

Focal supplier opportunism in supermarket retailer category management

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Abstract

Common prescriptions for improving the performance of supermarket retailers center on using key suppliers as “category captains” and leveraging their resources and capabilities to implement effective category management that will both reduce retailer costs and provide a basis for differentiation. However, despite these widespread prescriptions, the potential for supplier opportunism means that supermarket retailers are either skeptical or have failed to make such category management relationships with key suppliers work. Drawing on agency, transaction costs, and network theory, we synthesize insights from qualitative fieldwork with retailer and supplier managers and primary data from 73 category managers in U.K. supermarket retailers to empirically examine antecedents and consequences of category-level focal supplier opportunism. Our findings suggest that focal supplier opportunism decreases retailer category performance and increases militant behaviors among non-focal suppliers in the category supply chain. Consistent with retailer fears, we find that focal suppliers with significant influence in retailers’ category management efforts are more likely to engage in opportunistic behavior. However, our results also reveal that retailer fears that being dependent on a focal supplier will lead to greater supplier opportunism are largely unfounded, while supplier dependence on the retailer is also unrelated to focal supplier opportunism. Finally, we find that retailers’ ability to monitor – but not to punish – its focal suppliers is negatively related to opportunistic behavior among focal suppliers.

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1. Introduction

Grocery retailing is a challenging industry characterized by consolidation, globalization, and the

rapid expansion of mass merchandisers (e.g., Smith, 2004; Whipple et al., 1999). In the face of such trends, grocery retailers have increasingly focused on better managing their supply chains (e.g., Boyer and Hult, 2005; Corsten and Kumar, 2005), and in particular on leveraging suppliers’ resources and capabilities via category management (e.g., Gruen and Shah, 2000; Economist, 1997). Category management involves treating sets of complementary and/or competing brands as strategic business units and allocating resources within these categories to maximize planned outcomes (e.g., Blattberg and Fox, 1995; Dhar

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et al., 2001). One or more suppliers to a category often have greater resources (e.g., consumer insight, marketing budgets, etc.) and stronger capabilities (e.g., brand management, marketing planning, etc.) required for effective category management than the retailer. To leverage these resources and capabilities, retailers may involve suppliers in the analysis of category-level data, category goal setting, and the formulation and execution of category-level plans (Basuroy et al., 2001; Dussart, 1998).

Analysts suggest that retailers can significantly enhance category performance by allowing a key supplier to assume the role of “category captain” where the focal supplier undertakes or has significant input into the retailer’s category management efforts (e.g., Blattberg and Fox, 1995; Freedman et al., 1997). However, despite this widespread prescription, many retailers are either unconvinced or have failed to make such focal supplier category management relationships work (e.g., Brandweek, 1999; Stank et al., 1999; *Supermarket Business*, 1999). The literature offers surprisingly little insights into this important issue. There have been few empirical studies of supplier involvement in category management (Dhar et al., 2001; Gruen and Shah, 2000), and organizational theories offer a vast array of different viewpoints on potentially important factors in understanding retailer–supplier category management relationships. Yet, with grocery retailing being the largest component of global retail sales that now exceed \$8000 billion, and analyst estimates that successful retailer–supplier category management collaborations can produce up to 2% of sales in cost savings, and 11% increases in sales, this is clearly an important issue.

This paper addresses this important gap in knowledge. In addition to offering new empirical insights for retailer and supplier managers, our research contributes to knowledge in three areas. First, using qualitative fieldwork we demonstrate that many of the assumptions underpinning organizational theories that may be viewed as relevant to understanding buyer–supplier relationships do not hold in the context of grocery retailer category management. We therefore synthesize insights from our fieldwork with four different organizational theories (agency, transaction cost, network, and relational exchange theory) to identify supplier opportunism as a key construct in understanding retailer–supplier category management relationships, and to develop a model of important antecedents and consequences of category-level focal supplier opportunism. Importantly, this suggests that problem — rather than paradigm-centered approaches

may be required to study organizational issues in supply chain management.

Second, we test our model in a sample of U.K. supermarket retailers with data from 73 category managers representing seven grocery retailers across a representative set of 35 different product categories to provide new empirical insights into focal supplier opportunism and its direct and indirect impact on retailers’ category-level performance. Our results suggest that retailers are right to be wary of prescriptions to engage in category management relationships with focal suppliers — and that monitoring and the ability to punish opportunistic behavior do not necessarily act as effective safeguards. This has important implications for many supply chain management programs such as VMI and CPFR that rely on relational exchange precepts.

Third, our findings illuminate the supply chain management situation where a buyer’s relationship with a focal supplier allows that supplier to directly influence the buyer’s relationships with competing suppliers who continue to supply products to the buyer. We find that in such situations, opportunistic behavior by a focal supplier provokes responses from other suppliers as well as having a direct negative impact on the retailer’s performance. Since similar buyer–supplier dynamics occur in many other retail sectors, as well as in other industries such as electronics and automotive, our findings offer important new insights into supply chain management in the theoretically important and empirically largely ignored context of networks of suppliers that simultaneously sell competing products to a single buyer.

2. Conceptual model

Much of the operations management (e.g., Krause, 1999; McCutcheon and Stuart, 2000), supply chain (e.g., Stank et al., 1999; Whipple et al., 1999), management (e.g., Dyer and Singh, 1998; Dyer and Nobeoka, 2000), and business-to-business marketing (e.g., Anderson et al., 1994; Cannon and Perreault, 1999) literature over the past decade has drawn on relational exchange theory to advocate more collaborative buyer–supplier relationships. These literatures posit that closer and more collaborative relationships allow buyers and sellers to share resources and obtain mutually beneficial economic outcomes that are superior to those that each party may be able to achieve separately. In grocery retailing, the managerial literature echoes these relational exchange theory notions and advocates more collaborative retailer relationships

with suppliers to enhance their category management efforts and thereby improve performance (e.g., Cannondale Associates, 1999; Freedman et al., 1997). In fact, the literature (e.g., Blattberg and Fox, 1995; Dussart, 1998) and trade press (e.g., Pendrous, 2002; Progressive Grocer, 1999) suggest that a retailer's ability to partner with a focal supplier that has superior category management-related resources and capabilities is key to its category management effort and performance.

However, such prescriptions largely ignore predictions from the agency theory (e.g., Bergen et al., 1992; Eisenhardt, 1989), transaction cost analysis (TCA) theory (e.g., Rindfleisch and Heide, 1997; Williamson, 1975) and network theory (e.g., Holm and Eriksson, 1999; Thorelli, 1986) literature regarding the likelihood and consequences of focal supplier opportunism in this context. As seen in Fig. 1, numerous relevant organization theories offer a wide range of different viewpoints, and suggest a huge range of factors and relationships that may be potentially important in understanding retailer–focal supplier category management relationships. Since interfirm cooperation differs across industries, it is important to understand the context of the phenomena being investigated to determine the relevance and utility of these different

theoretical approaches (e.g., Combs and Ketchen, 1999). In developing our conceptual model we therefore began by generating insights from qualitative fieldwork.

Using insights from discussions with a convenience sample of four retailer and three supplier managers, we first developed a semi-structured interview protocol that included open-ended questions concerning the nature of retailer–supplier relationships in the industry, the factors that may affect retailer–supplier category management relationships, and the perceived consequences of such relationships for the retailer and the rest of the supply chain. Next, we used the protocol in telephone interviews with 49 managers (21 retail buyers and category managers, 11 category management consultants, 10 supplier managers, and seven top managers in retail firms).

