

# Agrifood Firms Collaboration through Brand Orientation Behaviour

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**Abstract**—This study applies signalling theory as a framework for understanding the pathways between brand orientation behaviour and supply chain collaboration. The path analytic findings based on data obtained from 343 UK-based small- and medium-sized firms in the agri-food industry suggest that a firm's brand orientation behaviour allows it to improve its level of collaboration with its channel members, and mediating mechanism involved positive network identity, low behaviour uncertainty and social capital. These findings extend the theoretical insights on the relational view, transaction cost economics and strategic network by illustrating how signalling theory can be used to explain the impact of brand orientation behaviour on supply chain collaboration.

**Keywords**— Brand Orientation Behaviour; Networks; Business to Business Relationships; Supply Chain Collaboration; Small and Medium Sized Enterprises.

## 1. Introduction

Simatupang and Sridharan (2005) describe how supply chain (SC) collaboration refers to how two or more organizations (channel members) can capture mutual benefits by working together when planning and executing SC operations (i.e. matching demand and supply). A well-collaborated SC operation allows the involved organizations to reduce their costs and leverage their resources to develop a more competitive position in the marketplace (Cao and Zhang, 2010, Al-Omouh, 2023). This advantage is particularly important for small- and medium-sized enterprises (SMEs), as a result of them having relatively limited resources in comparison to larger organizations (Arend, 2006, Arend and Wisner, 2005).

A significant amount of research has focused on examining the antecedents of SC collaboration (e.g. Min et al., 2005, Patnayakuni et al., 2006, Wahab and Hamid, 2024). Scholars often employ the relational view (e.g. Day et al., 1998), transaction cost economics (e.g. Brettel et al., 2011), and strategic network perspective (e.g. Skjoett-Larsen et al., 2003) to explain the antecedent conditions of SC collaboration in SMEs. The relational view perspective highlights that SC channel members can earn higher rents by collaborating with each other than can individual channel members working in isolation (Dyer and Singh, 1998, Lavie, 2006). In order to enhance the likelihood of becoming the “preferred partner” in this situation, Bonner et al. (2005) suggest that organizations need to communicate their reputation for attractiveness as an exchange partner in order to develop a positive network identity in network-based business relationships. The transaction cost economics perspective, on the other hand, suggests that the SC channel members can reduce the transaction costs by behaving in a predictable manner (Carroll and Teece, 1999, Williamson, 1979). To become a good potential partner for future collaboration from this perspective, organizations need to communicate their reputation for consistency, which means that they are less likely to act opportunistically and require minimum monitoring during business transactions (Brettel et

al., 2011, Wu and Choi, 2004). Finally, the strategic network perspective indicates that some interorganizational ties (i.e. SC) are strategically important for organizations to enter into, because these relationships provide the SC members with access to information, resources, markets, and technology (Gulati et al., 2000, Skjoett-Larsen et al., 2003). As an organization that possesses greater social capital is more likely to facilitate the process of resource mobilization, assimilation and use (Maurer et al., 2011), to become the partner of choice in an SC relationship, it needs to accumulate social capital by improving its reputation for connectivity and reliability in the business networks (Krause et al., 2007, Min et al., 2008). These three perspectives highlight different and important antecedent conditions – positive network identity, low behaviour uncertainty and social capital – which may enhance the SMEs' opportunities to participate in SC collaboration.

While these three perspectives provide important insights into SC collaboration for SMEs, two interrelated and important questions have not yet been addressed. The first question is: how can SMEs grow their reputation to foster the antecedent conditions for SC collaboration? From a theoretical standpoint, all three perspectives seem to emphasize the important role that organizational (favourable) reputation, a social cognition about an organization's quality objectively held by current and prospective constituents (Reuber and Fischer, 2009), plays in signalling an organization's positive and important characteristics to the SC channel members to improve SC collaboration. Even though we acknowledge that there are some inescapable characteristics that make SMEs unattractive in the eyes of other SC channel members, such as having low sales volumes, limited resources, and so on (e.g. Coviello and McAuley, 1999, Nooteboom, 1993), however SMEs often report that what mainly prevents them from participating in the SC relationship is their lack of a prominent reputation in the SC channel networks (Brettel et al., 2011, Carroll and Teece, 1999). Research suggests that an organization can communicate its brand, defined as a name,

term, design, symbol, or any other feature that identifies it (AMA Dictionary, 1995), to its business partners in the process of influencing their assessment of its reputation (Roper and Davies, 2010, Wahab and Hamid, 2024). This deliberate approach of communicating about an organizational brand is known as brand orientation behaviour (Baumgarth, 2010, Urde et al., 2011). Drawing upon the signalling perspective, which suggests that commercial buyers use signals such as brand to formulate their judgment of reputation (Basdeo et al., 2006, Connelly et al., 2011), we propose that SMEs can engage in brand orientation behaviour to signal their positive reputation to the SC channel members by promoting their positive network identity, underlining their low behaviour uncertainty and accumulating their social capital, to improve the overall SC collaboration.

