



# A comparison of inter- and intra-organizational relationships

## Two case studies from UK food and drink industry

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### Abstract

**Purpose** – Theoretical models of collaboration assume that intra-organizational relationships are more collaborative than inter-organizational ones. This paper seeks to question the validity of this assumption by comparing the levels of collaboration in two cases that comprise both types of relationship.

**Design/methodology/approach** – Two case studies in the UK food industry were conducted, in each two relationships were analyzed: one inter- and one intra-organizational. Data were collected through a questionnaire followed by semi-structured interviews.

**Findings** – This exploratory research indicates that in both case studies intra-organizational relationships have lower levels of collaboration than inter-organizational ones. This appears to contradict the commonly held assumption that intra-organizational relationships involve closer collaborations than inter-organizational ones.

**Research limitations/implications** – Case study approaches have reliability and generalisability limitations, however, the paper was given in-depth access to four relationships (two per case), which provide a basis for further research. The use of multiple informants and two methods of data collection helped to increase reliability and efforts were made to reduce bias in responses by ensuring confidentiality and engaging with participating companies in an impartial way.

**Practical implications** – A better appreciation of collaboration in inter- and intra-organizational relationships will result in managers making better decisions about how their organization relates internally and externally. This could have implications for decisions on make-buy, alliances, and acquisitions.

**Originality/value** – The paper shows that it is possible to have relationships with customers and suppliers that are more collaborative than those between departments within a single organization. This finding appears to challenge traditional assumptions and provides a new perspective of the management of supply chain relationships.

**Keywords** Supply chain management, Food industry, Channel relationships, United Kingdom

**Paper type** Research paper



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## Introduction

The subject of supply chain collaboration has gained importance in the last decade, with growth in both the diversity of management initiatives being promoted in this area and the number of academic publications (Kotzab, 1999; Barratt, 2003; Holweg *et al.*, 2005). Most of the research in the subject appears to follow the assumption that intra-organizational relationships imply a closer collaboration than inter-organizational ones (Williamson, 1981; Ellram, 1991; Lambert *et al.*, 1996). However, despite the fact that some research appears to show contradictory evidence (Koulikoff-Souviron and Harrison, 2006) no previous work into the validity of this assumption has been found. This paper sets out to address this gap by testing our assumption by comparing the degree of collaboration in both inter- and intra-organizational relationship.

This research is situated in the UK food and drinks industry, an industry that comprises a variety of organizations performing activities such as farming, manufacturing, catering, and retailing. Together these organizations play an essential economic and social role with sales for over £148 billion, around 8 percent of the gross domestic product and employing at least 3.7 million people (12.4 percent of the UK workforce) (IGD, 2006a).

As in any industry, trends in technology and management thinking have had an effect on the food and drinks supply chains. For instance, the shift towards alliances and partnerships has taken place in parallel with the development and implementation of collaborative approaches in industry such as vendor managed inventory (VMI) (Dong and Xu, 2002; Disney and Towill, 2003), Continuous Replenishment (Cachon and Fisher, 1997), efficient consumer response (ECR) (Kurt Salmon Associates, 1993; Wood, 1993; Kotzab, 1999) and its initiative of collaborative planning, forecasting and replenishment (CPFR) (Barratt and Oliveira, 2001; Barratt, 2003) (Whiteoak, 1994, 1999; Fernie, 1994, 1999). As the industry has matured, the importance of collaborative strategies (Stank *et al.*, 1999a) and alliance performance has grown (IGD, 2000; Mintel, 2001, Stank *et al.*, 1999b).

Markets have become global, customers have become more demanding, and there is constant pressure to reduce costs (Fearne, 1994, 1998; Palmer, 1996; Cachon and Fisher, 1997; Fearne and Hughes, 1999; Fearne *et al.*, 2006; Gimenez and Ventura, 2003; Cohen Kulp *et al.*, 2004; Taylor and Fearne, 2006; Zokaei and Simons, 2006). These challenges create a constant need to re-structure supply chains requiring managers to deal with dilemmas such as “make vs buy”, “local vs global” and “partnerships vs arms length relationships”. The solutions to these dilemmas are greatly influenced by the assumptions managers hold about the kind of relationships they can maintain internally between departments and divisions of the organization (inter-organizational), and externally with customers and suppliers (intra-organizational).

Williamson (1975, 1981) argues that the level of collaboration in a hierarchy (intra-organizational relationships between departments or divisions of one organization), is higher than in a market (inter-organizational relationship between different organizations). This assumption appears to have permeated to most of the literature on the subject without much questioning. In this paper, the authors argue that assuming collaboration is stronger in a hierarchy than in a market might provide a misleading view of supply chain relationships. This in turn can have consequences for the way supply chains are structured and managed. Hence we propose to investigate

this issue by comparing the different impacts that inter- and intra- organizational relationships have on the level of collaboration found within two food industry supply chains in the UK.

Addressing this question has implications for both researchers and practitioners. From a theoretical perspective, this research provides evidence of the validity and generalisability of the relationships continuum assumption, opening new avenues for research. For practitioners, the relationships continuum assumption can have substantial implications because it can influence decisions related to supplier selection, outsourcing and mergers and acquisitions, which can have far-reaching implications. Having a clearer understanding of the type of relationship in the supply chain (i.e. inter- or intra-organizational) and the degree of collaboration can help practitioners make better decisions. It is thus clear that against this complex background, the study of internal versus external supply chain relationships in the food and drinks industry is both timely and relevant.