The picture of category-level retailer–supplier relationships that emerged from the fieldwork is complex, and often at odds with assumptions that underpin the organization theories viewed as relevant lenses for studying this phenomenon such as those in Fig. 1. For example, in contrast to agency theory assumptions, suppliers appear to be less risk averse than retailers in this context. In fact, suppliers view becoming a category captain as a fundamental basis

	Agency Theory	TCA	Network Theory	Relational Exchange	Fieldwork
Relevant focal constructs	Contracts, incentive compatibility, goals and risk preferences.	Opportunism, asset specificity, environmental and behavioral uncertainty, contracts, monitoring, direct and opportunity costs of transactions.	Strength of ties between firms, structural location of firms relative to the rest of the network, trust, cooperation, social capital.	Relationship-specific assets, knowledge exchange, complementary resources and capabilities, bilateral governance.	Opportunism, dependence, non-focal supplier militancy, monitoring capability, punitive capacity.
Primary level of analysis	Principal-agent dyadic relationships.	Individual buyer-seller dyadic transactions.	Relationships of individual firms with others within a network of firms.	Individual buyer-seller relationship dyad.	Multiple category-level retailer-supplier dyads embedded in a network of other suppliers who continue to supply both the retailer and other retailers.
Basic assumptions	Managers have imperfect information, and face uncertainty. Agents are risk averse and generally more so than risk neutral principals. Individual economically self-interested rationality guides actions.	Low adaptation, performance evaluation, and safeguarding costs result in market transactions. Firms are governance structures that emerge when these costs are relatively high. Firms have more powerful control and monitoring mechanisms than markets, are more able to offer long-term rewards, and may facilitate within-firm shared norms. Decision-makers are boundedly rational.	How a firm interacts with its partners, and the shape and form of its network influence its performance. Strong ties with others are associated with high quality, fine-grained information exchanges and trust-based governance. Weak ties can embed the firm in different network regions, producing novel information. Dense networks promote social governance among members.	Firms invest in relationship specific assets to exchange fine-grained knowledge that enables them to leverage complementary resources and/or capabilities that can deliver rents to each party that could not be achieved by either party alone. Each party is safeguarded by efficient and effective governance mechanisms that lower transaction costs.	Suppliers cheat if they can, and are more risk-taking than retailers in being willing to become category captains. Goal is to 'grow the pie' but category captains can gain economic benefits at the expense of other suppliers. Suppliers also compete to become category captains to increase their power position relative to the retailer – and seek to impede technology transfer to maintain this power.
Conception of retailer's category management relationship with a focal supplier	<i>Ex ante</i> problem of finding most appropriate supplier to perform category captain role and designing a contract that will minimize the retailer's <i>ex post</i> costs in the relationship.	Category management as a 'make or buy' decision involving high levels of human asset specificity and high safeguarding costs. Retailers may reduce <i>ex post</i> transaction costs of a 'buy' decision by designing appropriate governance mechanisms.	Retailer has strong ties (frequent interaction and greater resource commitment to the relationship) with focal supplier and weaker ties with non-focal suppliers to the category. Focal supplier may occupy a structural hole in the retailer's supply network and gain efficiency and control benefits.	Retailer and focal supplier share complementary resources to create mutually beneficial category-level outcomes that neither could achieve alone. Joint goals, planning and outcomes form an efficient governance mechanism to safeguard any relationship specific assets required.	Informal, non-contractual relationship between a focal supplier who sees being category captain as a way of enhancing their competitive position relative to other suppliers and power relative to the retailer, and a retailer who needs additional resources and capabilities to enhance their category-level performance.

Fig. 1. Different perspectives on retailer–focal supplier category management relationships.

of competition among themselves and actively seek to fulfill this role expecting that it will provide an opportunity to increase their revenue and profits on sales at the retailer's stores. Further, while agency and TCA theory focus on safeguarding and incentive alignment through contracts, the presence of strong anti-trust concerns means that retailer–supplier category management relationships are informal. However, this does not imply that both parties necessarily view a mutually beneficial exchange and behavioral norms as providing an effective and efficient alternative governance mechanism as is assumed in relational exchange theory. In fact, suppliers view becoming a category captain as an opportunity to develop control of a critical dependency for retailers, providing a valuable mechanism for addressing some of the perceived power imbalance between themselves and their increasingly consolidated retail customers.

Similarly, in contrast to the fundamental TCA precept that opportunism and an inability to efficiently control it leads managers to vertically integrate, retailer managers in our fieldwork often view the need to leverage a key supplier's resources and capabilities to compete with rival mass merchant entrants as outweighing such considerations. In addition, many retailers seek to engage in technology transfer of category management capabilities from key suppliers to the retailer, and to leverage these capabilities across multiple categories. However, in contrast to the network theory precepts summarized in Fig. 1, suppliers are keen not to engage in fine-grained category management capability transfer as they view this as one of very few 'weapons' with which they may combat growing retailer power in supply chains.

One particularly important characteristic of this context is that most retailers simultaneously use more than one – and usually many more than one – supplier in any particular category of products. Variety and choice for consumers is an important determinant of consumers' decision to patronize a store, and it is therefore in a retailer's interests to maintain a network of suppliers to provide the necessary assortment of products. An important facet of our research context is therefore that a supplier who is influential in a retailer's category management efforts is in a position to directly affect the marketing of competing suppliers' products. This is particularly interesting from a supply chain perspective, since our fieldwork suggests that the impact of retailer–focal supplier category management relationships is keenly felt by competing suppliers with whom the retailer maintains an ongoing supplier relationship.

Perhaps the most important fieldwork insight into understanding retailer–supplier category management relationships was uncovering the important role of retail managers' perceptions of supplier opportunism. Many retailer managers evidenced a fundamental belief that given the opportunity, most, if not all of their suppliers would deceive them to benefit themselves. Consultants and supplier managers also pointed to retailer fears of supplier opportunism as key to understanding retailer–supplier category management relationships. Among the multitude of different factors suggested as important in understanding category-level focal supplier opportunism by different organization theory lenses, our fieldwork indicated the particular importance of: supplier power as manifest in the influence of a supplier on retailers' category management efforts; retailer and supplier dependence on one another in achieving their business objectives; the ability of retailers to monitor their suppliers' behavior and performance; the ability of retailers to punish errant supplier behavior.

Synthesizing our fieldwork insights with the theoretical literature we next develop hypotheses concerning the conditions under which category-level focal suppliers may be likely to engage in opportunistic behaviors, and the costs to the retailer and the rest of the supply chain of such opportunism. Drawing on our fieldwork, we define the "focal supplier" in this research as the supplier having the most impact on the retailer's management of the product category.

3. Hypotheses

3.1. *Antecedents of focal supplier opportunism*

While retail analysts focus on the potential for enhanced retailer performance from allowing a focal supplier to influence its category management, in our fieldwork retail managers also saw the potential for significant costs. While retailers are ultimately "in charge" of category management decisions, our fieldwork supported TCA theory propositions that a focal supplier having significant influence on retailer category management is more likely to engage in guileful self-interest seeking, i.e., opportunistic behavior (e.g., Brown et al., 2000; Heide, 1994; Williamson, 1975, 1993). This contrasts with relational exchange theory propositions that retailer–focal supplier goal alignment around "growing the category pie" would lead to informal and self-enforcing governance in their relationship. Rather, retail managers interviewed believed that most suppliers would deceive them to seek to maximize their own economic goals — and that

allowing the focal supplier a greater say in their category management efforts provided an opportunity to do so. For example, retail managers suggested that a supplier involved in developing category plans could skew data analyses to support recommendations to delete rivals' products or adjust the pricing or promotion of the retailer's own-label products to maximize the focal supplier's own sales and profits rather than those of the retailer. This viewpoint is supported in a number of marketing channel studies which indicate that opportunism is a common accompaniment to higher levels of supplier influence (e.g., Kumar et al., 1998; Wathne and Heide, 2000). We therefore suggest that:

H1. The greater the focal supplier's influence on the retailer's category management, the greater the level of focal supplier opportunism.