Second, this prompts the following question: can the relational view, transaction cost economics, and strategic network perspectives relate to each other in the process leading up to SC collaboration? The antecedent conditions drawn from each of these perspectives (i.e. the relational view – positive network identity; transaction cost economics – low behaviour uncertainty; strategic network perspective – social capital) differ in nature, at least on the surface. Researchers have increasingly argued that the network-based business environment contains a synthesis of all three perspectives (e.g. Nooteboom, 1996, Wu and Choi, 2004). This is particularly true in the case of SMEs, due to the specific characteristic of their business model, which tends to place greater emphasis on building mutual network relationships to improve business performance and tackle the problem of strategic uncertainty (Arend, 2006). In this study, we argue that SMEs perform brand orientation to signal their positive network identities that can help to convince the SC channel members about SMEs' low behaviour uncertainty in the process leading up to the accumulation of social capital, and ultimately resulting in the promotion of SC collaboration.

We empirically test these propositions by analyzing the data collected from 343 SMEs in the UK agri-food industry. Accordingly, this study makes several contributions. First, even though researchers have attempted to understand the antecedent conditions of SC collaboration (e.g. Johnston et al., 2004, Patnayakuni et al., 2006), the existing literature on this topic has failed to consider the underlying mechanisms whereby the communicating of the organization's brand ultimately promotes SC collaboration. Recognizing the important role that brand plays in the interorganizational relationship (Baumgarth, 2010, Lavie, 2006), we investigate the effects of organization's brand orientation behaviour on SC collaboration. In so doing, we extend the prior work by exploring how the organizational brand can help to signal the SC channel members for potential SC collaboration. The second contribution of this research is that we integrate signalling theory with the relational view, transaction cost economics and strategic network perspective by suggesting that positive network identity, low uncertainty and social capital can act as mediators in the mechanism of the effects of brand orientation behaviour on SC collaboration. This extends our theoretical understanding with regard to the association between each of the three theoretical perspectives

used to explain the antecedent conditions of SC collaboration in SMEs (e.g. Arend, 2006, Cao and Zhang, 2010, Krause et al., 2007) and signalling theory. It provides an interesting insight into the bridge between the marketing and organization theories and SC management. The final, and related, contribution of this research is that we extend the integrative theoretical perspective argument among the relational view, transaction cost economics and strategic networks (e.g. Nooteboom, 1996, Wu and Choi, 2004) by examining the causal relationship between them in the network-based business environment. Moreover, we explore how this integrative theoretical perspective plays an important mediating role in the mechanism regarding the effects of SMEs' brand orientation behaviour on SC collaboration.

## 2. Theory and Hypotheses Development

Brand orientation behaviour allows an SME deliberately to undertake concrete actions to communicate its brand (Baumgarth, 2010, Wong and Merrilees, 2005). Grounded in signalling theory, an organizational brand can be considered a signal which potential business partners use to formulate their judgment about the organizational reputation (Erdem and Keane, 1996, Erdem and Swait, 1998). The organizational reputation resulting from the signalling process, in turn, facilitates SC collaboration. Given that the antecedent conditions for SC collaboration require the participating organizations to have a favourable organizational reputation for providing a positive network identity, low uncertainty behaviour, and high social capital (Arend and Wisner, 2005, Brettel et al., 2011, Cao and Zhang, 2010), the mechanism whereby an SME's brand orientation influences SC collaboration is likely to be mediated by these three factors. Moreover, through deliberately communicating the organizational brand to develop a positive network identity, an SME also signals to the SC channel members that its actions are highly consistent (low uncertainty behaviour), which leads to the accumulation of social capital, which, in turn, enhances SC collaboration. The overall theoretical model is shown in Figure 1. In the following sections, we elaborate our discussion by reviewing the relevant theories and develop our specific hypotheses with regard to these relationships.