The following three sections cover different aspects of the extant literature highlighting the relevant gap and presenting the theoretical underpinnings of this research. The methodology section provides details about research design, the methods for data collection and, analysis, and the reasons for selecting these methods. The findings of the two case studies are then presented followed by the analysis and discussion. Finally, the conclusions and implications are presented.

### **Supply chain collaboration**

Whether in industry or academia, the concept of supply chain collaboration does not appear to be clearly defined. Bahinipati *et al.*(2009) take a broader view and define it as “a business agreement between two or more companies at the same level in the supply chain (SC) or network in order to allow greater ease of work and cooperation towards achieving a common objective”, on a similar vein Simatupang and Sridharan (2003) define it as “two or more independent companies work jointly to plan and execute supply chain operations with greater success than when acting in isolation”. Mentzer *et al.* (2000), seeking to define supply chain collaboration based on the views of practitioners defined it as “all companies in the supply chain actively working together as one toward common objectives” (Mentzer *et al.*, 2000, p. 54). This definition, however, appears to be more of an idealistic vision than a practical, achievable strategy. Kahn and Mentzer (1996) also defined internal collaboration as “an effective process, where departments work together willingly”. The definition that will be used for this research was originally proposed by Humphries and Wilding (2004) and asserts that collaboration means “working jointly to bring resources into a required relationship to achieve effective operations in harmony with the strategies and objectives of the parties involved, thus resulting in mutual benefit”.

The number of publications on subjects such as alliances, partnerships, coordination, integration, and collaboration in the supply chain has been growing since the early 1990s. In particular, there have been a number of publications promoting the benefits of collaborative approaches (Bowersox, 1990; Kanter, 1994; Kahn and Mentzer, 1996; Stank *et al.*, 1999a; Mentzer *et al.*, 2000; Wagner *et al.*, 2002, Cohen Kulp *et al.*, 2004). Some of the claimed benefits include, lower cost and inventory, higher efficiency, improved customer service, reduced cycle times, faster time to

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market, increased risk sharing, improved learning and knowledge exchange, higher profit margins, improved shareholder value and increased competitive advantage over other supply chains (Bowersox, 1990; Dyer and Singh, 1998; Mentzer *et al.*, 2000; Cohen Kulp *et al.*, 2004; Holweg *et al.*, 2005). Many authors have provided empirical evidence of these claims supporting the view that collaboration can improve customer service, reduce waste and generate mutual benefits by sharing risks and rewards (Stank *et al.*, 1999a, b; Skjoett-Larsen 2003; Barratt, 2004; Fearné *et al.*, 2006).

Kahn (1996) and Kahn and Mentzer (1996) who pioneered work on supply chain integration argue that there are three options for explaining integration:

- interaction or communication-related activities;
- collaboration based; and
- a combination of the two.

However, over the years the third option to integration – the composite view – appears to have emerged as the most dominant, making collaboration an essential element to integration (Skjoett-Larsen, 2003).

Integration, like collaboration, has been linked to improved performance. Frohlich and Westbrook (2001), for instance, have shown that integration has a strong association with performance improvement. Kahn and Mentzer (1996) argue that internal integration can improve customer service, inventory management and forecast accuracy as well as increasing customer and employee satisfaction. Kahn (1996) adds improved new product introduction to this list. Gimenez and Ventura (2005) have established a positives links between performance and both internal and external integration. Furthermore, research by Gimenez and Ventura (2005) indicates that internal and external integration influence each other. They argue that internal integration has a positive effect on external integration because better coordination among internal functions facilitates coordination with external companies. Similarly, external integration incentivizes internal integration by emphasizing the benefits of working together.

### **The relationships continuum and its implications**

From a theoretical point of view, one of the arguments in favor of close collaborative relationships is presented by the relational view of the firm (Dyer and Singh, 1998), also described as the collaborative advantage (Dyer, 2000). This view posits that competitive advantage in the relationship can be achieved in four different ways: by sharing risk and investment in assets that are specific to the relationship; by improving learning, through better knowledge exchange that lead to joint learning; by allowing synergy to take place through the combination of resources and capabilities, and through efficiency, leading to lower transaction costs (Dyer and Singh, 1998).

While the relational view emphasizes the benefits of close collaborative relationships, it does not explain the circumstances in which collaboration can be more (or less) effective and hence it does not give direction about when and how close to collaborate. A theory that provides more understanding of these issues is Transaction Cost Economics (TCE). This sees the transaction as the unit of analysis and proposes that the most efficient boundaries between firms and markets (i.e. the governance structure) can be determined based on the most economical form of transaction (Williamson, 1981). TCE proposes that organizations need to consider the

costs of a transaction; such as the cost of searching for information, the bargaining costs, and the costs of policing and enforcing contracts, to decide what is more cost effective: sourcing from the open market or conducting the activity within the firm.

TCE presents a somewhat monochrome view, where the only alternatives are market, involving inter-organizational relationships, and hierarchy, involving intra-organizational relationships. However, it has been recognized that many relationships do not fit into either of these two extremes, but that there is a continuum between them (Jackson, 1985; Hennart, 1993). Some authors have called the area between the two extremes the swollen middle, claiming that most relationships tend towards the middle of the continuum (Hennart, 1993; Perrow, 1986). A number of authors have developed frameworks categorizing the types of relationships that might populate this swollen middle. For instance, Ellram (1991) proposes options ranging from transactions to acquisitions and Lambert *et al.* (1996, 1999) propose three types of relationships in between arms-length and a joint venture, representing increasing levels of collaboration. Similar models can be found in the literature, albeit with slightly different terminologies (Spekman *et al.*, 1998; Harrison and Van Hoek, 2005).