Retailer dependency concerns the degree to which the retailer relies on resources and capabilities from the focal supplier to achieve its category objectives (Dwyer et al., 1987). Consistent with relational exchange theory, our fieldwork suggested that retailers often do not possess the resources and capabilities required to maximize category performance and, therefore, frequently seek to leverage the resources and capabilities of key suppliers. To the extent that these resources and capabilities cannot easily be replaced by the retailer, this increases the power of the focal supplier (e.g., Buchanan, 1992; Kumar et al., 1998). Supplier managers in our fieldwork viewed such a dependency as a very desirable outcome. In contrast to network theory propositions they therefore carefully tried to avoid transferring fine-grained category management knowledge to the retailer for fear of reducing the retailer's dependency. The TCA literature indicates that greater dependency may lead to greater retailer tolerance of opportunistic behavior by a focal supplier (e.g., Wathne and Heide, 2000). Supporting this, a number of retailers in our fieldwork suggested that being dependent on a supplier in a category would result in a less advantageous relationship, with the supplier acting more in its own short-term interests than in the long-term interests of the retailer's category performance. We therefore posit that:

H2. The greater the retailer's dependency on the focal supplier, the greater level of focal supplier opportunism.

Supplier dependency concerns the degree to which the focal supplier relies on the retailer in order to achieve its business goals (Dwyer et al., 1987). To the extent that the demand for its products from a particular retailer cannot easily be replaced, this increases the

power of the retailer (e.g., Buchanan, 1992; Kumar et al., 1998). The supply chain management literature indicates that such power dynamics are important determinants of supplier satisfaction and behavior (e.g., Benton and Maloni, 2005). As suggested in Fig. 1, from an agency theory perspective, when a retailer uses an external supplier to aid its category management efforts, the retailer is a principal in an agency relationship with the focal supplier being an agent (Eisenhardt, 1989). Even though formal agreements concerning these relationships are rare because of anti-trust concerns, agency theory suggests that informal agreements are powerful when the goals of the agent and the principal are well aligned (e.g., Bergen et al., 1992). Similarly, TCA theory indicates that greater dependency on the retailer may lead the supplier to eschew chances to behave opportunistically, since the risks to its ability to achieve its longer-term business goals by potentially damaging its relationship with the retailer may outweigh any short-term opportunism benefits (e.g., Rokkan et al., 2003; Wathne and Heide, 2000). In our fieldwork, a number of supplier managers voiced a belief that being dependent on a particular retailer usually resulted in reduced motivation for opportunistic behavior for precisely this reason. We therefore posit that:

H3. The greater the focal supplier's dependency on the retailer, the lower the level of focal supplier opportunism.

Monitoring ability concerns the retailer's capacity to quickly uncover opportunistic behavior by a focal supplier (c.f. Heide and Miner, 1992). Both agency and TCA theory indicate that monitoring is an effective mechanism to reduce information asymmetry and safeguard idiosyncratic investments in buyer–seller relationships (e.g., Bergen et al., 1992; Wathne and Heide, 2000). In our fieldwork, a number of retailer managers believed that they were able to observe most opportunistic behaviors by focal suppliers. Often, this involved monitoring their own category-level performance relative to both past performance and agreed category objectives. Most retailers also sought to verify data and analyses used to make recommendations on decisions to change important category performance levers such as shelf-sets, product assortments, etc. The agency theory and TCA literature posit that effective monitoring may reduce opportunism by increasing social pressure on the focal supplier to comply with informal agreements and relationship norms (Bergen et al., 1992; Wathne and Heide, 2000), and also by enhancing the retailer's ability to detect opportunism

(Eisenhardt, 1989; Stump and Heide, 1996). Our fieldwork supported this viewpoint, with managers suggesting that focal suppliers were less likely to try and take advantage of their position when they believed that the retailer would be able to easily and quickly identify such actions. We therefore suggest that:

H4. The greater the retailer's ability to monitor the behavior of the focal supplier, the lower the level of opportunistic behavior by the focal supplier.

While agency theory and relational exchange theory emphasize the alignment of positive incentives, our fieldwork indicated that more important in the context of retailer–supplier category management relationships are the retailer's ability to impose negative sanctions — i.e., their punitive capacity. Punitive capacity is the retailer's ability to punish the focal supplier if and when required (Kumar et al., 1998). A strong punitive capability signals to a supply chain partner the potential downside consequences of any failure to comply with relationship agreements and norms (e.g., Brown et al., 2000; Jap and Ganesan, 2000). In our fieldwork, a number of retailer managers believed they had a significant ability to punish any observed opportunistic behaviors by focal suppliers — and perceived their suppliers as being well aware of this. For example, managers suggested that the basis of competition between category suppliers was increasingly focused on jockeying for the “category captain” position with retailers. Since our fieldwork indicated that there were usually multiple suppliers that were able and willing to perform the category captain role, retailers possess the sanction of being able to replace the focal supplier in its category management. Retailers therefore exercise considerable “fate control” that may influence the focal supplier's behavior. This is consistent with agency theory precepts where principals provide incentives compatible with agents' motivations to ensure compliance with agreements (e.g., Bergen et al., 1992; Eisenhardt, 1989). This suggests that:

H5. The greater the retailer's punitive capacity, the lower the level of opportunistic behavior by the focal supplier.

3.2. Consequences of focal supplier opportunism

Our fieldwork indicated that to the extent that it exists, focal supplier opportunism can diminish retailers' category-level performance outcomes. TCA theory posits that opportunistic behavior in buyer–supplier relationships can lead to such significant

market failures that relationships should be abandoned (e.g., Williamson, 1975, 1993). To the extent that relationships with opportunistic focal suppliers are not abandoned, retailers will therefore likely suffer sub-optimal category performance outcomes (e.g., Carter, 2000). While retailer managers believe that they are able to detect many opportunistic behaviors, there may still be significant retailer costs when an opportunistic supplier benefits at the retailer's expense prior to this behavior being detected. Further, while a retailer can punish observed focal supplier opportunism, the disruption costs to category management efforts involved in any punitive actions may also negatively impact retailers' category performance (c.f., Jacobides and Croson, 2001; Ping, 1994). We therefore propose that:

H6. The greater the level of focal supplier opportunism, the lower the retailer's category performance outcomes.

Consistent with network theory conceptualizations of supply chains, our research context presents a situation in which the retailer–focal supplier category management relationship may affect retailer relationships with other category suppliers (e.g., Holm and Eriksson, 1999; Lorenzoni and Lipparini, 1999; Thorelli, 1986). Since the retailer relies on non-focal suppliers to supply products for almost all product categories, a focal supplier that is influential in retailers' category management efforts influences not only the marketing of its own products sold through the retailer but also those of competing suppliers. Opportunistic focal suppliers can therefore potentially benefit themselves at the expense of others in the category supply chain — indeed managers suggested that this is a primary incentive for seeking the category management role. Our fieldwork indicated that as a result, focal supplier opportunism can lead non-focal suppliers to engage in unproductive or “militant” behaviors — such as arguing with retailer category management decisions and obstructing and interfering with their implementation.

This may arise when non-focal category suppliers perceive that the focal supplier is acting purely in its own self-interest at the expense of the retailer, because it is in their own economic interest to seek to minimize the extent to which they aid the focal supplier (a competitor for the retailer's category business) to achieve its objectives (c.f., Anderson et al., 1994). Our fieldwork revealed that retailers often frame their relationship with the focal supplier in “win–win” terms of “growing the category pie” — which ultimately may benefit all

category suppliers. Managers suggested that when other suppliers perceived a focal supplier to be seeking to “grow its slice of the pie” rather than the whole category, then this was viewed as having a direct negative impact on them as well as the retailer. This supports TCA theory predictions that focal supplier opportunism is likely to affect other suppliers as well as the buyer (e.g., Rindfleisch and Heide, 1997; Williamson, 1975, 1993). We therefore posit that:

H7. The greater the level of focal supplier opportunism, the greater the level of militant behavior by non-focal suppliers to the category.

