart and Moore, 1988; Schwartz, 1992; Tirole, 1999 Maskin and Tirole, 1999; Schwartz and Scott, 2007). The present study attempts to make a contribution in this area by looking at a particular contract design that firms use to contract for knowledge transfer.

The problem that companies face in contracting for knowledge transfer is that the conditions under which transfer of knowledge may occur need to be explicitly stated and manifested as joint consent between the involved firms. Even within existing inter-firm relationships, the question of designing an agreed platform for effective knowledge transfer poses a real challenge for many organizations. In other words, companies can leverage the particular skills of other actors which are necessary for them only through informed and voluntary exchange with others (Buchanan, 1998; Håkansson and Ford, 2002). Companies face this problem on several occasions: Consider the marketplace for fast-moving consumer goods in which a manufacturer of laundry and cleaning products needs the unique know-how of raw-material suppliers, the innovative know-how of packaging firms, the creative potential of advertising and promotion agencies or the scanner data and consumer profiles obtained daily by grocery retailers. Similarly, each individual supplier, packaging firm, advertising agency or grocery retailer needs the unique knowledge of other firms. In this way, the essence of contracting for knowledge transfer is “integration of individuals’ specialized knowledge” (Grant, 1996, p. 375). Agreement or joint consent among contracting parties is the “moral component that distinguishes between valid and invalid transfers” (Barnett, 1986, p. 270). Contracts are, therefore, manifestations of enforceable agreements that specify how resources are acquired or transferred from one party to another (Steyn, 1997; Schwartz and Scott, 2003). Contracts, thus, establish a relation of recognition and respect among those who decided to participate (Markovits, 2004). Nonetheless, within continuous evolving interactions among firms over time, the knowledge that firms need is “inherently indeterminate and continually emerging” (Tsoukas, 1996, p. 11).

The problem that companies face can be approached by asking two main questions.

First, what makes it possible for one firm to learn from other firms the things that are valued in the marketplace?

Second, which form of contracting with other firms is suitable for knowledge transfer?

These questions have been treated traditionally by developing either an organizational learning approach (Argyris and Schön, 1978; Hedberg, 1981; Brown and Duguid, 1991; Nokata and Takeuchi, 1995; Lyles and Salk, 1996; Easterby-Smith, Burgoyne and Araujo, 1999; Easterby-Smith, Crossan and Nicolini, 2000) which emphasizes the companies' effort to generate, acquire or transfer knowledge or by developing a relational approach (Podolny and Page, 1998; Dyer and Singh, 1998; Stevenson and Greenberg, 2000; Gulati et al., 2000; Macneil, 2001; Gnyawali and Madhavan, 2001; Uzzi and Lancaster, 2003; Inkpen and Tsang, 2005) that accentuates the structural embeddedness of firms considering inter-firm relationships as the unit of analysis. Both streams of enquiry redefine the basic way of what we think companies do. Within the first stream of enquiry, organizational capabilities are portrayed in a novel and relevant way as knowledge integration (Grant, 1996; Loasby, 1999; Bångens and Araujo). We know, however, very little about companies' give-and-take activities that integrate disperse knowledge. Notwithstanding the significant progress in understanding structures and processes of inter-firm learning, the empirical evidence with regard to how one firm can learn from other firms and what types of inter-firm agreements contribute to knowledge transfer remains limited (Sabel, 1994; Mayer and Argyres, 2004; Argyres and Mayer 2007). The second stream, the relational approach, has made clear that relationships matter and has expanded our view to whole inter-firm networks (Nohria and Eccles, 1992); the relational approach, however, has not deepened our understanding of how organizations consent to a continual and informed exchange. This might be attributed to a) an overemphasis on collaborative relationships (for a critique see, e.g. Blois, 2003) and b) the belief that frequently companies seek to avoid the use of written contracts with their suppliers and customers (Macaulay 1963, 2003; Smitka, 1994; Roxenhall and Ghauri, 2004).

This study addresses the above two questions by looking at contract forms described as 'umbrella agreements' (Mouzas and Ford, 2006; Mouzas, 2006; Mouzas and Furnston, 2008). Umbrella agreements are contracts that circumscribe the fundamental rules and principles as focal points that guide the conclusion of subsequent contracts. An umbrella agreement is usually not concerned with the specification of volumes and prices for single exchanges; instead, an umbrella agreement is the joint consent between contracting parties that focuses on sensitive issues such as information exchange, electronic data interchange, notification procedures, property rights, renegotiation or termination rights which appear to significant if the parties contemplate repeated exchanges. The study builds on notions of knowledge transfer, based on empirical research conducted between 2003 and 2007 to examine real-world contracting in manufacturer-retailer networks. I argue that knowledge transfer is not what companies learn cognitively, but the indeterminate outcome of repeated exchanges that generate joint gains valued by the firms which participate in the marketplace. As the complexity of repeated exchanges increases, companies choose to retreat from immediate contracts and arrange umbrella agreements because they balance the need for certainty and calculability of repeated exchanges with the need to remain sufficiently flexible to respond to unforeseen contingencies and embrace new or emerging business opportunities.

Investigating contracting for knowledge transfer brings three important benefits: First, give-and-take activities among firms can help us to understand inter-firm knowledge transfer. This is possible if we go beyond the logic of possession and examine the transfer of knowledge as an integrative part of the exchange process among companies. Second, contracts can help us understand how exchange is articulated and manifested in a real life context. The investigation of contract forms described as 'umbrella agreements' adds to the existing stream of research on contracts as repositories of knowledge and platforms for learning process (Mayer and Argyres, 2004; Argyres and Mayer, 2007; Argyres, Bercovitz and Mayer, 2007), as it delivers new insights about how companies cope with information asymmetries and unforeseen contingencies designing a continuous contracting for knowledge transfer. These new empirical insights are useful because they re-frame how knowledge is acquired or transferred. Third, understanding how knowledge is acquired or transferred can help us understand and improve exchange. In this way, knowledge transfer has a re-ordering and re-confirming function. Knowledge transfer is neither pre-specified nor predetermined, but is subject to joint consent over recursive time. For this reason, the study presents and analyses the empirical evidence according to three conceptual dimensions: a) repeated exchange, b) focal points and c) recursive time. The study

provides conclusions, sets out a research agenda, and defines research questions to advance the study of inter-firm knowledge transfer.