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### 2.1 Brand Orientation and Supply Chain Collaboration: Signalling Theory

Since Spence (1973)'s seminal work on labor economics, the signalling theory perspective has been widely applied in the business discipline. The signalling theory perspective suggests that, in information asymmetric situations, one party can self-select and convey some information about itself to another party to distinguish itself from others (Connelly et al., 2011, Spence, 2002). For example, Certo (2003) suggests that organizations that are relatively unknown to investors (information asymmetric) can highlight that they have recruited a diverse group of prestigious directors (self-selected information about themselves) to signal to potential investors the legitimacy of the organization and so reduce the liability of

market newness and improve stock performance (benefitting from the information asymmetric situation). In this research, we adopt the perspective of Erdem and Swait (1998) that an organizational brand can be considered a “signal” of its reputation, such as its ability to deliver quality product offers, which has a tremendous influence on consumers’ purchase decisions (Erdem and Keane, 1996). It is worth noting that an organizational brand is just one of the tools (together with, i.e., business associations) that an organization can use to influence the external assessment of its reputation. In general, research shows that an organization communicates its brand to its customers in order to differentiate it from its competitors (Urde, 1999).

Brand orientation is defined as the deliberate approach of developing and communicating about an organizational brand (Baumgarth, 2010, Urde et al., 2011). There are two aspects of the concept of brand orientation: culture and behaviour. From a cultural perspective, brand orientation focuses on integrating a collective mindset of its employees’ beliefs, guidelines, stories, systems, and symbols about the organization (Hatch and Schultz, 2001, Urde et al., 2011). It characterizes the foundation (i.e. implicit understanding and institutional regulation) or organizational (internal) process of determining the specific perceptions of organizational brand, whereby all employees are expected to act accordingly (Baumgarth, 2010, de Chernatony, 1999). Ewing and Napoli (2005) and Napoli (2006) suggest that the behavioural aspect of brand orientation, on the other hand, consists of three activities: orchestration (implementing integrated marketing activities to deliver a consistent brand message), affect (understanding the stakeholders’ likes and dislikes about the brand) and interaction (establishing a dialogue with the stakeholders to ensure the delivery of product offerings that are consistent with the promise of the brand). Combining these activities, the essence of brand orientation behaviour refers to the concrete actions undertaken when communicating an organizational brand in a way that will influence the external assessment of the reputation of an organization (Baumgarth, 2010, de Chernatony, 1999). Overall speaking, from the cultural aspect, brand orientation involves developing a clear organizational brand that is aligned with the organization’s vision, value and image and, in the behavioural aspect, brand orientation is about taking action to communicate the organizational brand promise (Baumgarth, 2010, Hatch and Schultz, 2001, Urde, 1999). In this research, we focus specifically on the behavioural aspect of brand orientation. Drawing on signalling theory, we consider that organizations use their brand as a signal and deliberately communicate it to their target customers.

Chen and Paulraj (2004) state that the SC relationship is composed of multiple business to business relationships, forming a complex business network among the channel members, that are fostered through strategic collaboration and involved in moving a product or service from the suppliers to the customers. Previous research suggests that a highly collaborative SC relationship can be assessed through three key relationship behaviours: channel member cooperation, interaction and flexibility (Johnsen and Ford, 2006, Kaufmann and Dant, 1992, Samaha et al., 2011). Channel member

cooperation refers to the willingness of the SC channel members to work together to achieve their mutual, common goals (Koza and Dant, 2007, Samaha et al., 2011). Cao and Zhang (2010) suggest that, in situations where the SC channel members achieve high level of cooperation, they believe that their individual objectives can be reached by working together to meet the objectives of the SC members as a whole. Channel member interaction refers to the willingness of the SC channel members to engage in bilateral development by sharing knowledge, resources, technology, managerial approach, culture and values with each other (Johnsen and Ford, 2006). According to Hult et al. (2007), the interaction among the SC members allows them to create SC-based competitive advantages by identifying SC-based potential market opportunities, and developing SC-based knowledge and capabilities. Finally, channel member flexibility refers to the willingness of the SC members to be adaptive or adjust in response to the changing conditions (Kaufmann and Dant, 1992, Samaha et al., 2011). Bello and Gilliland (1997) describe that SC flexibility is a highly collaborative behaviour, because it requires the SC channel members to forgo their self-interests by considering themselves members of a larger system and pursuing the aggregate interest of the SC as a whole. Altogether, these three relational behaviours can demonstrate the degree of SC collaboration, because they lead to greater opportunities for every channel member to integrate and leverage each other’s resources and knowledge in response to the market demand (Cao and Zhang, 2010, Min et al., 2005, Samaha et al., 2011).