Non-focal suppliers in the category supply chain still supply products to the retailer, and have to work with the retailer and the focal supplier to enable the formulation and execution of category-level plans (e.g., Gruen and Shah, 2000). Our fieldwork indicated that when non-focal supplier cooperation is withheld – or worse non-focal suppliers deliberately seek to disrupt the execution of category management decisions – then it is more difficult for the retailer to implement its category plans and achieve its desired category-level objectives. For example, consistent with network theory conceptualizations of the benefits of “weak ties”, our fieldwork suggested that some retail managers sought to balance their category management relationship with a focal supplier against their ability to maintain access to new product innovations and marketing support that may be available from non-focal category suppliers. In addition, retailers need non-focal suppliers to fit in with category-level promotional and feature display schedules, and take an active part many other “blocking and tackling” activities required to successfully implement category management plans. Our fieldwork therefore supports network theory predictions that superior performance derives from optimizing not just a single buyer–supplier interorganizational relationship but the entire network of supplier relationships within the buyer’s supply chain (e.g., Dyer and Nobeoka, 2000). We therefore posit that:

H8. The greater the level of non-focal supplier militancy, the lower the level of the retailer’s category performance.

4. Research method

There are no available secondary data concerning the phenomena in our model, so primary data are required to test our hypotheses. Ensuring generalizable insights

requires identifying a range of product categories that are both representative of those in which retailers compete and that are also comparable across retailers (Dhar et al., 2001). There are over 300 supermarket categories as separately defined by the main market information providers in the supermarket industry, ACNielsen (ACN) and information resources (IRI). We identified 42 categories that exhibited consistency between ACN and IRI in sales volume estimates and descriptions of products comprising each category. Reviewing these categories with four senior managers at different retailers led us to drop seven of these 42 as they were defined and operationalized differently between retailers. The remaining 35 categories were judged sufficiently consistent in their definition between different retail chains to allow comparable data while also providing a broad cross-section of category types and sales volumes. Given the need to collect data from these 35 categories across a sufficient number of retailers to establish generalizable results, we adopted a mail questionnaire data collection research design.

4.1. Measures

Where possible we adapted existing to our research context using insights from our fieldwork interviews. Where this was not possible, we combined insights from our fieldwork and the literature to develop new measures. We initially refined our new measures by reviewing possible scale items with six grocery industry managers to enhance face validity. Measures were then further refined through a pre-test in which 20 category managers/buyers completed the survey in the presence of the researchers and were encouraged to ask for clarification while doing so and subsequently probed to check their understanding of each question and the meaning of individual items.¹ The final items used to indicate each construct in our study and the associated survey questions are contained in Table 1. All measures were multi-item and used seven-point response scales. Respondents were instructed to focus on the single supplier to the category that they judged had the most influence on how they managed the category in answering questions relating to the focal supplier.

¹ The focal supplier influence, focal supplier opportunism, non-focal supplier militancy, category strategic importance, and category performance measures were also pre-tested in a sample of 359 US category managers.

Table 1
Constructs and measurement assessment

Construct, questions, and items	Standardized loading	Composite reliability	AVE (%)
Focal supplier influence ^a (“considering this category of products, the supplier who has the most influence. . .”)		0.86	61.0
Has quite a bit of impact in our category goal setting	0.717		
Has much more say in running this category than any other supplier	0.821		
Significantly influences how other suppliers’ SKUs are marketed	0.845		
Has a lot of say in how we run this category	0.733		
Retailer dependency ^a (“indicate the extent to which you agree or disagree with the following statements as it applies to your firm and the most influential supplier to this category”)		0.90	74.2
This supplier would be very difficult to replace	0.847		
We are dependent on this supplier	0.733		
Losing this supplier would be costly for us	0.986		
Supplier dependency ^a (“indicate the extent to which you agree or disagree with the following statements as it applies to your firm and the most influential supplier to this category”)		0.91	76.6
This supplier is dependent on us	0.949		
This supplier would find it difficult to replace our business	0.825		
This supplier would find it very costly to lose our account	0.846		
Retailer monitoring ability ^a (“indicate the extent to which you agree or disagree with the following statements as it applies to your firm and the most influential supplier to this category”)		0.87	68.6
We would quickly know if this supplier were acting in its’ own interest rather than that of the category	0.721		
Any moves by this supplier to benefit itself at the expense of the category would be pretty transparent	0.802		
This supplier could enrich itself at our expense without our knowledge (reverse scored)	0.946		
Retailer punitive capacity ^a (“indicate the extent to which you agree or disagree with the following statements as it applies to your firm and the most influential supplier to this category”)		0.94	82.8
If we wished, we could severely penalize this supplier	0.934		
We could make things very difficult for this supplier if we needed to	0.976		
If required, we could easily damage this supplier’s business	0.812		
Focal supplier opportunism ^a (“considering this category of products, the supplier who has the most influence. . .”)		0.93	75.5
Has tried to deceive us on several occasions	0.922		
Often acts to benefit itself at our expense	0.888		
Is open in dealing with us (reverse scored)	0.749		
Lacks integrity when not closely monitored	0.907		
Non-focal supplier militancy ^b (“during the time that the most influential supplier to this category has been the most influential, please indicate whether there has been more or less of each of the following behaviors on the part of the other suppliers for this category of products:”)		0.92	73.4
Sabotaging good ideas from another supplier	0.860		
Arguing with my decisions	0.804		
Obstructing programs that we initiate	0.893		
Interfering with what needs to be done to meet our objectives	0.868		
Retailer’s category performance (“for each pair of adjectives below, please circle the number that best indicates your assessment of how well the results achieved in this category during the last year met objectives:”)		0.96	86.7
‘Excellent’ to ‘poor’ (reverse scored)	0.938		
‘Well short of goal’ to ‘far exceeded goal’	0.938		
‘Outstanding’ to ‘unsatisfactory’ (reverse scored)	0.889		

Table 1 (Continued)

Construct, questions, and items	Standardized loading	Composite reliability	AVE (%)
'Very disappointing' to 'a pleasant surprise'	0.960		
Category strategic importance ^a ("in comparison with other categories of products at your store or chain, this particular category...")		0.89	72.4
Is key to our ability to compete effectively	0.873		
Acts as a "traffic builder" for the store	0.878		
Generates much larger sales revenue than other categories	0.811		

^a "Strongly disagree" to "strongly agree" scale anchors.

^b "Much less" to "much more" scale anchors.

4.2. Sample

The U.K. supermarket industry is very concentrated with 11 large chains accounting for over 95% of all U.K. supermarket sales (Smith, 2004). We mailed our survey instrument to the buying offices for these 11 supermarket retailers. We faxed a personalized pre-notification letter explaining the research and requesting each retailer's participation to the general manager (GM) of each buying office. We then mailed survey packets to the GM listed for each buying office containing a letter explaining the research and 35 envelopes containing the survey instrument naming each one of the 35 categories, and asked the GM to forward each of the envelopes to the manager with responsibility for that product category.

4.3. Survey responses

We received 75 completed questionnaires from seven of the 11 supermarket retailers representing a response rate of 64% of the retailers in our sample (with responses for an average of over 12 categories per retailer) and 19.5% of the total potential category managers. Collectively, we obtained data from retailers responsible for approximately £90 billion in sales, which is around

85% of U.K. annual supermarket sales. We also obtained good coverage of the 35 categories, with the number of responses ranging from a low of 1 to a high of 4, with a mean of 2.28 responses per category. On average (mean), the suppliers identified by respondents as the focal supplier accounted for 38.5% of the retailer's category sales and had been supplying the retailer for 25.9 years. Two questionnaires were subsequently excluded from our data set due to excessive missing data. Following Armstrong and Overton (1977), to assess the likelihood of non-response bias we compared the mean scores for all constructs between early respondents (those responding before the median date of response) and later respondents (those responding after the median date of response), finding no significant differences between the two groups. Descriptive statistics for all of the constructs used in our study and their intercorrelations are contained in Table 2.