Table I compares several of these models: transaction costs (Williamson, 1981, Ellram, 1991), supply chain collaboration (Lambert *et al.*, 1996), supply chain partnerships (Spekman *et al.*, 1998, Burt *et al.*, 2003), marketing (Day, 2000) and shows that over time the perspectives have remained consistent. They all tend to range from arms length, open market relationships to highly collaborative and vertically integrated relationships.

The relationships continuum assumes that inter-organizational relationships, located on the middle and left hand side of the continuum, exhibit low to medium levels of collaboration, while intra-organizational relationships are only present on the right side continuum where close collaboration takes place. Although there are few studies that compare inter- and intra- organizational relationships, there is some evidence in the literature that this assumption might be incorrect. A study by Koulikoff-Souviron and Harrison (2006, p. 81) found “an extreme case of separation in the intra-firm context and ... an extreme case of integration in the inter-firm context”, where separation refers to a distant relationship and integration to a closely collaborative one. In this case, the research findings appeared to contradict the assumption that intra-organizational relationships are more collaborative than intra-organizational ones.

Furthermore, the position of vertical-integration at the most collaborative end of the continuum appears to understate the existence of conflict between different functions of an organization and the lack of internal collaboration, which has been reported by many authors (e.g. Schmidt and Tannenbaum, 1960; Shapiro, 1977; Kahn and Mentzer, 1996; Handy, 1999; Stank *et al.*, 1999b; Ellinger, 2000; Fawcett and Magnan, 2002; Barratt, 2004; Buchanan and Huczynski, 2004). Some of the conflicts are generic and well documented, for instance, the conflict between the manufacturing and marketing functions has been referred to as “the familiar but classic problem that afflicts every manufacturing company” (Shapiro, 1977). Shapiro continues to say that this conflict can be very dangerous for organizations because it can lead to ineffective operations or a loss in customer focus. This seems to indicate that intra-organizational relationships do not imply close collaboration.

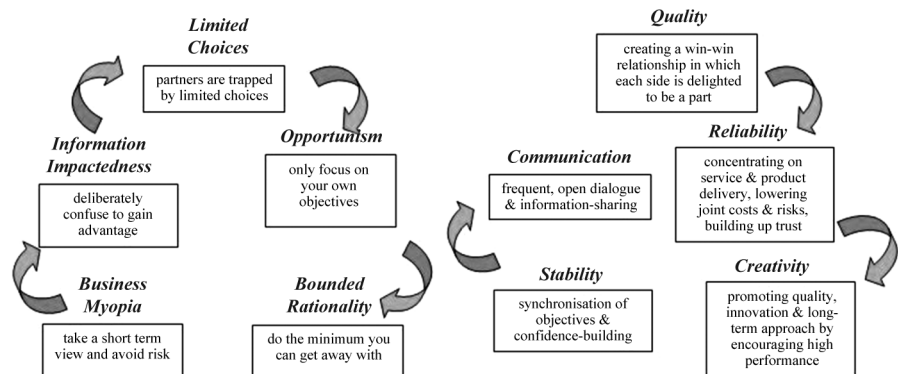
	Inter-organizational ← Relationships continuum → Intra-organizational				
	Market	Short-term contract	Long-term contract	Hybrids	Hierarchy
Williamson (1981)	Market	Short-term contract	Long-term contract		Hierarchy
Ellram (1991)	Transactions	Type I Coordination Short term Single function	Type II Integration Long-term Multiple functions	Type III Significant integration No end date Extension of own firm	Acquisition
Lambert <i>et al.</i> (1996)	Arm's Length				Vertical integration
Spekman <i>et al.</i> (1998)	Open market negotiations Price based Adversarial	Cooperation Few suppliers Long-term contracts	Coordination Information links WIP links EDI exchange	Collaboration Supply chain integration Joint planning Technology sharing	
Day (2000)	Transactional exchanges	Value-adding exchanges		Collaborative exchanges	
Burt <i>et al.</i> (2003)	Transactional	Collaborative		Alliance	

**Table I.**  
The relationships continuum – different models

It appears to be widely accepted that both transactional and collaborative relationships have their benefits and that organizations need to have a portfolio of different types of relationships (Anderson and Narus, 1991, Kraljic, 1983; Cox, 2001, 2004). However, there is no consensus on how to decide on the most appropriate type of relationship, with authors proposing different criteria for decision making such as the power structure of the relationship (Cox, 2001, 2004; Cox *et al.*, 2004; Sanderson, 2004), the economic value of the relationship (Anderson and Narus, 1991), the risk of supply and the potential financial impact on the relationship (Kraljic, 1983), the uncertainty and frequency of the transaction and the specificity of the asset (Williamson, 1975, 2008). These frameworks aim to support decision making by providing guidelines about the degree of collaboration required in a relationship depending on different variables such as power, value, frequency, and risk. However, without knowing if intra-organizational relationship leads to closer collaboration than inter-organizational ones, the potential value of all of these frameworks is limited.