## **INTELLECTUAL ORIGINS AND PREVIOUS RESEARCH**

The present study builds on previous research that can be organized into two areas: The ‘knowledge transfer as exchange’ and the ‘contract as an umbrella agreement’. The output from this research can be outlined as follows:

### **Knowledge Transfer as Exchange**

The dichotomy between knowledge and knowing, suggested by Cook and Brown (1999), calls for a closer examination of logic of exchange as opposed to the logic of possession. Cook and Brown (1999, p. 387) specify that “[b]y ‘knowing’ we do not mean something that is used in action or something necessary to action, but rather something that is part of action (both individual and group action)”. This shares some similarities with the widely accepted distinction between ‘know-what’ and ‘know-how’ (Brown and Duguid, 1998; Loasby, 1999). While ‘know-what’ is usually understood as information that can be articulated, stored and disseminated, ‘know-how’ is associated with the actors’ own capabilities or their knowledge to access idiosyncratic capabilities of others. For this reason, ‘know-how’ is often situated in communities of ‘exchange’ practice that are understood as fluid relationships, enacted among a self-selected group of actors sharing identities, routines and experience (Wenger, 1998; Lave and Wenger, 1991; Thomson, 2005).

Previous research acknowledges that actors’ exchanges are situated in the sense of embeddedness in a social, cultural and physical context (Lave and Wenger, 1991; Lave, 1998; Suchman, 1987; Tyre and Hippel, 1997; Wenger, 2000). Research in this area recognizes the importance of various structural elements such as domains, objects, artefacts, or manifestations around which actors’ practice can be organized (Wenger, 1998; Thompson, 2005). What is missing in this knowledge-based discussion of communities of practice is the explicit recognition of the role of exchange. Instead of portraying practice as the action of single actors, we may envisage a process of *interaction* between individually significant and interdependent actors. Interaction among actors does not simply lead to individual activities; it leads to give-and-take processes among actors. Knowledge can be seen as a non-rival good; this means that the use of knowledge by one actor does not limit its use by another (Cornes and Sandler, 1986; Romer, 1990). Everyone can use a certain method, system, idea or design. Companies, therefore, need to protect their knowledge as property rights by copywriting, patenting or by keeping it secret. Consequently, the question arises as to why exchanges among actors are necessary.

Perhaps part of the answer lies in the actors’ need to integrate dispersed knowledge. Developing a knowledge approach to economic problems, Hayek (1945) articulated in a forceful and clear way the idea that the economic problem in a society is, in fact, a problem of the utilization of knowledge not given to anyone in its totality. Hayek formulated this problem in the following way: “*The peculiar character of the problem of rational economic order is determined precisely by the fact that knowledge of circumstances of which we must make use never exists in concentrated or integrated form, but solely as dispersed bits of incomplete and frequently contradictory knowledge which all separate individuals possess. The economic problem of society is thus not merely a problem of how to allocate given resources. It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know*” (1945, p. 519). Moving from the macro-realities of the society to the realities of individual companies, Tsoukas (1996) paraphrased Hayek’s problem by stating that “*the organizational problem firms face is the utilization of knowledge which is not, and cannot be, known by a single agent*” (p. 11). In an attempt to redefine our view of the firm as a distributed knowledge system, Tsoukas (1996) considers firms as being in constant flux, and argues that at any point of time, a firm’s knowledge is the indeterminate outcome of actors attempting to manage the inevitable tensions between a) normative expectations, b) dispositions from the past and c) local contexts. The logical consequence of these tensions is that the potential for the emergence of new exchange practices is never exhausted. Normative expectations, for example, take the form of rules or pressures to act in a certain way. Dispositions refer to experiences; they can also take the form of plans, reviews, statistics and matrices in which information appears. Finally, local context comprises all specific space-temporal conditions such as the maturity of industry, existing inter-firm structures as well as access to the *right* people at the *right* time. Given the inherent difficulty to escape pre-existing dispositions new exchanges may be counter-balanced by existing routines and established ways of doing things: ‘*Individual and organizational limit to learning and the power of the pre-existing formative context make it very difficult for businesses to leave the vicious circle*’ (Ciborra and Hanseth, 2000, p. 3; Ciborra *et al.*, 2000). The utilization of

dispersed knowledge through new exchanges among actors brings with it further tensions such as the conflict between accessing and acquiring knowledge. Grant and Baden-Fuller's (2004) theoretical framework, for example, distinguishes between 'knowledge exploration' (accessing) and 'knowledge exploitation' (acquiring). This crucial distinction is in line with other empirical studies (Mowery, Oxley and Silverman, 1996; Nakamura, Shaver and Yeung, 1996).

Having established that exchanges are needed to utilize dispersed knowledge which is not, and cannot be, known by one individual actor, we now need to explore which architecture or 'architectural knowledge' (Henderson and Clark, 1990) supports and facilitates the integration of different sets of specialist knowledge into a 'common knowledge' (Grant, 1996; Grant and Baden-Fuller, 2004). In this respect the role of contract design is critical.