5. Results

We validated our measures and tested our hypothetical model using partial least squares (PLS), and more specifically PLSGRAPH (v. 3.0) (e.g., Johnston et al., 2004). PLS is a structural equation modeling tool that

Table 2
Construct means, standard deviations, and intercorrelations

Constructs	Mean	S.D.	X1	X2	X3	X4	X5	X6	X7	X8
X1 Focal supplier influence	3.94	1.08								
X2 Focal supplier opportunism	2.98	1.10	0.31**							
X3 Retailer dependency	4.54	1.52	0.13	-0.26*						
X4 Supplier dependency	4.53	1.48	-0.14	-0.19 [†]	0.29**					
X5 Retailer monitoring ability	5.32	0.89	-0.08	-0.28*	0.04	0.17				
X6 Retailer punitive capacity	4.93	1.24	-0.28*	-0.17	-0.02	0.38**	0.14			
X7 Non-focal supplier militancy	3.27	0.91	-0.00	0.26*	-0.11	-0.00	0.02	-0.10		
X8 Retailer category performance	4.29	1.25	-0.05	-0.24*	0.00	0.12	0.14	-0.11	-0.12	
X9 Category strategic importance	4.06	1.42	0.09	0.08	0.23*	0.38**	0.23*	0.04	-0.30*	0.28*

[†] $P < 0.10$.

* $P < 0.05$.

** $P < 0.01$.

employs a fixed point or component-based least squares estimation procedure to obtain parameter estimates. PLS uses a series of interdependent OLS regressions to minimize residual variances, placing minimal demands on data in terms of measurement scales, sample size, and distributional assumptions (Chin, 1998; Fornell and Bookstein, 1982; Wold, 1982). Therefore, it is preferable to approaches that employ covariance-based maximum likelihood methods (e.g., LISREL, EQS, etc.) in examining data where the sample size is relatively small (Bagozzi et al., 1991b; Hulland, 1999). PLS is also a conservative modeling approach that tends to underestimate rather than overestimate path coefficients (Dijkstra, 1983), reducing the likelihood of Type 1 errors in hypothesis testing (Bagozzi et al., 1991b).

5.1. Assessment of measures

The psychometric properties of the latent constructs were evaluated through a confirmatory factor analysis using PLS. As shown in Table 1, the strong loadings and highly significant *t*-values for each of the items on the constructs they are intended to represent support the convergent validity of our measures (e.g., Anderson and Gerbing, 1988). To assess discriminant validity, we examined the average variance extracted (AVE) of each construct and compared this with the shared variances for all possible pairs of constructs (e.g., Anderson and Gerbing, 1988; Fornell and Larcker, 1981). The AVE values ranged from 61 to 86.7%, while the shared variances ranged from 0 to 14.4%, indicating discriminant validity among our constructs (Anderson and Gerbing, 1988; Bagozzi et al., 1991a). We assessed reliability by calculating the composite reliability of each scale (Fornell and Larcker, 1981). The composite reliabilities of our measures ranged from 0.86 to 0.96 (see Table 1) suggesting that each scale has excellent reliability.

Since our data were collected using a single survey instrument, we performed Harmon's single-factor test which clearly indicated that significant common-method bias was unlikely to be present in our data.² In addition,

² Given our small sample size we used a bootstrapping approach and examined the fit of a single "same source" factor measurement model relative to a nine factor measurement model (as in Table 1). The single-factor model did not fit the data adequately on any commonly used fit metrics. In addition, an unconstrained EFA resulted in a nine-factor solution explaining over 80% of the variance in the data in which each of the items correctly loaded onto its intended factor representing the nine constructs in our model, and the first factor explained only 17% of the variance in the data — well below the commonly used 25% cut-off for EFA indications of common method bias.

we also asked participating retailers to provide objective data concerning the percentage changes in sales, profit, and market share for each surveyed category over the past year. These objective data were significantly correlated (at the $p < 0.001$ level) with our perceptual category performance scale with coefficients of 0.664, 0.487, and 0.571, respectively.³

5.2. Hypothesis testing and results

We tested two models, one including only the hypothesized paths, and a second also including paths from the category strategic importance control variable to the three endogenous variables (focal supplier influence, non-focal supplier militancy, and retailer category performance). Our hypothesis testing only PLS model explains 25% of the variance observed in focal supplier opportunism, and 7% and 6% of the variance observed in the non-focal supplier militancy and retailer category performance outcomes observed, respectively. Including the category strategic importance control variable increased the variance observed in focal supplier opportunism to 29%, and the variance observed in the non-focal supplier militancy and retailer category performance outcomes to 16% and 17%, respectively. We report the results of each hypothesis test below and summarize these results in Table 3.

As revealed in Table 3, the hypothesized positive relationship between focal supplier influence in retailers' category management and focal supplier opportunism in H1 was supported in our data ($\beta = 0.317$, *t*-value 2.60). However, neither H2, indicating a positive relationship between the retailer's dependency on the focal supplier and focal supplier opportunism ($\beta = -0.291$, *t*-value 1.17), nor H3, indicating a negative relationship between supplier dependence on the retailer and focal supplier opportunism ($\beta = 0.001$, *t*-value 0.01) were supported. H4, linking the retailer's monitoring ability with reduced focal supplier opportunism was supported in our data ($\beta = -0.231$, *t*-value 2.53). However, H5, linking retailers' punitive capacity with focal supplier opportunism was not supported ($\beta = -0.050$, *t*-value 0.32). From a category performance outcome perspective, H6 linking focal supplier opportunism negatively with the retailer's category performance was supported in our

³ Since retailers may have different objectives for some categories (e.g., traffic building, etc.), we would not expect the correlations with the objective measures on these criteria to be perfect.

Table 3
PLS structural model results

	Without control paths		With control paths	
	Standardized coefficient	<i>t</i> -Value	Standardized coefficient	<i>t</i> -Value
Hypothesized paths in model				
H1 Focal supplier influence → focal supplier opportunism	0.317	2.60	0.281	2.36
H2 Retailer dependency on supplier → focal supplier opportunism	−0.291	1.17	−0.303	1.18
H3 Supplier dependency on retailer → focal supplier opportunism	0.001	0.01	−0.120	0.94
H4 Retailer monitoring ability → focal supplier opportunism	−0.231	2.53	−0.273	3.03
H5 Retailer punitive capacity → focal supplier opportunism	−0.050	0.32	−0.024	0.15
H6 Focal supplier opportunism → retailer category performance	−0.227	2.97	−0.278	3.42
H7 Focal supplier opportunism → non-focal supplier militancy	0.264	2.44	0.284	2.92
H8 Non-focal supplier militancy → retailer category performance	−0.060	0.35	−0.050	0.32
Control paths in model				
Category strategic importance → focal supplier opportunism			0.230	1.91
Category strategic importance → non-focal supplier militancy			−0.320	3.51
Category strategic importance → retailer category performance			0.328	2.51
Variance explained in endogenous variables				
Focal supplier opportunism	$R^2 = 0.25$		$R^2 = 0.29$	
Non-focal supplier militancy	$R^2 = 0.07$		$R^2 = 0.17$	
Retailer category performance	$R^2 = 0.06$		$R^2 = 0.16$	

t-Values greater than 1.99 are significant at $p < 0.05$, those greater than 2.64 are significant at $p < 0.01$.

data ($\beta = -0.227$, *t*-value 2.97). H7, indicating a positive relationship between opportunistic behaviors by a focal supplier and militant behavior among non-focal suppliers to the category was also supported ($\beta = 0.264$, *t*-value 2.44). However, H8 negatively linking non-focal supplier militancy with retailers' category performance, while in the expected direction, was not found to be significant ($\beta = -0.060$, *t*-value 0.35).