**Theoretical framework**

We used a theoretical framework developed by Humphries and Wilding (2001, 2003, 2004) and Wilding and Humphries (2006) specifically to analyze collaborative supply chain relationships. The model has its roots in TCE, and more specifically in Williamson’s Organization Failures Framework (Coase, 1937; Williamson, 1975, 1979). The negative cycle shown in Figure 1 describes how a transaction cost minimizing policy can lead to distrust and the failure of close internal or external relationships. Notably, Williamson (1975, 2008) has found evidence that a high dependency reliance on a single source reduces options for management action and generates proximity friction (Humphries and Wilding, 2004). Negative cycle behaviours result from an excessive focus on cost reduction, in which self rather than joint, interest leads to satisficing performance, higher management costs, and “opportunistic behaviours” which in turn lead to pressures to revert to adversarial transactions (Faulkner and de Rond, 2000; Rugman and D’Cruz, 2000). Still worse, a reliance on key individuals can lead to breakdowns in information processing, failures to collaborate, and erratic decision making (Hanbrick *et al.*, 2001).



**Figure 1.**  
Business relationships failure and success cycles

**Source:** Humphries and Wilding (2004)

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It must be emphasized that this is not a causal model; Williamson (1975) described it as an interaction “atmosphere”. However, Humphries and Wilding (2001, 2003, 2004) believed that it represented the pressures experienced by business partners who have eschewed market transactions in order to pursue the greater potential benefits of working closely together. By contrast, others have argued for a “virtuous cycle” in which the partners become more effective as their relationship develops, through experience and active management of the learning process (Luo and Park, 2004; Lambert *et al.*, 1998). In the virtuous cycle view, cooperation induces further cooperation over time, as does the emergence of trust and loyalty, producing positive behaviour and outcomes such as creativity and value creation (Muthusamy and White, 2006), although this requires investment in the relationship (Wilding and Humphries, 2006). Hence, the framework can be turned from negative into a positive cycle, where imprisonment, opportunism, bounded rationality, business myopia and information impactedness are replaced by value, reliability, creativity, stability and communication. The framework is operationalised by using quantitative and qualitative methods to understand the performance of a supply chain relationship as viewed in the spectrum between the negative and positive cycles.

### Methodology

The research intends to be exploratory with the aim of understanding the different degrees of collaboration between inter- and intra-organizational relationships. An embedded multiple case study approach (Yin, 2003) was used, using the dyadic relationship as the unit of analysis. Two cases were conducted, each involving two dyadic relationships, one intra-organizational and one inter-organizational. This method was selected because it is appropriate for exploratory research and because it allows an extensive examination of a number of instances of the phenomenon under study and their context (Eisenhardt, 1989; Yin, 2003).

Both case studies were based in the UK food and drink industry; one focused on the brewing sector and the other one on the poultry sector. Due to commercial confidentiality reasons the identities of the companies are not revealed. The research originated from an invitation by a trade association (the Institute of Grocery Distributors) to carry out a study to promote best practice within the industry. The organizations involved were selected with the help of this trade organization. The main criteria were the existence of a continuous trading relationship between the two organizations for at least one year and, the existence in at least one of the organizations, of two distinctive sequential processes (one feeding directly from the other) that allowed us to study an intra-organizational relationship. The selection of two supply chains in the same industry strengthens the internal validity of the study by providing comparable cases however, it is recognized that this selection also has a negative effect on the generalisability of the study.

The collection and analysis of the data using the Wilding and Humphries (2006) methodology brought two important benefits to the research, first, reliability because it has been widely tested and applied in a number of different industries and contexts (over 100 relationships in Europe and Asia, including defence, construction, manufacturing, retail, rail, and agriculture) and second, generalisability, as its widespread use facilitated cross-case comparisons to be made. The method combines a self-selected census questionnaire (where the participants are selected for their



knowledgeability by each company) (Sapsford, 1999) with a series of semi-structured interviews applied to both sides of each dyad simultaneously.

The questionnaire provided a structured approach to understanding each relationship through the capture and analysis of views from a wide variety of knowledgeable informants. The instrument was constructed from a pool of measures comprising 38 closed questions drawn from the literature (Humphries and Wilding, 2003) and using a five-point Likert scale. Its reliability was confirmed using the Alpha coefficient averaging 0.89. Table II presents the definitions of these five dimensions and the number of questions used for each dimension in the questionnaire.

The questionnaire questions are shown in the Appendix together with the Likert scales. The questionnaire responses were processed to provide percentage satisfaction scores for each measure, dimension, and relationship, by customer, supplier, and dyad. For those questions where “Insufficient knowledge” was the response, they were coded as “no answer” and excluded from the scoring.

The semi-structured interviews provided depth, by allowing the exploration of specific issues raised by the questionnaire and flexibility by allowing the interviews to touch other subjects that might have not been covered. The basis for each interview was the headline, joint results from the survey where the interviewee’s views on the gaps and similarities were sought. A key criterion for selecting the participants of both the questionnaire and the interviews is that they have an in-depth understanding of the relationship. In the analysis and discussion section of this paper, quotes from these interviews will be used as examples to support the findings from the questionnaire.

A within-case analysis was conducted followed by a cross-case analysis as recommended by Yin (2003) and Eisenhardt (1989). In the within-case analysis, we allowed the unique patterns of each case to emerge (Eisenhardt, 1989) and, used tables and charts as well as specific quotations to clarify or emphasize the salient points of each case. The cross-case analysis was conducted to allow the exploration of issues

Dimension	Definition	No of questions
Creativity (bounded rationality)	Promoting quality, innovation, flexibility, opportunity-seeking problem-solving, a long-term approach and encouraging high performance	8
Stability (business myopia)	Strategic understanding, synchronization of objectives, investment in relationship-building assets, e.g. people, infrastructure, IT, training	6
Communication (information impactedness)	Promoting high quality, open, frequent, trustworthy information sharing	7
Reliability (opportunism)	Establishing and managing reliable, adaptable, continuously improving service and product delivery, lowering joint costs	10
Value (imprisonment)	Incentivizing joint working and a win-win relationship, sharing benefits, commitment to investment and business development	7
	Total	38

**Table II.**  
Dimensions of the questionnaire

beyond the single features of each case and to identify similarities and differences between cases. This was done using charts and tables to highlight the similarities and differences across the cases, as recommended by Eisenhardt (1989).