### **Contract as an umbrella Agreement**

A contract is a manifestation of an enforceable agreement among parties. The contract, therefore, is concerned with the enforcement of agreed exchanges to protect the reasonable expectations of the related parties as expressed or implied in an objective manifestation of an agreement (Steyn, 1997). The theoretical underpinnings of contracts can be traced back to the *will theory* developed by Friedrich von Savigny (see Simpson, 1975; Ibbetson, 1999). It is a theory of rules that recognizes, encourages and facilitates free and voluntary exchanges. In this sense, a contract "establishes a relation of recognition and respect" among those who participate (Markovits, 2004, p.1417); and its formality gives legal effect to actors' exchange relationships.

Contemporary studies<sup>1</sup> of exchange relationships among firms indicate the existence of formidable barriers which make it nearly impossible for the firms to reduce important terms of their arrangements into immediate and complete agreements (Schwartz, 1992; Gergen, 1992; Scott, 2003; Schwartz and Scott, 2003). Such barriers to the creation of immediate and complete agreements usually include information asymmetries and significant transaction costs that can involve a) unforeseen contingencies, b) drafting costs, c) enforcement costs, and d) renegotiation requirements (Tirole 1986; Hart and Moore 1988; Segal, 1999; Arino and Reuer, 2004). These barriers may explain why some firms prefer not to use contracts at all in many business relationships (Macaulay, 1963, 2004; Campbell and Harris, 1993; Collins 1999; Campbell, Collins and Wightman, 2003). Other firms retreat from immediate and complete agreements and arrange umbrella agreements. The function of an umbrella agreement differs from the function of other forms of contracts which define all terms of an exchange. An umbrella agreement between related parties is not concerned with immediate contractual decisions for all future eventualities. Instead, an umbrella agreement is a joint consent which explicitly spells out a set of rules that flexibly guide future contractual decisions (Crone, 1993; Krüger, 2003).

Rules enshrined in umbrella agreements refer to implicit or explicit directions of 'expected behavior' that embody the actors' preferences (Nee, 1998: p. 87). Repeated exchange among actors leads to the development of principles which operate as 'optimization commands' (Dworkin, 1967) and the characteristic norms of conduct within each inter-firm practice will owe something to the predilections of the interacting actors. Rules and principles may, therefore, limit the types of relationships in which the actors are able to participate (Håkansson and Ford, 2002). They act as focal points that help actors achieve a coordination of their efforts. Based on an informal experimental investigation, Schelling (1960) defined focal points as a set of mutually perceived expectations, shared appreciations or preoccupations, and sensitivities. Mehta, Starmer and Sugden (1994) replicated Schelling's (1960) research in a more formal setting with incentives in which they confirmed that actors achieve much better coordination if they rely on a set of prominent and salient points. In this way, rules and principles are focal points which may guide interaction among firms (Håkansson and Ford, 2002). They increase the "predictability" of group members' behavior and give expression to a group's "central values" (Feldman, 1984, p. 47). A contract as an umbrella agreement can be used to regulate all crucial aspects of an on-going exchange practice. For example, it specifies and regulates interaction processes, information systems and enabling technologies as well as performance measurement. The parties to such an umbrella agreement are not required to specify new terms in their future exchanges nor are they required to refer to the pre-existence of an umbrella agreement (Mouzas and Ford, 2006).

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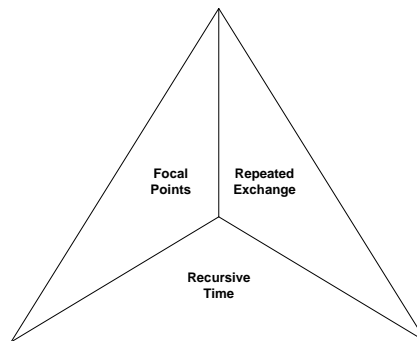
<sup>1</sup> A parallel stream of enquiry which is beyond the remit of this paper is labelled relational contracts, for a detailed review and critique see, Macneil (2001), Eisenberg (2002) as well as Campbell, Collins and Wightman (2003).

Contracts as umbrella agreements are particularly useful in knowledge-intensive exchanges where the institutionalization of cognitive frameworks, in the sense of shared mindset, provides the ‘architecture’ for repeated and regular exchanges (Boisot, 1995; Karamanos, 2003). They can, therefore, be compared to discursive institutions which codify the parties’ knowledge about efficient ways to interact (Sabel, 1994). Discussing the idea of ‘discursive institutions’, Sabel (1994, p. 138) explains that institutions (such as umbrella agreements) can transform transactions into discussions “by which parties come to reinterpret themselves and their relation to each other by elaborating a common understanding of the world”. Furthermore, a contract as an umbrella agreement may solve the central conflict between learning and monitoring. In Sabel’s (1994) view, learning is about “acquiring the knowledge to make and do the things valued in markets” while monitoring is about the determination by the exchange parties “that the gains from learning be distributed according to the standards agreed between them” (1994, p.137). Contracts are, therefore, seen as ‘knowledge repositories’ (Mayer and Argyres, 2004); they represent an effective coping strategy for not only monitoring what is being done but also learning what works best (Sabel, 1994).

### A FRAMEWORK FOR THE STUDY OF KNOWLEDGE TRANSFER

Following the foregoing review of intellectual origins and previous research this section presents a conceptual framework for the study of contracting for knowledge transfer. The framework links the perspectives of the research areas together by considering relationships between concepts contained in a number of different literatures and attempts to create new meaning. It consists of three conceptual dimensions a) *focal points*, b) *repeated exchange* and c) *recursive time* which will be used as analytical bases to make sense of the empirical findings (see figure 1).