Introducing the category strategic importance control variable to the hypothesis testing model had no impact on the direction and significance level of the path coefficients of any of the hypothesized relationships. However, the category strategic importance control variable was found to have a direct negative effect on non-focal supplier militancy ($\beta = -0.320$, *t*-value 3.51), and a direct positive impact on retailer category performance ($\beta = 0.280$, *t*-value 2.92).

6. Discussion and implications

Our descriptive statistics do not indicate rampant opportunism among focal suppliers to U.K. supermarket retailers at the category-level. In fact, the mean score of 2.98 (median 2.75, mode 2.5) on a seven-point response scale for the focal supplier opportunism measure was the lowest rating by retailer managers on

any of our constructs. However, our results do indicate that consistent with TCA theory and our fieldwork, where focal supplier opportunism exists, it has a significant direct negative effect on retailers' category performance. Additionally, in line with our fieldwork and TCA and network theory predictions, we also find that focal supplier opportunism is positively associated with non-focal supplier militancy. Interestingly, however, despite the fact that non-focal suppliers' products account for the majority of retailers' category sales in our sample, we find that non-focal supplier militancy is not significantly related to retailers' category performance. One possible explanation is that non-focal suppliers do not have enough power to impede retailers' category management efforts sufficiently to impact retailers' performance. Alternatively, it is also possible that the focal supplier "absorbs" the negative impact of non-focal supplier militancy and protects the retailer's performance at its own expense in order to retain the desirable position of category captain.

Consistent with retailer managers' fears in our fieldwork, our results indicate that supplier influence on retailer category management is significantly related to focal supplier opportunism. However, our findings also support our fieldwork and agency and TCA theory suggestions that the retailer's ability to monitor focal

supplier behavior can limit opportunistic behavior. In contrast, while retailers usually have the ability to punish such opportunistic behavior when detected, this does not appear to deter focal supplier opportunism. This is counter to agency theory's position that providing attractive incentives will ensure that an agent adheres to agreements (e.g., Bergen et al., 1992). Further, in contrast to the recent findings of Kim and Hsieh (2003) in a study of industrial distributors, our results suggest that neither focal supplier dependence nor retailer dependence are significantly related to focal supplier opportunism.⁴

To explore possible indirect effects of dependency, monitoring capabilities, and punitive capacity via their impact on the focal supplier influence–opportunism relationship, we also conducted some post-hoc moderated regression analyses. These analyses revealed that neither retailer or supplier dependency nor their interdependency affects the focal supplier influence–opportunism relationship. Similarly neither retailer monitoring capabilities nor punitive capacities moderate the focal supplier influence–opportunism relationship. This suggests that while retailer monitoring can help to deter opportunistic behavior by a focal supplier as evidenced in our hypothesis testing results in Table 3, the retailer's monitoring capabilities do not appear to reduce the likelihood that a focal supplier given influence in the retailer's category management efforts will behave opportunistically.

Finally, the control variable paths indicate that non-focal supplier militancy is less likely to occur in categories that are more important to the retailer. This may be a result of non-focal suppliers have a greater incentive to be viewed as “team-players” by the retailer in these categories given the greater attractiveness to suppliers of strategically important categories, and consequently greater competition in the supply chain for the category captain position. The positive relationship between category strategic importance and category performance is likely to be a result of retailers following prescriptions to deploy scarce category management resources to the categories that are most important in determining the retailer's ability to achieve its overall strategic goals (e.g., Blattberg and Fox, 1995).

⁴ Following Kim and Hsieh (2003), we also conducted a post-hoc analysis of retailer–supplier interdependence (both as total interdependence – a second-order formative scale, and from a bilateral perspective – the product of the two unilateral dependencies) and focal supplier opportunism. Both produced the same insignificant results.

Our research context is novel and theoretically interesting in a number of ways. For example, retailers commonly require collaborative relationships with key suppliers to access needed category management resources and capabilities, yet fear that entering into such relationships will lead them to become victims of opportunism. Further, retailers have multiple suppliers to a product category — and need to maintain good relationships with these suppliers to provide consumers with a varied and up-to-date product assortment, yet closer relationships with a focal supplier in managing the category gives that supplier significant power over the marketing of its competitors' products. While both network and TCA theory highlight the need to examine such contexts (e.g., Anderson et al., 1994; Williamson, 1996), they have not been the subject of much empirical study (Wathne and Heide, 2004). Our findings therefore have application implications for a number of organization theories in supply chain management.

From an agency and TCA theory perspective, our findings that focal supplier opportunism is positively related to non-focal supplier militancy as well as negatively related to retailer category performance provides empirical support for the proposition that opportunism has negative economic consequences in supply chains above and beyond the dyadic relationship between a buyer and supplier. In addition, since retailers had pre-existing relationships for some prolonged period with their focal suppliers, our findings highlight the important role of monitoring capabilities as an *ex post* governance mechanism for safeguarding buyers interests in their relationships with suppliers (c.f., Jap and Anderson, 2003). However, the insignificant effect of retailers' punitive capacity on focal supplier opportunism in our results also indicates that simply relying on presumed alignment of outcome goals and risk profiles between the retailer and focal supplier in the context of category management is an ineffective enforcement mechanism. This suggests that focal supplier and retailer goals and/or their risk profiles are not as well aligned as is often assumed in supply chain management paradigms and programs such as ECR and VMI that are grounded in relational exchange theory precepts.

From a network theory perspective, our initial fieldwork indicated that understanding and explaining firms' conduct and performance in a supply chain is enhanced when the network of relationships in which the firm is embedded is examined. Further, our conceptualization and measure of non-focal supplier militancy contributes to the development of network

theory and understanding of the “dark side” of retailer–supplier relationships in the increasingly important context of networks of suppliers being “managed” by other suppliers on behalf of a retailer or buyer (e.g., Wathne and Heide, 2004). Our results show that non-focal suppliers in the category supply chain, who are competing with the focal supplier for the position of category captain, are willing to engage in actively militant behaviors that may be observable by the retailer when the focal supplier behaves opportunistically. This clearly suggests that focal supplier opportunism is negatively impacting the rest of the category supply chain as well as directly negatively impacting retailer category performance. However, our finding of an insignificant relationship between non-focal supplier militancy and retailers’ category-level performance indicates that the reactions of other suppliers to opportunistic behavior by a focal supplier need not necessarily significantly negatively impact the retailer.

Our study also offers a number of insights for managers. First, our findings suggest that retailer managers’ fears concerning the risks associated with category management prescriptions to allow a supplier to have significant influence on their category management efforts are well-founded. Contrary to retailer and supplier manager expectations, allowing a focal supplier significant influence over retailer category management does not seem to increase either retailer or supplier dependency on one another or their interdependency. However, retailer managers are right to fear that using a focal supplier as category captain provides that supplier with an opportunity to behave opportunistically, and that at least some of the time suppliers will take this opportunity. Our findings suggest that when this occurs then retailers can expect to suffer inferior category performance outcomes. It is clearly in the interest of the retailer to protect themselves from focal supplier opportunism in their category management efforts. Importantly, retailer managers should be aware that simply relying on the power to exercise fate control over the focal supplier with regards to access to the category captain position and ultimately to shelf-space does not appear to be sufficient to reduce the motivation for focal suppliers to behave opportunistically. Our results also indicate that while investments in their supplier monitoring capabilities may be worthwhile in protecting retailers from supplier opportunism generally, this will not necessarily reduce the likelihood that a category captain will engage in such behaviors.