Conceptually, as well as on large organizations, brand orientation also has a positive impact on SMEs’ business operations (Spence and Essoussi, 2010, Wong and Merrilees, 2005). Experts suggest that the typical strength of SMEs’ business operations relies on their capabilities regarding innovation and they are relatively less focused on marketing (Nooteboom, 1993, Wright et al., 2008). However, Berthon et al. (2008) found that carefully crafted brand management allows SMEs to build and enhance their reputation externally. Brand orientation, according to Baumgarth (2010), can be considered a systematic approach to brand management. de Chernatony and McDonald (2010) indicate that the concept that a brand can help to signal to its customers its organizational reputation can also apply to the commercial relationship between business to business, whereby both the sellers and buyers are commercial organizations. Previous research suggests that business to business branding can yield positive effects in the business to business relationship (e.g. Kotler et al., 2006). Given that SC relationships are mainly business to business relationships (Arend and Wisner, 2005, Simatupang and Sridharan, 2005), Davis et al. (2008) indicate that commercial customers are willing to do business with service providers in the SC with a strong, positive brand, because the brand signals to them that the providers will consistently deliver high quality services. We argue that, by deliberately communicating their organizational brand to the channel members in the SC, SMEs can build a better collaborative relationship with them. This is because SMEs can purposely communicate appropriate signals through the organizational

brand to affect the external assessment of the reputation of an organization and so improve the likelihood of SC collaboration. Thus, we hypothesize:

*Hypothesis 1: An SME's brand orientation behaviour will be positively related to SC collaboration.*

## **2.2 Positive Network Identity as Mediator: The Relational View Perspective**

The relational view perspective complements the resource-based view perspective by suggesting that the competitive advantage of an organization derives not only from superior organizational level resources and capabilities, but is also embedded in the interorganizational relationships (Dyer and Singh, 1998, Skjoett-Larsen et al., 2003). This is because there is a limitation on the amount of resources that a single organization can hold. Through collaboration, a network of organizations can leverage each other's resources and capabilities to create network-based relational resources and capabilities, which are difficult to imitate, to generate relational rent and develop a network-based competitive advantage (Dyer and Singh, 1998). Thus, the relational view perspective, that emphasizes that the collaborative advantage that a network of organizations cannot develop independently, is often used to explain why the SC channel members are willing to collaborate with one another.

In order to enter a strong, highly collaborative network relationship, an individual organization needs to attract valuable business partners by letting other potential business partners believe that it is a "partner of choice" (Anderson et al., 1994). To do so, Bonner et al. (2005) suggest that organizations need to develop a positive network identity. Anderson et al. (1994: 4) define network identity as "*the perceived attractiveness of an organization as an exchange partner due to its unique set of connected relations with other firms, links to their activities, and ties with their resources*". To put it simply, network identity is how organizations are perceived by others, based on their network connections. Anderson et al. (1994) further explain that having a strong positive network identity means that organizations are able to mobilize and leverage the substantial resources of their connected partners in the network based relationship. In the context of SC collaboration, working together with a particular organization that has a positive network identity, means that everyone can benefit from accessing the resources possessed by these SC channel members and their extended network partners. Thus, it improves the willingness of the other channel members to involve this particular organization in their existing SC relationship, because this enhances the prospect of generating a collaborative advantage and the likelihood of SC collaboration.

In the paper, we argue that an SME's positive network identity can be considered a mediator for facilitating the indirect relationship between brand orientation behaviour and SC collaboration. Drawing from signalling theory, we argued earlier that an SME's brand orientation behaviour can help to improve the likelihood of SC collaboration, because it can affect the external assessment of the reputation of an SME. Here, we ask how brand orientation behaviour might lead to the likelihood of SC collaboration. According to the relational view

perspective, the reason why organizations want to collaborate with each other is because they believe that, by working together, they can generate common benefits that each organization could not generate independently (Cao and Zhang, 2010, Dyer and Singh, 1998). An SME that possesses a positive network identity means that it can mobilize and leverage the substantial resources of its connected partners in the network-based relationship. Thus, the SME's positive network identity enhances the degree to which the other SC channel member perceive this SME to be a "partner of choice" and are willing to collaborate with it, because they see the opportunities for generating a collaborative advantage. This is because brand orientation behaviour indicates that an organization can deliberately communicate its brand to alter its organizational reputation (Baumgarth, 2010, de Chernatony, 1999) and the network identity of an organization deals with the perceptions of the organizational reputation by its network members, which makes the network identity of an organization highly subjective and malleable (Öberg et al., 2011). Meanwhile, the effects of the SME's brand orientation behaviour can help to build a positive network identity in the SC relationship. This will ultimately lead to greater SC collaboration. In sum, we hypothesize:

*Hypothesis 2: An SME's positive network identity will mediate the relationship between its brand orientation behaviour and SC collaboration.*