Figure 1: Contracting for Knowledge Transfer



#### Focal points

Focal points are prominent or salient bearings of mutually perceived expectations and shared appreciations (Mehta *et al.*, 1994; Sudgen, 1995). They emphasize certain aspects of knowing that are important and may divert attention from other facets of knowing which might not be recognized as relevant for the involved actors. Focal points emphasize the fact that in an on-going exchange practice, the *precedent* becomes extremely important. The logic of precedent implies that if a particular problem of practice X is settled in case C, then the rationale in case C would be applied by later actors on practice X. In other words, case C sets a precedent in relation to practice X. Based on the logic of precedent actors attempt to co-ordinate their practices to their mutual benefit by drawing on *focal points* which are salient rules and principles of mutually perceived expectations. The actors develop rules and principles because these conventions, operating within a certain time-space context, provide focal points for each actor’s “expectation of what the other expects him to expect to be expected to do” (Schelling, 1960, p. 57).

#### Repeated Exchange

Understanding the multiplicity of repeated exchange requires a fundamental insight of the process by which actors with different backgrounds, potentials and different interests seek to create joint gains (McGinn and Keros, 2002; Biggart and Delbridge, 2004). Joint gains are achieved through multilateral wise trades among

actors who have the ability to see the broader picture and the connectedness of actions. They require a shift in actors' self-perception from 'self as independent' to 'self as part' of a larger whole (Bigelow, 1992). Repeated exchange among firms may involve regular interactions at numerous levels, plus a plethora of related information exchange activities, often with third parties such as professional communities and public bodies. Firms' openness (Woodman, Sawyer and Griffin, 1993) to move beyond existing task-specific exchanges and engage in heedful repeated and regular exchanges is crucial for their ability to access and acquire new knowledge.

### **Recursive time**

The concept of time is not understood as a linear process but as recursive practice. The pre-eminence of repetitions and routines, organizational habits and institutionalized forms of interactions such as periodic business reviews, periodic task reviews, annual operating plans or annual contract negotiations among firms are manifestations of recursive time. Furthermore, the use of enabling technologies and the institutionalization of Electronic Data Interchange among firms as well as Continuous Stock Replenishment programmes re-enforce the pre-eminence of routines and recurrent practices.

These three conceptual dimensions circumscribe a platform for inter-firm knowledge transfer. A platform is not conceived as a sequence of states (Hedstrom and Swedberg, 1998; Bunge, 2004) but as a 'topology' or 'podium' of factual physical and social artefacts where knowledge transfer may occur (c.f. Johnson and Sohi, 2003). Our attention, therefore, is focused on understanding the 'possibility' of inter-firm knowledge transfer on this platform. Contracts are manifestations of joint consent that work by introducing new possibilities. The formality of contract is not the opposite of substance of this platform but aims to preserve what is important in this substance (Stinchcombe, 2001). A contract, therefore, is an abstraction of possibility; a refined version of the substance. This means that the same platform used by different contracting actors may transfer different knowledge. The integration of dispersed knowledge, not known to any single actor, into a 'common knowledge' (Grant, 1996; Becker, 2001; Grant and Baden-Fuller, 2004) can be seen as the product of continuous and recursive interplay between knowledge as 'inter-action' and knowledge as a 'possibility'. In Hargadon and Fanelli's (2002) view, knowledge as action (or inter-action) encompasses the factual physical and social artefacts that surround actors in organizations, while knowledge as a possibility comprises the schemata constructed and shaped from actors' past experiences and precedents. In our framework the factual physical and social artefacts that surround actors provide the substance of platform for contracting circumscribed by the conceptual dimensions of a) focal points and b) repeated exchange c) recursive time. Contracts reduce these factual and social artefacts into abstract schemata constructed jointly by the involved actors. For this reason, we posit that successful inter-firm knowledge transfer depends on the cyclical interplay between the *matter* of the knowledge as interaction and the actors' willpower that resides in knowledge as a *possibility*.

### **EMPIRICAL STUDY**

This study of contracting for knowledge transfer is part of a wider research project into the ways in which companies interact with each other make business deals. One of the most intriguing empirical findings of the initial stages of this research in the late 2002 was the observation that because of the increasing economic interdependence between manufacturers and retailers, the primary concern of the interacting parties is not with the individual products or services but rather with the continuous exchange of knowledge to create joint gains. Consumer goods manufacturers have expertise in the areas of sourcing, producing and marketing eponymous brands which are demanded by consumers. They need, however, to cooperate with grocery retailers which represent a significant share of their total business to ensure the availability and visibility of their brands at the point-of-sale (Villas-Boas and Zhao, 2005; Hingely, 2005). The cooperation between manufacturers and retailers necessitates a domain consensus which is the parties' agreement over functions and roles in a business relationship. Domains reflect the parties' right to operate and perform within specific areas; for instance in the production or advertisement of consumer goods, or in selling directly to consumers. Domain consensus is, therefore, related to the definition of boundaries, role sets, companies' capabilities and expectations. Parties may lack resources, technological or organizational capabilities to fulfil certain functions or they may specialize in a limited range of product or services. Alternatively, companies' capabilities may develop and change and thus, domains may be disputed and redefined over time. This is demonstrated vividly

in the engagement of retailers in boosting retailer brands<sup>2</sup> (Dunne and Narasimhan, 1999). This tendency can be regarded as an attempt by the retailers to invade domains that are traditionally the preserve of manufacturers, to redefine role-sets and to redraw the boundaries of domains in which both retailers and manufacturers are embedded.