**Analysis and discussion**

This section presents the findings and discussion of the case studies. First, an analysis of each case study is presented independently, followed by a cross-case comparison of these results and a discussion of the implications.

*Case 1 – brewing*

This case is comprised of two sets of relationships in the brewing supply chain: an inter-organizational relationship between a grain trader[1] and a beer producer and an intra-organizational relationship between the malting and the brewing processes which are located at different sites, but are part of the same organization. Both organizations are well established in the industry: the brewing company is the UK subsidiary of one of the world’s largest beer producers with an average turnover exceeding £1.5 billion over the last three years; the trader is one of the largest grain traders in the UK with an average turnover of almost £600 million over the last tree years. The organizations have a long-standing relationship going back over 20 years, however, in the last two years they have decided to establish a closer relationship and expand their volume of trade. Table III presents the number of respondents to the questionnaire in each relationship and the results of the questionnaire for both relationships.

Table III shows the percentage satisfaction scores of the responses of both sides of each relationship and a joint score calculated as the average of the two. The results of the questionnaire can be analyzed in a variety of ways however, since the aim of this paper is to analyze the differences between inter- and intra-organizational relationships, the focus of the analysis will be on this comparison.

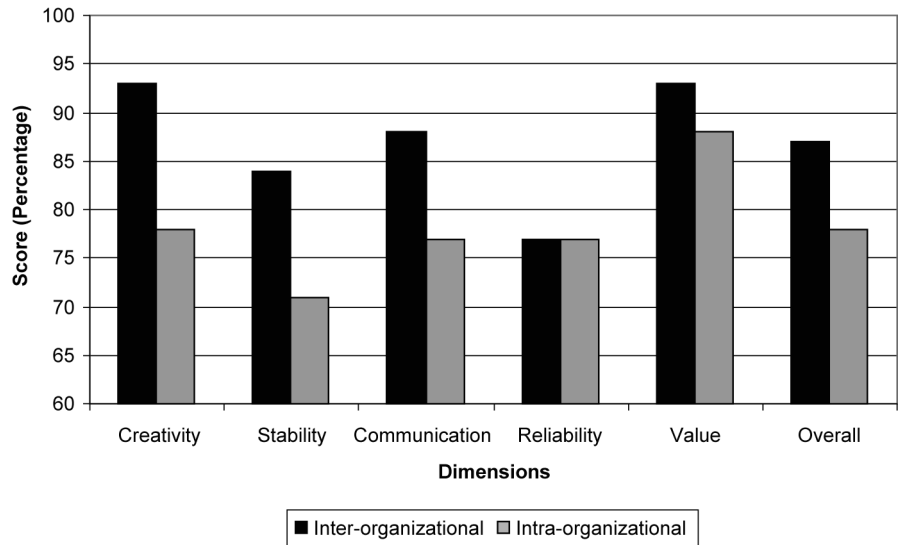
Figure 2 presents a summary of the results from the two questionnaires in a graphical format. The chart shows two lines, representing the average joint scores for each of the relationships broken-down into the five dimensions (creativity, stability, communication, reliability and value), and an average overall score. It must be noted that the results of this case study present generally high values, indicating close

	Inter-organizational relationship			Intra-organizational relationship		
	External supplier	External customer (process 1)	Joint	Internal supplier (process 1)	Internal customer (process 2)	Joint
No of respondents <sup>a</sup>	7	8		4	10	
Creativity	91	95	93	66	89	78
Stability	83	84	84	63	78	71
Communication	85	91	88	68	85	77
Reliability	74	80	77	68	85	77
Value	94	91	93	82	94	88
Overall	85	88	86	69	86	78

**Note:** <sup>a</sup>Total respondents = 29

**Table III.**  
Case 1 – brewing:  
responses analysis and  
questionnaire results

**Figure 2.**  
Supply chain relationships  
case 1 – brewing  
(comparison of inter- and  
intra-organizational  
perspectives)



collaborative relationships in both cases. When interviewed the participants claimed to be satisfied with the current relationships; however, they admitted that the results of the questionnaire helped them to identify some potential areas of improvement.

The chart reveals a number of issues: first, it shows the strengths and weaknesses of both relationships. For example, creativity and value appear to be the strongest dimensions, particularly for the inter-organizational relationship, with scores of over 90 in these two dimensions. This indicates that both parties in this relationship are very positive about the relationship and the mutual commitment to promoting quality, innovation, and high performance. The following quotes from the inter-organizational relationship support these findings:

The relationship encourages innovation. We have started to exchange more ideas and understand each other better.

The relationship is valuable for us because they are the best supplier.

For the inter-organizational relationship, communications also seems to be a strong area and the interviews revealed that both parties were proud of the way they communicated with each other. On the other hand Communication for the intra-organizational relationship received a lower score than other dimensions and some concerns were also revealed during the interviews as indicated by the following: “The relationship is mostly open and honest, but there are things they don’t say”.