## **2.3 Low Behaviour Uncertainty as Mediator: Transaction Cost Economics Perspective**

The transaction cost economics perspective is another important theory for explaining the antecedent condition for SC collaboration. Transaction costs refer to the governance costs incurred when making an economic exchange, which usually include the costs such as search costs, negotiating costs, monitoring costs and other agency costs that may arise due to the potential opportunism behaviour displayed in the collaborative relationship (Williamson, 1979). The rationale of the transaction cost economics perspective indicates that an organization is less likely to become involved in collaborative relationships if the transaction costs are high, and vice versa. Given that transaction costs are often incurred in the network relationship when the members behave opportunistically, to reduce the transaction costs, the members need to demonstrate that they are behaving less uncertainly (i.e. consistency) and in the best interest of the entire business network. Behaviour uncertainty refers to the uncertainty perceived by the other partners about an organization in the network relationship due to non-disclosure, disguise, or the distortion of information (Williamson, 1979, Wu and Choi, 2004). Because of the difficulties related to evaluating the behaviour of an organization in the network relationship, it increases the perception among the other network partners that this organization may act opportunistically during resources exchange (Brettel et al., 2011). Therefore, other network partners will increase their spending on governing the exchange process (i.e. transaction costs) with this particular organization. It makes this particular organization less attractive potential partner in this network relationship. In the context of the SC

relationship, by collaborating with each other in the SC network, all of the channel members can specialize in a few activities of the SC, which helps to develop an advantage in the marketplace. However, if the transaction costs of governing the SC are greater than the benefits generated from it, the SC channel members are less likely to collaborate with each other (Cao and Zhang, 2010). Therefore, an organization that wishes to engage in a highly collaborative SC relationship needs to establish itself as a consistent partner (Brettel et al., 2011).

In the paper, we argue that an SME's brand orientation behaviour can help to develop its reputation as a low behaviour uncertainty business partner and, as a result, greater SC collaboration. Researchers have suggested that SMEs often lack a prominent reputation or well-established track record in the marketplace (Arend and Wisner, 2005, Brettel et al., 2011). Consequently, it makes it more difficult for the SC channel partners to evaluate whether or not an SME will act out of self-interest and opportunistically in an SC relationship. Given that the brand orientation behaviour allows an SME deliberately to communicate a positive impression about its brand and what the brand represents to the SC channel members, we suspect that SMEs will develop the reputation of their brand as consistent business partners in the eyes of the SC channel members. Taking these arguments together, we expect that low behaviour uncertainty plays a mediating role in the underlying mechanism whereby an SME's brand orientation behaviour ultimately influences the SC collaboration. Formally, we hypothesize:

*Hypothesis 3: The relationship between an SME's brand orientation behaviour and SC collaboration will be mediated by its low behaviour uncertainty.*

#### 2.4 Social Capital as Mediator: Strategic Network Perspective

As Gulati et al. (2000: 203) put it, a strategic network consists of "*interorganizational ties that are enduring, are of strategic significance for the firms entering them*". According to Gulati et al. (2000), the strategic network perspective views the competitive advantage of the organization as partly the result of their own unique resources and partly as derived from the interorganizational network to which it belongs, because organizations are connected with each other in the network relationship. This is because the interorganizational network can provide the member organizations with many potential benefits in terms of access to shared information, markets, and technologies (i.e. resources), as well as the external network connections of each individual member organization (Gulati et al., 2000, Wu and Choi, 2004). To maximize the potential benefits, it is critical for the network members purposefully to select strategic partners with whom to collaborate, who can help to improve access to resources for the entire strategic network. In other words, the level of collaboration within the strategic network will improve if the new partner provides opportunities for the network members to access more resources.

Now, the question that arises is: how do the network members identify potential strategic partners? Social capital has been long regarded as a crucial factor if an organization is to access important resources from its network connections (Maurer et al., 2011, Tsai and Ghoshal, 1998, Wu and Choi,

2004). Adler and Kwon (2002: 23) summarize the discussions in previous studies, defining social capital as "*the goodwill available to individual or groups. Their source lies in the structure and content of the actor's social relation. Its effects flow from the information, influence and solidarity it makes available to the actor*". This definition also suggests that there are two levels of social capital: individual and group. The individual level of social capital originates from an individual's network of relationships, and can be considered as private goods (Inkpen and Tsang, 2005). The group level of social capital refers to a group (of individuals) establishing network ties with another group of individuals, and can be considered as a public good for the members of group. The notion of the individual and group level, that can both be interpreted in different contexts, depends on the nature of the network, ranging from a person, task-based work team, organization, or even entire business network (Inkpen and Tsang, 2005, Wu, 2008, Xiong and Bharadwaj, 2011). For example, in the context of strategic networks, the individual level, here, can refer to the individual organization, and the group level, here, can refer to the entire business network that consists of individual organizations. According to the suggestions of many researchers, these two levels of social capital are often interrelated, where individuals' social capital, that crosses their own group boundaries, can lead to the further development of social capital for their groups (Burt, 1992, Inkpen and Tsang, 2005). In the context of strategic networks, an individual organization's social capital, that crosses their own business network, can lead to the further development of social capital for the entire business network (Glaeser et al., 2002). By collaborating with organizations that possess greater social capital, the entire network benefits from each new member by improving access to resources at the network level. In the context of the SC relationship, the network relationships within the SC can be considered a strategic network, because each SC channel member is strategically selected and connected to optimize the function of moving a product or service from the suppliers to the customers (Goetschalckx and Fleischmann, 2005, Li, 2007). In this sense, an organization that possesses greater social capital is more likely to be viewed as the "partner of choice" in the SC network, and the SC channel members are more likely to collaborate with this organization (Krause et al., 2007, Min et al., 2008).