The research project indicated that umbrella agreements are seen by manufacturers and retailers in the United Kingdom and Germany as a coping strategy to deal with the problem of integrating dispersed, and continuously emerging, knowledge. This encouraged a closer examination of the contract forms to identify how this happening. Consumer goods manufacturers and grocery retailers in the United Kingdom and Germany were chosen for investigation because they are a significant part of the whole economy; being the largest manufacturer-retailers networks in Europe and generating an annual turnover of €100 and €120 billion respectively. By using case study research methods (Eisenhardt, 1989; Tsoukas, 1989; Ragin, 1992; Easton, 1998; Halinen and Törnoos, 2005), the research looks at how this type of agreement is used as a platform for inter-firm knowledge transfer. Forty-eight in-depth interviews and 12 company workshops with senior managers were conducted between 2003 and 2007. The method of data collection placed an emphasis on obtaining contemporary manifestations of umbrella agreements as well as participant observation in business reviews and personal interviews. The pool of interviewees was identified from trade and manufacturing congresses and was enriched and expanded by continually asking 'who works where and who knows whom'. The interviewees included decision-makers such as Business Unit Directors, Category Managers, Information Technology Managers, Sales Directors, Purchasing and Supply Directors, Key Account Managers and Corporate Lawyers. We logged our field observations (including impromptu chats and meetings) shortly after they occurred into a self-devised field tracking system. These were entered into a "chronological events list" and served as a filter or index to the wider set of observations. This was crucial in the collection of umbrella agreements because it helped us carry out a closer examination and triangulation of primary data. We also made periodic entries into a field diary to supplement the collection of more formal material about the agreements gathered; these diary entries also provided reflections on the research as a whole. We also retained for analysis electronic copies of contract drafts that we received via e-mail.

The analysis of empirical data involved critical examination, evaluation, categorization and recombination of findings. The analysis addressed the complexity of companies' interaction with each other. They encountered four major challenges: a) the problem of markets boundaries, b) the problem of complexity, c) the problem of time and d) the problem of comparison (Easton, 1998; Halinen and Törnoos, 2005). Market boundaries are arbitrary and thus it was not possible to study the 'entire' consumer goods market, as business relationships are interconnected throughout the market. In this paper four exemplary manifestations of consent among manufacturers and retailers are presented. The paper addresses the relationship between umbrella agreements and the evolving patterns of interaction in consumer goods markets. These patterns of interaction between manufacturers and retailers include institutionalised forms of annual contract negotiations, business reviews as well as the process of renegotiation. The aim is to evaluate, test and determine the extent to which existing knowledge claims do, or do not, truly represent or correspond to the world (Hunt, 1976, 1983). The three conceptual dimensions a) focal points, b) repeated exchange and c) recursive time are used as analytical bases for the study of contracting for knowledge transfer. The primary goal in data analysis was to link the theoretical knowledge with the empirical observations. This link was established through several cycles, moving between theoretical ideas and data on interaction practices. The analysis involved an iterative examination of the manifestations of consent. These manifestations comprise written agreements, e-mails, attachments as well as protocols from annual negotiations. This process encouraged issues to emerge from the data rather than being imposed on them.

The paper will now move on to an examination of the variations in the content of contracting for knowledge transfer. The paper explores the advantages of contracts as umbrella agreements and highlights the situations in which companies find them particularly useful. This demonstrates that the reasonable expectations and joint appreciations enshrined in umbrella agreements mean that firms can time and again use them as a way-station to test their understanding of what they have jointly learned and agreed. If circumstances for either business partner change, then they are able to re-negotiate contracts. Thus companies consider umbrella agreements as a strategic tool that sets the ground for a continuous knowledge transfer between business partners.

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<sup>2</sup> Retailer brands are often referred as 'private labels'. In contrast to 'manufacturer brands', retailer brands are retailers' trademarks and, therefore, retailers' property rights.

### **What do umbrella agreements include?**

In order to examine the variations in the content of contractual provisions we now present four umbrella agreements between manufacturers and retailers (Table 1). These four contractual arrangements were chosen to present a diversity of agreements in four different product categories. This is important because product category is the governable entity in all manufacturer-retailer networks. The first umbrella agreement is between Alpha, a manufacturer of laundry products (detergents), and Edel, a grocery retailer that specializes in large hypermarkets. The second umbrella agreement is about the co-operation between manufacturer Beta, a producer of cleaning products (household cleaning), and grocery retailer Sun. The third umbrella agreement is between a manufacturer Unis, a producer of soft drink products and retailer Econ who specializes in discount grocery shops. The fourth umbrella agreement is between Cosmed, a manufacturer of cosmetic products and Medos, a retailer active in large department stores. The names of the companies are disguised to ensure the confidentiality of contractual arrangements. The iterative examination of these contracts enables the identification of important clauses. These clauses start by describing the domain of business by specifying types of products or range of services and then move on to express the basic rules and principles that regulate interaction and facilitate the achievement of mutual learning. These rules and principles set out a framework according to which voluntary and informed exchange may take place. Therefore, the clauses presented in Table 1 deal with sensitive issues of property rights, exclusivity of business, information flow, notification, confidentiality of agreements, the possibility of subcontracting, the provision of warranties, as well as termination rights. They also emphasize the importance of continuous negotiation based on an objectified Electronic Data Interchange and the inclusion of extreme eventualities or contingencies in the form of force majeure, such as political unrest, strikes, lock-outs and governmental interventions or natural catastrophes (Table 1).