From a supplier perspective, the implications of our results depend on whether you are the focal supplier or

one of the non-focal suppliers in the retailer’s supply chain. We do not have any data concerning the costs to a focal supplier of helping a retailer in its category management efforts. Our fieldwork suggests that suppliers certainly perceive there to be positive economic benefits from being influential in retailers’ category management efforts. While we do not have any quantitative direct data concerning the benefits to the focal supplier, if we assume that supplier managers are rational, the fact that focal suppliers are willing to sometimes engage in opportunistic behavior that appears to negatively impact both the retailer and the other suppliers to the category suggests that there are potential economic benefits to being a category captain. However, given our findings regarding retailers’ monitoring capability, focal suppliers need to be aware of the transparency of their opportunistic actions if they wish to benefit from them.

For managers in non-focal suppliers, our findings suggest that competing for the position of category captain may be a rational strategy for seeking competitive advantage. Since we find no linkage between non-focal supplier militancy and retailers’ category-level performance, our results suggest that in competing for the category captain position, non-focal suppliers can engage in behaviors that obstruct the current focal supplier’s efforts to fulfill its category captain role. Focal suppliers need to be aware that in carrying out their category captain role, any perception among the rest of the supplier network that they are engaging in opportunistic behaviors is likely to provoke militant behaviors within the supply chain. To the extent that these may have a negative impact on the focal supplier’s performance, these may form a boundary to the extent that category captains may benefit from behaving opportunistically.

7. Limitations and research directions

Several limitations of our study result from trade-off decisions required in research of this type. First, we tested our hypotheses with data collected from key informants using a mail questionnaire. Our fieldwork revealed that for most retailers one individual manager largely controlled category management efforts and supplier relationships for each product category, limiting the potential use of multiple retailer informants. Using the senior manager in charge of each retailers’ buying office to identify the most appropriate and knowledgeable informant for each category provides confidence in the quality of our key informants. Harmon’s single-factor test, and the significant correlations between

the perceptual performance scale and objective performance data also provide some confidence in the validity of our data. Nonetheless, the use of a common questionnaire to collect data from key informants still leaves open the possibility of common-method variance. Future researchers should therefore seek to collect data from multiple informants in the same organizational unit where possible, and use multiple methods to assess performance-dependent variables.

Second, while we believe that the set of 35 grocery categories comprising our sample is representative, and this is a greater number of categories than is typically used in studies of the retailing industry, we are limited in our ability to generalize our findings beyond these categories. In addition, given the small size of our population, we are unable to empirically assess the extent to which characteristics of the category such as number and type of suppliers (e.g., national brand manufacturer versus private label manufacturer) may impact the relationships among the variables we examine in our model. Future researchers may usefully explore different product categories to establish the generalizability of the relationships we uncover here, and studies in larger country contexts may enable sufficiently large data sets to examine the role that category characteristics may play in understanding focal supplier opportunism.

Third, our data are cross-sectional, limiting our ability to empirically evaluate causality in the relationships examined. Our ordering of the relationships in our hypothetical model was based on insights generated in our fieldwork, and has strong support in the theoretical and managerial literature. Nonetheless, future researchers utilizing longitudinal research designs may be able to enhance confidence in the causal nature of the relationships in our model.

Beyond the need for future research to address these limitations, our study also indicates a number of areas for future research. Two may be viewed as particularly important. First, our research indicates a need to further explore the impact of retailers' relationships with one supplier on its relationships with other suppliers. Many retailers sell products supplied by multiple competing suppliers. In these contexts, relationships with one supplier can significantly affect a retailer's relationships with others in the supply chain. Our findings suggest the potential importance in retailers' relationship cost-benefit analyses of considering the impact of relationships with a focal supplier on consequent non-focal supplier relationships. Under what conditions are the behaviors of non-focal suppliers more or less important in determining retailer performance out-

comes? What are the trade-offs between the efficiency of lower transaction costs involved in a retailer establishing a closer relationship with a single supplier and using that supplier to help manage the remaining supply chain versus establishing closer direct relationships with each of the suppliers in the chain? These are theoretically important and managerially relevant questions that have not been adequately addressed in the extant literature.

Second, our research complements recent research examining mechanisms for safeguarding interorganizational performance under *ex post* opportunism by highlighting the important role of monitoring capabilities. Past research on monitoring capabilities has focused on bilateral relationships between a buyer and a single supplier. Yet, while many retailers sell goods from multiple suppliers, we have little or no knowledge of how monitoring capabilities work a supplier network context. This suggests a number of theoretically interesting issues to be addressed that are highly relevant to buyer and supplier managers including: the identification of important components of supplier monitoring systems that cover multiple players in the supply chain simultaneously; the degree of customisation to individual suppliers required in monitoring systems to make them an effective safeguard against opportunism; the costs of monitoring multiple suppliers in a supply chain simultaneously.

8. Conclusion

While supermarket retailers have been urged to use category management relationships to leverage focal supplier resources and capabilities, many have been reluctant to do so because of fears of focal supplier opportunism. Our study represents the first empirical examination of this important issue and shows that retailer fears of allowing focal suppliers greater influence over their category management efforts are well founded. In addition, we find that while focal supplier opportunism negatively affects non-focal supplier behaviors and retailer category performance, retailers can limit such opportunistic behavior by investing in their supplier monitoring capabilities. Our research suggests that at least three organization theories: agency theory; TCA theory; and, network theory, have the potential to provide important new insights in understanding relational exchange theory-based supply chain management approaches such as ECR, CPFR, and VMI and their impact on business performance.

Appendix A. Product categories in sample

1	Snacks/salty snacks
2	Disposable diapers
3	Pet care
4	Bakery products
5	Carbonated beverages
6	Cereals
7	Cookies and crackers
8	Laundry detergents/bleach
9	Cough and cold remedies
10	Oral hygiene
11	Bottled water
12	Ice cream
13	Fresheners/deodorizers
14	Deodorant
15	Household cleaners
16	Baby foods, formulas, and electrolytes
17	Coffee
18	Soap/bath needs
19	Hair care
20	Candy
21	Desserts, gelatines, and pudding mixes
22	Film and cameras
23	Milk
24	Butter and margarine
25	Cheese
26	Pasta
27	Spices and seasonings
28	Yogurt
29	Vitamins
30	Toilet tissue
31	Jams, jellies, and spreads
32	Soups
33	Sugar and sugar substitutes
34	Shortening and oil
35	Flour