Stability and Reliability appear to be the two major weaknesses of these relationships. For the inter-organizational relationship the interviews revealed that nature of the product might be one of the causes of unreliability, as indicated by the following: “We are not as reliable as we could be this year, this has to do mainly with the crop”. Some fears about the long-term future of the relationship were behind the low stability score, as the following quote reveals: “They do not have complete confidence on the relationship; they feel this could be a short term relationship.

Hopefully we will change their view over time”. Realizing this was an issue allowed both organizations to discuss and formulate a plan to resolve these issues.

For the intra-organizational relationship, the low score in the Stability dimension was particularly surprising since good strategic understanding and common objectives are to be expected from two functions within the same organization. Interviews showed that an imbalance of power was the most likely cause for this low score, as this quotation indicates: “internally they have the power, because they are considered as central to the business”.

The results also show a consistent pattern in both relationships, with higher values for creativity and value and lower results in terms of stability and reliability. This indicates that the strength and weakness are similar at different stages of the chain.

Finally, Figure 2 shows that the results for the intra-organizational relationship appear to be consistently lower than those for the inter-organizational one in every single dimension. This issue will be discussed further when both cases are compared.

*Case 2 – poultry*

This case study also involved two relationships, an inter-organizational and an intra-organizational one. In this case, the focus of the study was the poultry supply chain, specifically the relationship between a poultry producer and a supplier of poultry feed. The poultry producer is a large organization with average turnover of more than £450 million over the last three years, while the supplier turned over an average of almost £90 million in the last three years. The companies have had a trading relationship for more than five years. However, the product being traded is considered a commodity and the supplying organization is only one of many suppliers. The intra-organizational relationship is represented by two distinctive processes in poultry production which are located at different sites, one is a milling process and the other one a rearing process. Table IV presents the numbers of respondents to the questionnaire in each relationship and in the following are shown the results of the questionnaires, calculated in the same way as for case study 1.

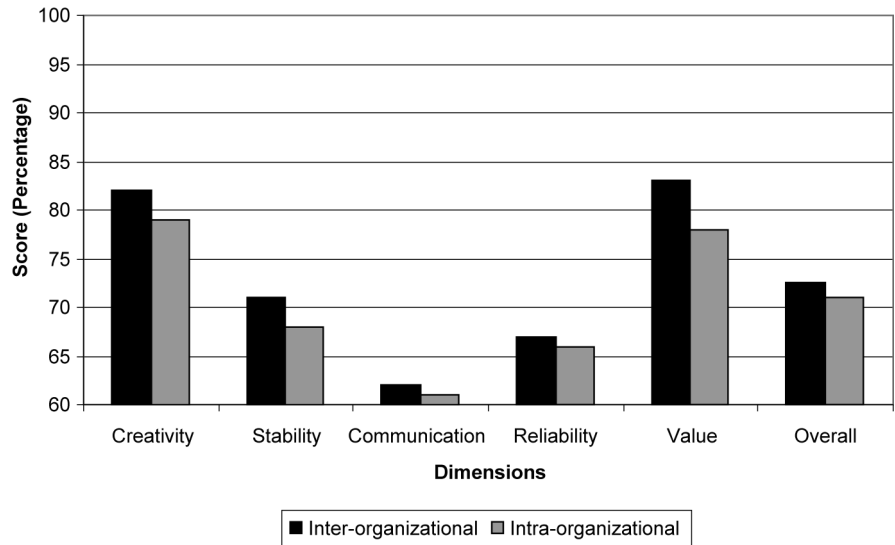
Figure 3 plots the joint scores for both relationships on each of the dimensions indicating the strengths and weaknesses of both relationships in the poultry case.

	Inter-organizational relationship			Intra-organizational relationship		
	External supplier	External customer (process 1)	Joint	Internal supplier (process 1)	Internal customer (process 2)	Joint
No of respondents <sup>a</sup>	3	3		6	5	
Creativity	71	92	82	90	68	79
Stability	56	86	71	72	63	68
Communication	50	74	62	80	42	61
Reliability	70	63	67	75	56	66
Value	86	79	83	87	69	78
Overall	67	79	73	81	60	71

**Note:** <sup>a</sup> Total respondents = 17

**Table IV.**  
Case 2 – poultry:  
responses analysis and  
questionnaire results

**Figure 3.**  
Supply chain relationships  
case 2 – poultry  
(comparison of inter- and  
intra-organizational  
perspectives)



Creativity and Value appear to be the strongest dimensions of both relationships, while Stability and Reliability appear to have some weaknesses. Further investigation helped to identify the causes for the lack of Reliability, which include an unreliable haulage system, as well as inefficiencies in loading and testing. The following provide further evidence of this:

Hauliers are overstretched and take too many loads per day, so if something goes wrong in the morning, all the remaining deliveries will be late.

Loading the product at the farms can sometimes take a long time.

Communication received the lowest score of all five dimensions for both relationships, indicating a particularly weak point. Interviews revealed that communication in both relationships was to a large degree conducted by telephone in an ad hoc manner. Even for the intra-organizational relationship where a computer system was in place to facilitate communication, there was considerable use of informal means to make corrections and last minute changes. Furthermore, it was found that that poor communication was causing disruptions in production and hence affecting operational efficiency. The following quotes exemplify some of the communication problems experienced in this chain:

Inter-organizational: If there is a problem we call them direct and explain the reasons and ask them what they want to do. Sometimes we cancel or re-schedule, but this is done amicably.