**Table 1: Umbrella Agreements between Manufacturer Alpha & Retailer Edel**

<b>Umbrella Clauses</b>	<b>Contract 1 Manufacturer Alpha &amp; Retailer Edel</b>
<b>Domain Consensus</b>	Manufacturer Brands/ Laundry Products. Unless otherwise agreed, terms and conditions are valid for all future contracts.
<b>Exclusivity of Exchange</b>	No exclusivity.  Retailer Edel has the right to obtain competitive offers at any time.
<b>Information/ Notification</b>	The two parties will inform each other quarterly with regard to marketing and sales activities as well as new product development.
<b>Electronic Data Interchange</b>	Arrangement of a continuous Electronic Data Interchange based on consumer data generated at retailers' check-out counters.
<b>Property rights</b>	All brand names, logos, iconographic elements and promotion designs

<b>Information Secrecy</b>	All information is confidential and not to be available to third parties without written consent of the other party. This obligation continues for 5 years after expire of the agreement.
<b>Subcontracting</b>	Possible only upon consent.
<b>Assignment</b>	Alpha is appointed Category Captain. Both parties will work together to generate Shopper Insight at the point of sale. Vendor Managed Inventory (Manufacturer Alpha manages the retailers' orders according to consumer data provided by retailer Edel).
<b>Volume/ Price/ Discounts</b>	To be agreed.
<b>Invoicing</b>	Unless otherwise agreed, on a monthly basis. Delivery cost is paid by the manufacturer Alpha (Delivered Duty Paid). Electronic invoicing

	and governmental interventions.
<b>Guarantee/ Liability</b>	Manufacturer Alpha gives the guarantee to deliver the highest quality of products and has the obligation to remedy deficiencies in products or other services to Edel. This applies also to services obtained from subcontractors.
<b>Saving Clause</b>	Unless it is of major importance, invalidity of one or more clauses will not have any effect on the agreement as a whole.
<b>Amendments/ Addition/</b>	In writing. Amendments/Additions need to be agreed in joint business/task reviews.
<b>Duration/ Termination</b>	Unless otherwise agreed this contract terminates at the end of a calendar year.  Retailer Edel reserves the right to revoke in writing any orders (of the Vendor Managed Inventory) which she wishes not to accept.

Let us now examine the process involved in these umbrella agreements to see what actually happens with regard to these exchange relationships. Umbrella agreements are concluded at headquarters level, where the historically developed interface is between the retailers' category management (traditionally called purchasing department) and the manufacturers' key account departments. Category and key account managers are becoming sophisticated, powerful agents across different functions; they are usually experienced, senior managers responsible for the establishment and development of client relations, as well as the internal coordination of different staff functions. In designing umbrella agreements, category and key account managers draw upon the expertise and knowledge of other staff departments, such as legal, marketing, information technology or operations. Contract provisions regarding 'electronic data interchange', for example, are drafted by corporate lawyers in cooperation with the information technology department. In comparison, provisions regarding efforts to generate 'shopper insight' are prepared in conjunction with the market research and trade marketing departments. Consider the umbrella agreement between manufacturer Alpha and retailer Edel in which manufacturer Alpha is appointed Category Captain, a term equivalent to preferred supplier. In this case, manufacturer Alpha as Category Captain will transfer the 'industry' knowledge to retailer Edel with regard to a specific category, e.g. market research, product specification, consumer data etc. In return, retailer Edel will transfer 'retail' knowledge to manufacturer Alpha with regard to Shopper Insight at the point of sale, e.g. data regarding shoppers' buying behaviour. This transfer of knowledge is based on repeated exchange of data, facts and information, as well as ideas, comments, suggestions or reviews. In the annual negotiations of umbrella agreements that take place between September and December each year, manufacturers' key account managers contact the purchasing managers of grocery retailers to negotiate the cooperation for the next year. In principle, contracting parties are driven by their interest to maintain and develop their existing relationship. Contracting parties usually recognize the value of their relationship and acknowledge their determination to learn new, innovative way to create joint gains. In practice, however, the whole learning process is driven by a) their particular concerns (focal points), for example, property rights, retailer/manufacturer brands, shopper insight, exclusivity or liability issues, b) the amalgamated know-how of promoting repeated exchange, for example through information-based systems such Continuous Stock Replenishment or Vendor Managed Inventory and c) the recurrent forms of interaction, for example, periodic business reviews and task reviews (recursive time). The outcome of this process is usually articulated in objectified measures regarding business opportunities, available resources and market performance. For example, market shares for individual brands within a product category will exercise a profound impact on the allocation of resources and exploitation of new business opportunities.

## DISCUSSION OF RESULTS

The contracts between manufacturers and retailers presented in table 1 show umbrella agreements between contracting parties are not primarily concerned with individual products or items but rather with the continuous transfer of knowledge which is not known by a single retailer or manufacturer. The purpose of these umbrella agreements is to arrive at a manifestation of consent regarding all crucial aspects of dealing with repeated exchange that generates joint gains. Hence, umbrella agreements provide a set of jointly decided focal points (Schelling, 1960; Mehta *et al.*, 1994; Sudgen, 1995) that guide all future exchanges (Crone, 1993; Krüger, 2003). These manifestations indicate the companies' consent that exchanges can be agreed according to a pre-existing framework and that "it is the intention of the companies to do so" (McLauchlan, 1998, p. 97). The fact that important terms of exchange, such as prices, volumes and discounts, have not been agreed but deferred for future agreement may be a significant rationale indicating that retailers and manufacturers nowadays prefer to remain flexible and open to learn, and do not intend to be contractually-bound prematurely. This empirical finding is in line with other studies in the USA that indicate that contracts may limit a company's ability to innovate or change its policy (Argyres and Liebeskind, 1999). For example, prior contractual decisions made by a company may limit its ability to embrace new or emerging business opportunities, to innovate or learn new things that are valued in the marketplace. This flexibility and openness to new learning is regarded important in manufacturer-retailer networks because of the high speed at which products are launched, re-launched and traded. In these markets, manufacturers supply grocery retailers with fast-moving consumer goods that reach millions of consumers (Corstjens and Costjens, 1995; Villas-Boas and Zhao, 2005). Manufacturers and retailers are, therefore, confronted with a plethora of exchanges, a multiplicity of information requirements and an increasing complexity of inter-firm coordination.