How might the SME's brand orientation behaviour and social capital relate to each other in terms of fostering SC collaboration? In comparison to large organizations, researchers suggest that SMEs emphasize more accumulating their social capital to gain access to network resources, as they usually lack the relevant resources to compete in the marketplace alone and so need to draw more resources from their network partners (Wu, 2008, Xiong and Bharadwaj, 2011). Although there are many ways to assess organizational social capital, experts generally agree on the common elements of an organization's social capital that are embedded in its relationships with other organizations, which consist of the number of ties, the strength of the ties and trust (Maurer et al., 2011, Wu, 2008). Prusak and Cohen (2001), in their article, implicitly suggest that these three elements of social capital

cannot be developed overnight, but an organization must invest in and communicate them over time to build up an organization-wide reputation as a highly connective and reliable business partner that others can trust and rely on, and with which they can build relationships. Engaging in brand orientation behaviour, in this situation, allows an SME to develop a favorable reputation among its SC network further to develop its social capital, due to deliberately communicating an organizational brand which serves as a signal for judging its reputation as a connective, reliable SC channel member. Drawing on the strategic network perspective, an organization with greater social capital that can contribute towards the development of social capital for its associated network, which can help to improve the access to resources for the entire strategic network is more likely to be considered a strategic partner in the collaborative relationship (Gulati et al., 2000). Thus, we suspect that, in the SC relationship, an SME that accumulates greater social capital due to brand orientation behaviour can lead to the improvement of the collaborative activities within its SC network. Hence, we hypothesize:

*Hypothesis 4: An SME's social capital will mediate the relationship between its brand orientation behaviour and SC collaboration.*

## 2.5 An Integrative Model

The integrative model proposes a causal chain, from the SME's brand orientation behaviour through the development of positive network identity, low uncertainty behaviour, and social capital to the improvement of SC collaboration. The underlying assumption of this proposition is that the relational view, transaction cost economics and strategic network perspective are inter-related in the process of developing SC collaboration. Prior research has attempted to combine two of these three theoretical perspectives to explain the antecedents of interorganizational collaboration (i.e. SC collaboration). For example, Wu and Choi (2004) combine transaction cost economics and strategic network perspectives to explain how an organization creates synergy in the context of interorganizational relationships (i.e. Chinese business networks). Cao and Zhang (2010) uncover the nature of SC collaboration and explore its impact on the performance of the organization based on transaction cost economics, the relational view, and two other perspectives (i.e. the resource-based view and extended resources-based view). Yli Renko et al. (2001) explain how young high-tech ventures can leverage interorganizational relationships to acquire external knowledge and exploit it for competitive advantage through a combination of the relational view and strategic network perspective.

The findings of the above researches suggest that the synthesis of two theoretical perspectives provides a better explanation of the antecedent conditions of interorganizational collaboration (i.e. SC collaboration). This is because all of these theories have weaknesses. For example, the relational view perspective over-emphasizes value creation, paying less attention to the cost reduction aspect of the relationship (Grönroos, 1997). The transaction cost economics perspective over-emphasizes cost reduction and pays less attention to the value creation aspect of the relationship (Wu and Choi, 2004).

Finally, the strategic network perspective over-emphasizes value creation and offer fewer suggestions about how to manage opportunistic behaviour in relationships (Gargiulo and Benassi, 1997). In this research, we attempt to integrate these three approaches in order to offer a more balanced approach to explaining the antecedent conditions of SC collaboration, rather than focusing on either the relational view, transaction cost economics or strategic network perspective alone.