Inter-organizational: The reason for limited communication is deliberate on both sides, but does not mean that the relationship is suffering because of it. It is very difficult to operate an 'open book policy' due to the different aims of the two businesses when concluding business.

Intra-organizational: They often call us at the last minute to make changes to orders, this creates much disruption for us, but they don't realize this.

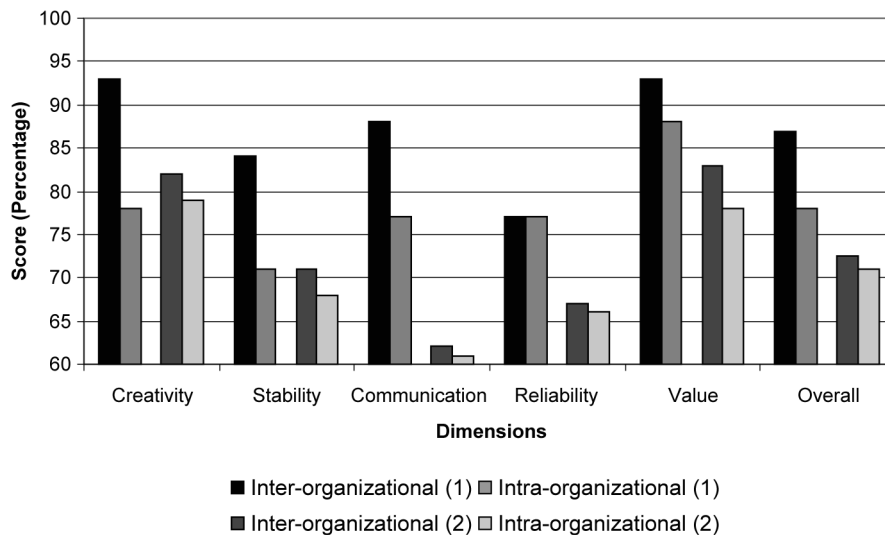
It is important to note that the two relationships in this chain show remarkably similar patterns, which can be seen in the “U” shape in Figure 3. The “U” shape is a result of the order in which the categories are presented, however, what is noteworthy is that both relationships follow a similar pattern and that for every single dimension the inter-organizational relationship scores higher than the intra-organizational one.

*Cross-case analysis*

The cross-case analysis was used to compare and contrast the results from the two cases and identify differences and similarities. Figure 4 shows a comparison of the joint percentage satisfaction scores for the four relationships under study, which shows that all of them appear to follow a similar pattern.

Two possible reasons for this have been hypothesized: that the pattern is determined by environmental and cultural factors prevailing in the industry or that the strengths and weaknesses at one stage affect other stages, for example lack of stability in demand would flow upstream affecting other relationships, while unreliability of supply would flow downstream. A more likely explanation is a combination of the two reasons: on the one hand, there are certain elements that are common to all relationships; high values in creativity and value and relatively low values on stability and reliability, which can indicate that they are common issues within the industry. However, for some dimensions, particularly communication, the two cases show a substantial difference, with Case 1 (brewing) obtaining a considerably higher score. This appears to indicate that this supply chain has been more effective in establishing good communications systems across the various relationships.

Figure 4 also reveals that the inter-organizational relationships obtained higher scores than the intra-organizational ones. This implies that buyer-supplier relationships in these two cases produced closer collaborations than those found between different functions within the organizations. This finding appears to contradict the relationships continuum (Jackson, 1985; Ellram, 1991; Anderson and



**Figure 4.**  
All relationships  
comparison

Narus, 1991), which assumes that intra-organizational relationships are more collaborative than inter-organizational ones. On the other hand, our findings are consistent with those of Koulikoff-Souviron and Harrison (2006), who found that relationships between organizations could – in some cases – be more collaborative than those between different functions within an organizations.

The relationships continuum appears to combine two different aspects of dyadic relationships that should be examined independently: governance and collaboration. Both governance and collaboration are important factors in dyadic relationships, and to a degree, they are related, but they are clearly different constructs. One way of resolving this dilemma is to separating these two aspects of dyadic relationships into two different continuums, one focusing on governance, and another one on collaboration.

Governance refers to issues of ownership, and control of the relationship, and is well represented by the views of Williamson (1981) and Ellram (1991), which classify the relationships according the form of governance with hierarchies (internal governance) and markets (market governance) at each end of the continuum, and additional forms of governance in between, such as short-term contracts, long-term contracts, joint ventures, and equity interest. Collaboration on the other hand refers to joint processes, aligned objectives and mutual benefits, and it is more difficult to represent on a single scale, because it is composed of many different aspects. A number of approaches to categorizing collaboration can be found in the literature; however, they refer to a variety of qualitative, sometimes subjective, aspects of relationships. It was not the purpose of this research to develop a categorization or taxonomy of collaboration; however, this has emerged as an area for further research.

### **Conclusions, limitations, and implications for further research**

This research provided visibility of the status of the relationships across two supply chains. The methods used allowed a comparison of inter- and intra-organizational relationships using Wilding and Humphries (2006) approach. This revealed that in both case studies the intra-organizational relationship was the weaker of the two in terms of collaboration. This indicates that relationships within one organization are not necessarily close collaborative relationships. It appears that common ownership does not imply close collaboration.

The main contribution of this research is that it presents evidence that appears to contradict a key assumption of the relationships continuum (Jackson, 1985; Ellram, 1991; and Anderson and Narus, 1991), which suggests that intra-organizational relationships imply closer collaboration than inter-organizational ones. Questioning this assumption has important implications for both theory and practice.