Umbrella agreements reflect the conceptual dimensions of 'contracting for knowledge transfer'; Table 2 illustrates this. First, umbrella agreements attempt to articulate *focal points*, such as the domain of business, property rights, saving clauses, guarantees or liabilities, interaction patterns, termination rights or 'force

majeure'. These focal points are salient bearings of mutually perceived expectations and shared appreciations; they emphasize aspects of knowing that are relevant for both parties and set precedents that guide subsequent practices. Second, umbrella agreements define the basic rules and principles that govern *repeated exchange*; they specify reciprocal practices of mutual information and notification, electronic data interchange, exclusivity of exchange, restrictions applied to information secrecy as well as product and monetary flows. Third, umbrella agreements incorporate *recursive time* by specifying recurrent patterns of inter-firm interaction. This is demonstrated in the annual or periodic re-negotiation between manufacturers and retailers, the quarterly business reviews and periodic meetings, as well as in the establishment of inter-organisational routines. For example, the arrangement of electronic data interchange and the Continuous Stock Replenishment are based on data generated at retailers' check-out counters. These inter-organizational arrangements are manifestations of routines aimed at improving innovative capabilities to deliver products and services that are valued by consumers in the marketplace.

**Table 2: Knowledge Transfer between Manufacturers and Retailers**

Conceptual Dimensions	Umbrella Agreements
Focal Points	Domain Consensus Manufacturer/Retailer Brands Property Rights Shopper Insight Guarantee/Liability Duration/Termination Force Majeure
Repeated Exchange	Mutual Information/ Notification Practices Electronic Data Interchange Restrictions/ Information Secrecy Regulation of Subcontracting
Recursive Time	Annual/ Periodic Re-negotiation Organizational Routines Business Reviews Periodic Task Reviews/Meetings Continuous Stock Replenishment

Recurrent interactions between manufacturers and retailers reveal significant interdependencies and continuous efforts to create an 'architectural knowledge' (Henderson and Clark, 1990) which accelerates the integration of heterogeneous knowledge into a 'common knowledge' (Grant, 1996; Grant and Baden-Fuller, 2004). In this respect the role of focal points, repeated exchange and recursive time is critical. These three dimensions of factual, physical and social artefacts circumscribe the substance of a platform where 'common knowledge' may or may not occur (c.f. Johnson and Sohi, 2003). In this study, the *possibility* of integrating dispersed knowledge is inextricably linked with the existence of umbrella agreements. Umbrella agreements between manufacturers and retailers reduce the substance of factual and social artefacts into abstract manifestations which are jointly developed. In this way, the empirical finding regarding umbrella agreements extend Hargadon and Fanelli's (2002) claim of recursive interplay between knowledge as action and knowledge as a possibility by incorporating the concept of consent. The integration of dispersed knowledge into a 'common knowledge' is an achievement that depends on the cyclical interplay between the *matter* of the knowledge as interaction and the actors' consent that makes knowledge transfer *possible*. In our case, actors' consent is manifested by umbrella agreements. Umbrella agreements between manufacturers and retailers institutionalize the cognitive framework, in the sense of shared mindset; they provide a *refined* platform for inter-firm knowledge transfer, and create an 'architecture' that enables regular and repeated knowledge-intensive exchanges (Boisot, 1995; Karamanos, 2003).

The rather subtle point that contracts are abstractions of possibilities is evidenced in a number of differences between individual umbrella agreements. The main differences relate to the existence of a variety of *focal points* and multiplicity of *repeated exchange*. In the empirical cases (table 1), manufacturers and retailers demonstrate different business interests, sensitivities and priorities. Some of the retailers were concerned with the retailer brands, transfer of property rights and exclusivity issues, while others were more concerned with

risk minimisation, warranties or *force majeure*. Manufacturer Alpha and retailer Edel, for example, agreed that all brand names, trademarks, iconographic elements and promotion material will remain the property of the manufacturer Alpha, while manufacturer Cosmed and retailer Medos agreed that all retailer brands will become property of retailer Metros 5 years after the commencing of the agreement. Umbrella agreements show a variety of accepted rules and principles regarding re-negotiation or termination requirements. Manufacturers Alpha, Beta and Cosmed and retailers Edel, Sun and Medos agreed to re-negotiate their umbrella agreements annually and fine-tune them by quarterly business reviews, while manufacturer Unis and retailer Econ decided to do so on a six months basis. This demonstrates that the consent among actors is an inter-cognitive achievement that does not occur in a vacuum but is embedded in a set of rules that draw from bases of agreements that pre-exist in business relationships.

Rules are valid for a certain period and they are usually re-confirmed or re-ordered through annual renegotiations or in case of a dispute through a legal venue (Eisenberg, 1976, 1978; Ross and Conlon, 2000). If rules are confirmed and renewed over time, they establish a ‘principle’ (Esser, 1956). For example, in the presented cases (see Table, 1) there is an accepted principle that retailers are entitled a substantial delay of payment and thus retailers utilize this established knowledge to draw on manufacturers as trade creditors and provide working capital for their retail stores. Rules and principles imply an expected behaviour and embody preferences. For example, manufacturers and retailers prefer to incorporate into their umbrella agreements the arrangement of Electronic Data Interchange and institutionalized forms of interactions such as annual negotiations or quarterly business reviews. The continual, joint formulation of agreements among manufacturers and retailers transforms transactions into discussions (Sabel, 1994) and codifies the firms’ knowledge about efficient ways to interact. Firms are able to exploit interaction efficiencies because of their previous investments in time-bound relational assets such as Electronic Data Interchange or institutionalised forms of continuous negotiation. This empirical finding is in line with other studies of knowledge transfer. Studies in the U.S. and Japanese Automotive industries, for example, emphasize the role of relational assets and distinguish between simple knowledge transfer techniques and technological capabilities jointly developed (Kotabe, Martin and Domoto, 2003). The role of contracts in these exchange relationships is to codify the firms’ agreement of how capabilities are expected to be utilised and how productive knowledge is expected to be transferred between firms. In this way, contracts are not simply ‘knowledge repositories’ (Mayer and Argyres, 2004) but rather refined platforms of agreed conditions under which transfer of knowledge may occur.