As discussed above, drawing on signally theory, an SME's brand acts as a "signal" in formulating the SC network partners' judgment about the SME's reputation as a creditable partner, and we predicted that an SME's brand orientation behaviour will enhance SC collaboration. The "reputation" of an SME can be described as its attractiveness (positive network identity), consistency (low behaviour uncertainty), and connectivity and reliability (social capital) as a network partner. Thus, we predict that an SME's brand orientation behaviour enhances SC collaboration through communicating its positive network identity (derived from the relational view perspective), low behaviour uncertainty (derived from transaction cost economics), and social capital (derived from the strategic network perspective). It is plausible that an SME's low behaviour uncertainty may facilitate the relationship between its positive network identity and SC collaboration because, as SMEs interact with many business partners, the reputation of their brands grow and become easier to evaluate by the SC channel members. Thus, the SC channel members will develop confidence that an SME will not act opportunistically, leading to improved SC collaboration. Moreover, we also suspect that an SME's social capital can facilitate the relationship between its low behaviour uncertainty and SC collaboration. This is because, as an SME develops a reputation for acting with lower self-interest and less opportunistically, and communicates this message through its brand, it will find it easier to attract more business partners and develop mutual trust among its partners, leading to improved SC collaboration. To sum up, we suspect that this will be a causal chain relationship, from the SME's brand orientation behaviour through positive network identity to low uncertainty behaviour, which leads to the development of the SME's social capital, and, in turn, facilitates SC collaboration. Thus, we hypothesize:

*Hypothesis 5: An SME's positive network identity, low behaviour uncertainty, and social capital will mediate the relationship between its brand orientation behaviour and SC collaboration.*

## 3. Methods

To test our hypotheses empirically, we adopt a cross-sectional research design to collect data from UK-based SMEs in the agri-food industry. There are three reasons for choosing this particular industry context. First, this industry is dominated by SMEs based in Europe (Matopoulos et al., 2007). Second, agri-food products are subject to inherent uncertainties, such as weather, disease and perishability, and public sensitivities due to food-related controversies have also promoted greater collaboration in the SC (Blackburn and Scudder, 2009). Finally, the large commercial retailers are demanding that the other SC

channel members increase their agility and flexibility in response to consumer-led pressures on agri-food products (i.e. changing lifestyles, increasing health-consciousness and so on), and providing incentives for SMEs in the agri-food industry to collaborate with each other (Hingley, 2005, Matopoulos et al., 2007). We adopted and modified the measurement of brand orientation behaviour, positive network identity, low behaviour uncertainty, social capital, channel member collaboration, channel member interaction, and channel member flexibility in the existing literature in order to test our hypotheses (see Appendix 1). Using a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5), multiple-item measures were used to capture all of the constructs. We tested our questionnaire and further refined it based on the comments obtained from a pilot test, to enhance the validity. Primary data were collected via an e-mail survey of agri-food SMEs in the UK. We randomly selected 2000 organizations and sent out four waves of e-mails to increase the response rate. We obtained 343 usable questionnaires from UK-based SMEs in the agri-food industry with an average annual revenue of £1,685,000. There were no significant differences between the early and late respondents. Therefore, the probability of non-response bias is minimal.

### 3.1 Measurement

We assessed the independent variable of the SMEs' brand orientation behaviour using the scale of Baumgarth (2010). It consists of 4 items that measure the concrete actions taken to communicate an organization's brand. As the mediating variable, positive network identity, consisting of 3 items, measures the attractiveness of an SME as an exchange partner in the SC relationship (Anderson et al., 1994, Bonner et al., 2005). We measured the SMEs' low behaviour uncertainty using 4 items adapted from Brettel et al. (2011) and Wu and Choi (2004) to assess the perceived consistency of the SMEs behaviour in the SC relationship. We adapted the scale from Maurer et al. (2011) and Wu (2008) to measure the SMEs' social capital. The 8 item scale taps into the number of network ties (2 items), tie strength (3 items), and trust (3 items). We modified all of the mediating variables to reflect the extent to which the perceived value and attitude towards the SMEs' brand influence the way in which they engage in the SC relationship. In terms of perceptions of SC collaboration, we attempted to assess this across three categories: channel member cooperation, channel member interaction and channel member flexibility. We assess channel member cooperation by adapting the 4 item scale from Koza and Dant (2007) and Samaha et al. (2011) to measure how willing the SC channel members are to work together to achieve their mutual and common goals. We assess the channel members' interaction by adapting the 8 item scale of Johnsen and Ford (2006) to measure the SC channel members' willingness to engage in bilateral development by sharing their knowledge, resources, technology, managerial approach, culture and value with each other. We measure channel member flexibility using the 3 item scale of Kaufmann and Dant (1992) and Samaha et al. (2011). This scale assesses the SC members' willingness to adapt or adjust in response to changing conditions. Finally, we control

for the size of the SMEs using the latest annual revenue figures, that may potentially influence the effects of brand orientation and SC collaboration, given that the size of the SME can influence its reputation as well as others' willingness to collaborate with it (Arend and Wisner, 2005, Nooteboom, 1993). We used a five point scale to indicate the extent of the SMEs' size (1 = very small, 5 = very large). The interval between each point scale is £50,000.