From a theoretical point of view, the relationships continuum is a widely accepted construct and presenting contradictory evidence is a call for further research in this area in order to test the validity and generalisability of this construct. In practice, the assumption implicit in the relationships continuum can also have substantial implications, because it can influence decisions related to supplier selection, outsourcing, mergers, and acquisitions. For example, an organization might decide to integrate with a supplier because they believe – based on the relationships continuum – that this will create a more collaborative environment. This type of decision is common in industry and can have far-reaching implications for the

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organizations involved. Therefore it is important to ensure that they have a solid theoretical grounding and it is proposed that further research is conducted to assess the validity and generalisability of the “relationships continuum” hypotheses and understand the contextual variables that might affect it.

Another finding of this research that merits further investigation is the identification that the four relationships displayed similar patterns of results across the five categories examined (Creativity, Stability, Communication, Reliability and Value). This might be due to industry specific factors, cultural factors, influences, across different stages of a supply chain or influences, between internal and external relationships, as it has been suggested by Gimenez and Ventura (2005). A way of finding out which of these factors are more significant would be to conduct a larger number of studies across different industries, different countries and several echelons of the supply chain. This would allow a wider comparison, which would in turn help to identify the influence of the various factors.

It is recognized that the research has limitations, which are also opportunities for further research. First, the use of only two case studies in a single industry, which limits the generalisability of the results. This is currently being addressed with more case studies to support our findings. Second, the individual components of the methodology contain inherent weaknesses however; the combination of methods for data collection (i.e. questionnaires and interviews), the use of a tested approach (Humphries *et al.*, 2001, 2003, 2004), and the use of multiple case studies all helped to counteract the effects of this limitation. The third limitation identified is the possibility of bias in both the questionnaire and the interviews due to fear of upsetting the other party and affecting the relationship. To counteract this, several actions were taken including confidential treatment of data, and emphasis on the collaborative nature of the study.

Although few studies have compared inter- and intra-organizational relationships across the supply chain, and those that have are based purely on qualitative data (Koulikoff-Souviron and Harrison, 2006). The originality of this work lies in the comparison of the two types of relationships, which led to valuable findings that question the validity and generalisability of the relationships continuum, with important implications for theory and practice. As one respondent said: “we work better with our customers than with the other functions in our business”.

#### Note

1. Traders are organizations dedicated to storing, trading and marketing grain. Although some of them are co-operatives representing their membership they can be considered an intermediary between grain farmers and users of grain such as retailers, brewers, bakeries, and bio fuel producers.

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**Appendix. List of questionnaire questions**

- (1) Creativity – encouraging innovation and high performance.
  - The relationship encourages the achievement of high performance by both parties, e.g. consistent product quality, on-time delivery, reasonable forecasts.
  - The relationship encourages us to be innovative and flexible in the way we do business.
  - Performance measurement is used to raise standards.
  - Disputes and problems are resolved quickly.
  - Disputes and problems are resolved fairly.
  - The other party is reliable and consistent in dealing with us.
  - The other party is dedicated to making our business a success.
  - When an unexpected problem arises, both parties would rather work out a solution than hold each other to the original contract terms.
- (2) Stability – creating a framework for successful business.
  - The other party displays a sound, strategic understanding of our business.
  - The objectives of both parties are clearly stated.

- The objectives of both parties are fully compatible.
  - Both parties co-operate wholeheartedly.
  - The relationship provides a dynamic business environment within which both parties can seek increasing rewards.
  - I have complete confidence in the intentions of the other party.
- (3) Communication – transparency for business success.
- Where the other party has proprietary information that could improve the performance of the joint business, it is freely available.
  - We have a shared data “environment” where market, planning, technical and pricing information are made freely available.
  - We understand the information requirements of all participants in the supply chain from suppliers to customers.
  - Exchange of information in this relationship takes place frequently and informally – not just according to specified agreement.
  - Objective performance measurement is an important part of this relationship.
  - We are aware of the performance requirements for all participants in our supply chain from suppliers to customers
  - We provide the other party with regular information including long-range up to date forecasts and market developments to enable him to do his business better
- (4) Reliability – creating reliable business processes.
- The quality of the contract outputs, e.g. consistent product quality, fulfilled on-time orders, is entirely satisfactory.
  - The quality of service, e.g. billing, prompt payment, administration, delivery is entirely satisfactory.
  - The relationship is characterised by a continually improving product quality philosophy.
  - Problems are solved in a joint, open, constructive manner.
  - Such is the goodwill in the relationship, the other party would willingly put him/herself out to adapt to our changing requirements.
  - We trust the other party to act in our best interests.
  - The responsibility for making sure the relationship works is shared jointly.
  - The other party provides us with useful cost reduction and quality improvement ideas.
  - The other party is always totally open and honest with us.
  - The other party always does what he says he will do.
- (5) Value – creating the incentive to work together.
- The gains from this relationship are equitably shared between both parties.
  - We do not feel “imprisoned” or restricted within the current relationship.
  - We are willing to invest more i.e. money, time, information, effort, in the current relationship.
  - We are happy that our future is bound to the success of our relationship partner.
  - We feel totally committed to this relationship.
  - The other party is genuinely concerned that our business succeeds.
  - Both sides are working to improve this relationship.

Likert scales:

- (1) Strongly agree.
- (2) Agree.
- (3) Disagree.
- (4) Strongly disagree.
- (5) Insufficient knowledge (treated as a “no answer” response and exclude from the calculation of the satisfaction scores).

#### **About the authors**

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