## CONCLUSION

On the basis of this empirical study, it is apparent that inter-firm knowledge transfer is linked with the firms’ capability to engage in give-and-take contracting that generates joint gains. The study examined knowledge transfer as a continuous and recursive interplay between knowledge as ‘inter-action’ and knowledge as a ‘possibility’. Focal points, repeated exchange and recursive time circumscribe a platform of factual, physical and social artefacts that surround firms’ inter-action. The role of contracts is to refine this platform into abstract schemata constructed jointly by the involved actors. Each individual contract is, therefore, an abstraction of possibility that results in a unique knowledge transfer. In the markets of fast-moving consumer goods, firms retreat from immediate and complete contracts and arrange umbrella agreements under which transfer of knowledge may occur. Thereby, manufacturers and retailers create a framework that is not primarily concerned with individual products or items or discrete transactions but with a continuous transfer of knowledge which is not known by a single retailer or manufacturer.

The present study offers three important lessons: First, firms need to arrive at a joint consent with other firms in order to design a transfer of knowledge that is continuous, valid and legitimate. Firms usually protect their own knowledge as property rights by copywriting, patenting. Therefore, understanding the inter-cognitive achievement of consent requires a fundamental insight into the significance of property rights or entitlements which specify the substance of rights that actors may possess, acquire, or transfer in their interactions with other actors (Coase, 1960, Demsetz 1966). Secondly, the conditions under which a transfer of knowledge may occur need to be explicitly stated and manifested between the involved firms. Even within established relationships the design of a contracting for continuous and informed knowledge transfer, requires an ‘architectural knowledge’. This architectural knowledge is enshrined in the exact form or design of contracts between the involved parties. This study demonstrated that umbrella agreements provide this ‘architectural knowledge’ that specifies the conditions under which transfers may occur. They spell out the basic rules and principles of working together and, thereby, they create a structure that guides the contracting for knowledge

transfer. Thirdly, firms' capability to arrange repeated exchange practices that generate joint gains is what makes it possible for them to learn from other firms. In this way, knowledge is not what firms possess or what firm have learned cognitively; it appears that knowledge transfer is more than a 'one-way' process between the source firm and the recipient firm. Knowledge transfer is rather a dialectic process inherent in mutual flows of repeated exchange, guided by focal points over recursive time.

This empirical study demonstrates that contracting for knowledge transfer is a complex and time-consuming process. In diverse and continuously changing business relationships, firms need to balance the need for certainty and calculability of their exchanges with the need to remain open to embrace new or emerging opportunities. Firms are susceptible to changes in their markets and have to negotiate with other firms to protect and advance their own knowledge of performing. Traditional forms of complete and final contracts fail to address this requirement. Transaction costs, information asymmetry and symmetric ignorance of exchange opportunities prevent firms from a continuous negotiation and deal-making. Leveraging the knowledge of others to exploit new possibilities requires a new architecture of inter-firm agreements that is open-textured and capable of integrating complex and dispersed bits of incomplete knowledge on a continuing basis.

An agenda for further research in this area needs to include the investigation of how firms deal with the inherent complexity and time-intensity of knowledge transfer in their particular contexts and how firms see this issue as a possibility of exploring and exploiting new opportunities. Looking at the conceptual dimensions of focal points, repeated exchange and recursive time (see figure 1), further research may explore how manifestations of consent in different industries provide a refined platform for knowledge transfer; and how these manifestations are impacted by or impact on firms' practices. The notion of 'know-how' has been a central construct in knowledge management theory, particularly in the theories which describe and explain actors' own capabilities or their actors' knowledge to access idiosyncratic capabilities of others (Brown and Duguid, 1998; Loasby, 1999). What deserves more attention is the investigation of two research problems: Firstly, investigation is needed on how firms incorporate capabilities into their contracts in the form of manifestations of joint consent (Argyres and Mayer, 2007). Secondly, research is needed on how firms start, extend and develop contractual arrangements in their particular contexts. A contractual approach to the investigation of knowledge transfer infers that 'systems or subsystems be evaluated in terms of the comparative ease or facility with which voluntary exchanges, contracts, or trades may be arranged between and among members of the community' (Buchanan, 1988, p.135; Buchanan, 1975).

The pursuit of such research agenda would require the employment of research methods with the operational ability to a) investigate the complexity of knowledge transfer, b) to handle critically rich data, multiple sources of information and multiple exchanges c) to investigate the interaction among organizational actors and d) to capture processual developments over time. As Coase (1994, p.12) emphasizes "the process of contracting needs to be studied in a real world setting". Focusing on real, temporal and dynamic processes, we need to move beyond the use of descriptions of individual experiences (Weick and Browning, 1886; Tsoukas, 1989; Elsbach, Sutton and Whetten, 1999) and consider the study of inter-organisational manifestations such as contracts, agreements, protocols or correspondence among actors. Researchers can look at the links between focal points, repeated exchange and recursive time as reference points and investigate the inter-firm contracting for knowledge transfer over a period of time. In this sense, umbrella agreements advance our understanding of the conditions under which this transfer may occur. Building on the idea that agreements among parties are not instantaneous events but are progressively reached over a period of time, future research could shed more light into the contemporary challenge of umbrella agreements. This is only possible if we manage to escape functional and discipline specialisation and search for hidden links. Further research may increase our knowledge of the existing but hidden possibilities of knowledge transfer.

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