References

- Anderson, J.C., Gerbing, D.W., 1988. Structural equation modeling in practice: a review and recommended two-step approach. *Psychological Bulletin* 103 (3), 411–423.
- Anderson, J.C., Håkansson, H., Johanson, J., 1994. Dyadic business relationships within a business network context. *Journal of Marketing* 58 (4), 1–15.
- Armstrong, J.S., Overton, T.S., 1977. Estimating nonresponse bias in mail surveys. *Journal of Marketing Research* 14 (3), 396–402.
- Bagozzi, R.P., Yi, Y., Phillips, L.W., 1991a. Assessing construct validity in organizational research. *Administrative Science Quarterly* 16 (1), 74–94.
- Bagozzi, R.P., Yi, Y., Singh, S., 1991b. On the use of structural equation models in experimental designs: two extensions. *International Journal of Research in Marketing* 8 (2), 125–140.
- Basuroy, S., Mantrala, M.K., Walters, R.G., 2001. The impact of category management on retailer prices and performance. *Journal of Marketing* 65 (4), 16–32.
- Benton, W.C., Maloni, M., 2005. The influence of power driven buyer/seller relationships on supply chain satisfaction. *Journal of Operations Management* 23 (1), 1–22.
- Bergen, M., Dutta, S., Walker, O.C., 1992. Agency relationships in marketing: a review of the implications and applications of agency and related theories. *Journal of Marketing* 56 (3), 1–24.
- Blattberg, R.C., Fox, E.J., 1995. *Category Management: A Series of Implementation Guides*. Food Marketing Institute, Washington, D.C.
- Boyer, K.K., Hult, G.T.M., 2005. Extending the supply chain: integrating operations and marketing in the online grocery industry. *Journal of Operations Management* 23 (6), 642–661.
- Brandweek, 1999. Is category management still viable? 40 (30) 24–26.
- Brown, J.R., Chekitan, S.D., Lee, D.J., 2000. Managing marketing channel opportunism: the efficacy of alternative governance mechanisms. *Journal of Marketing* 64 (2), 51–65.
- Buchanan, L., 1992. Vertical trade relationships: the role of dependence and symmetry in attaining organizational goals. *Journal of Marketing Research* 29 (1), 65–75.
- Cannon, J.P., Perreault, W.D., 1999. Buyer–seller relationships in business markets. *Journal of Marketing Research* 36 (4), 439–460.
- Cannondale Associates, 1999. *Category Management 1999 Industry Benchmarking Study: The Loyalty Revolution*. Cannondale Associates, Wilton, CT.
- Carter, C.R., 2000. Ethical issues in international buyer–supplier relationships: a dyadic examination. *Journal of Operations Management* 18 (2), 191–208.
- Chin, W.W., 1998. The partial least squares approach to structural equation modeling. In: Marcoulides, G.A. (Ed.), *Modern Methods for Business Research*. Lawrence Erlbaum Associates, Mahwah, NJ.
- Combs, J.G., Ketchen, D.J., 1999. Explaining interfirm cooperation and performance: toward a reconciliation of predictions from the resource-based view and organizational economics. *Strategic Management Journal* 20, 867–888.
- Corsten, D., Kumar, N., 2005. Do suppliers benefit from collaborative relationships with large retailers? An empirical investigation of the efficient consumer response action. *Journal of Marketing* 69 (3), 80–94.
- Dhar, S.K., Hoch, S.J., Kumar, N., 2001. Effective category management depends on the role of the category. *Journal of Retailing* 77 (2), 165–184.
- Dijkstra, T., 1983. Some comments on maximum likelihood and partial least squares methods. *Journal of Econometrics* 22 (1/2), 67–90.
- Dussart, C., 1998. Category management: strengths, limits and developments. *European Management Journal* 16 (1), 50–62.
- Dwyer, F.R., Schurr, P.H., Oh, S., 1987. Developing buyer–seller relationships. *Journal of Marketing* 51 (2), 11–27.
- Dyer, J.H., Nobeoka, K., 2000. Creating and managing a high-performance knowledge-sharing network: the Toyota case. *Strategic Management Journal* 21 (3), 345–367.
- Dyer, J.H., Singh, H., 1998. The relational view: cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review* 23 (4), 660–679.
- The Economist, 1997. Categorical imperatives: supermarket retailing. *The Economist* 343 (S7(1)).
- Eisenhardt, K.M., 1989. Agency theory: an assessment and review. *Academy of Management Review* 14 (1), 57–74.
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18 (1), 39–50.
- Fornell, C., Bookstein, F.L., 1982. Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research* 19, 440–452.

- Freedman, P.M., Reyner, M., Tochtermann, T., 1997. European category management: look before you leap. *McKinsey Quarterly* July 156–164.
- Gruen, T.W., Shah, R.H., 2000. Determinants and outcomes of plan objectivity and implementation in category management relationships. *Journal of Retailing* 76 (4), 483–510.
- Heide, J.B., 1994. Interorganizational governance in marketing channels. *Journal of Marketing* 58 (1), 71–85.
- Heide, J.B., Miner, A.S., 1992. The shadow of the future: effects of anticipated interaction and frequency of contact on buyer–seller cooperation. *Academy of Management Journal* 35 (2), 265–291.
- Holm, D.B., Eriksson, K., 1999. Creating value through mutual commitment to business network relationships. *Strategic Management Journal* 20 (5), 467–485.
- Hulland, J., 1999. The use of partial least squares in strategic management research: a review of four recent studies. *Strategic Management Journal* 20 (2), 195–204.
- Jacobides, M.G., Croson, D.C., 2001. Information policy: sharing the value of agency relationships. *Academy of Management Review* 26 (2), 202–223.
- Jap, S., Ganesan, S., 2000. Control mechanisms and the relationship life cycle: implications for safeguarding specific investments and developing commitment. *Journal of Marketing Research* 37 (2), 227–245.
- Jap, S., Anderson, E., 2003. Safeguarding interorganizational performance and continuity under ex post opportunism. *Management Science* 49 (12), 1684–1701.
- Johnston, D.A., McCutcheon, D.M., Stuart, F.I., Kerwood, H., 2004. Effects of supplier trust on performance of cooperative supplier relationships. *Journal of Operations Management* 22 (1), 23–38.
- Kim, S.K., Hsieh, P.-H., 2003. Interdependence and its consequences in distributor–supplier relationships: a distributor perspective through response surface approach. *Journal of Marketing Research* 40 (1), 101–112.
- Krause, D.R., 1999. The antecedents of buying firms' efforts to improve suppliers. *Journal of Operations Management* 17 (2), 205–224.
- Kumar, N., Scheer, L.K., Steenkamp, J.B.E.M., 1998. Interdependence, punitive capability, and the reciprocation of punitive actions in channel relationships. *Journal of Marketing Research* 35 (2), 225–235.
- Lorenzoni, G., Lipparini, A., 1999. The leveraging of interfirm relationships as a distinctive organizational capability: a longitudinal study. *Strategic Management Journal* 20 (4), 238–317.
- McCutcheon, D., Stuart, F.I., 2000. Issues in the choice of supplier alliance partners. *Journal of Operations Management* 28 (3), 279–301.
- Pendrous, R., 2002. Suppliers urged to manage categories. *Food Manufacture* 77 (3), 21.
- Ping, R.A., 1994. Does satisfaction moderate the association between alternative attractiveness and exit intention in a marketing channel? *Journal of the Academy of Marketing Science* 22 (4), 364–371.
- Progressive Grocer, 1999. CPFR: one giant business plan. *Progressive Grocer* 69–72.
- Rindfleisch, A., Heide, J.B., 1997. Transaction cost analysis: past, present, and future applications. *Journal of Marketing* 61 (4), 30–54.
- Rokkan, A.I., Heide, J.B., Wathne, K.H., 2003. Specific investments in marketing relationships: expropriation and bonding effects. *Journal of Marketing Research* 40, 210–224.
- Smith, A., 2004. Morrison lifts sales but Safeway still declining. *Financial Times* 2.
- Stank, T., Crum, M., Arango, M., 1999. Benefits of interfirm coordination in food industry supply chains. *Journal of Business Logistics* 20 (2), 21–42.
- Supermarket Business, 1999. Crossing out category management. *Supermarket Business* 54 (10), 43.
- Stump, R.L., Heide, J.B., 1996. Controlling supplier opportunism in industrial relationships. *Journal of Marketing Research* 33 (4), 431–441.
- Thorelli, H.B., 1986. Networks: between markets and hierarchies. *Strategic Management Journal* 7, 37–51.
- Wathne, K.H., Heide, J.B., 2000. Opportunism in interfirm relationships: forms, outcomes and solutions. *Journal of Marketing* 64 (4), 36–51.
- Wathne, K.H., Heide, J.B., 2004. Relationship governance in a supply chain network. *Journal of Marketing* 68 (1), 73–89.
- Whipple, J.S., Frankel, R., Anseimi, K., 1999. The effect of governance structure on performance: a case study of efficient consumer response. *Journal of Business Logistics* 20 (2), 43–62.
- Williamson, O.E., 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. Free Press, New York.
- Williamson, O.E., 1993. Calculativeness, trust, and economic organization. *Journal of Law and Economic* 36, 453–486.
- Williamson, O.E., 1996. Economic organization: the case for candor. *Academy of Management Review* 21 (1), 48–57.
- Wold, H., 1982. Soft modeling: the basic design and some extensions. In: Joreskog, K.G., Wold, H. (Eds.), *Systems Under Indirect Observation*. Part II. North-Holland Publishing Co., New York, pp. 1–54.