### 3.2 Measurement Validation and Reliability

We first assess the potential common method bias because our data were collected from the same sources, and the same respondents answered both the dependent and independent variable. We control for common method bias using Harman's single factor test (Podsakoff et al., 2003). The result indicates that a single method factor does not explain the majority of the variance (the highest single variance extracted from the data is 37.80%) and, therefore, that common method bias is unlikely to be problematic for this study. During the data collection period, we also took several actions to control the common method bias by following Podsakoff et al. (2003), such as preserving the anonymity and confidentiality of the responses and emphasizing that there are no right or wrong answers.

Second, we test for discriminant validity following the suggestions of (Bagozzi et al., 1991). We assessed the measurement properties of our 5 factor hypothesized model and compared it with 4 alternative models (see Table 1) using a series of confirmatory factor analyses (CFA), then followed the acceptable model fit guidelines using the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and chi-square ( $X^2$ )/degree of freedom (df) (Hair et al., 2010). Our 5 factor hypothesized model demonstrated the best fit ( $X^2 = 1084.84$ ;  $df = 462$ ;  $X^2/df = 2.34$ ;  $CFI = .93$ ;  $RMSEA = .06$ ;  $p = .00$ ). Thus, the discriminant validity of our model is confirmed.

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 INSERT TABLE 1 ABOUT HERE  
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Finally, we assess the correlations of the framework's variables and reliability. Table 1 shows the value of convergent reliability (CR) and average variance extracted (AVE). The composite reliability coefficients (CR) for all constructs all exceed the threshold value of .70, so construct reliability is confirmed (Hair et al., 2010). The value of the AVE for all constructs exceeds the .50 benchmark (Fornell and Larcker, 1981). Moreover, we found that, apart from 3 items (out of 34), whose loading values are below the threshold of .60, 7 items (out of 34) were above the threshold of .60 but below the threshold of .70, and all of the other items in the various scales were above the threshold of .70 (see Appendix 1). Thus, convergent validity can be established (Hair et al., 2010).

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 INSERT TABLE 2 ABOUT HERE  
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## 4. Results and Discussion

### 4.1 Results

Table 2 also reports the descriptive statistics and correlations for all of the variables. Of note, the size of the SME is negatively correlated with all of the other variables, although they are not all significant. It can be interpreted that, as the SME grows larger, it considers it less important to take the initiative to grow its reputation within the SC relationship and seek collaboration, given that its reputation may already be well-established and it may have the capacity to build in-house operations to cover several tasks in the SC. Having established the properties of our measures, we use AMOS 17.0 to perform structural equation modeling to test the hypotheses, as reported in Table 3.

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 INSERT TABLE 3 ABOUT HERE  
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Hypothesis 1 suggests that an SME's brand orientation behaviour will be positively related to SC collaboration. To assess hypothesis 1, we estimated a main effects model (model 1) with a direct path from the brand orientation behaviour factor to the second order SC collaboration factors, and found a positive significant effect ( $\beta = .50, p < .00$ ). Thus, hypothesis 1 is supported. Hypotheses 2, 3, 4 suggest that an SME's positive network identity, low behaviour uncertainty or social capital will mediate the relationship between its brand orientation behaviour and SC collaboration, respectively. We followed the mediating effect analysis strategy of Baron and Kenny (1986). We first estimated the direct relationship between an SME's brand orientation behaviour factor and the second order SC collaboration factors (model 1:  $\beta = .50, p < .00$ ). Secondly, we estimated the direct effect of an SME's brand orientation behaviour factor on the positive network identity (model 2:  $\beta = .68, p < .00$ ), low behaviour uncertainty (model 5:  $\beta = .63, p < .00$ ), and social capital (model 8:  $\beta = .52, p < .00$ ) factors, respectively, and found both positive and significant results. We then estimated the direct effect of an SME's positive network identity (model 3:  $\beta = .49, p < .00$ ), low behaviour uncertainty (model 6:  $\beta = .60, p < .00$ ), and social capital (model 9:  $\beta = .86, p < .00$ ) factors, respectively on the second order SC collaboration factors, and found positive and significant results, as well. Finally, we estimated the full model of the mediating relationship by including an SME's brand orientation behaviour as the independent variable, the positive network identity (model 4), low behaviour uncertainty (model 7) and social capital (model 10) factors, respectively, as mediators, and the second order SC collaboration factors as the dependent variable. Our results suggest that, when these mediators are included in the model, the direct effects of an SME's brand orientation behaviour factor on the second order SC collaboration factors are weakened (see Table 3). Therefore, the relationship between an SME's brand orientation behaviour and SC collaboration are mediated by an SME's positive network identity, low behaviour uncertainty, or social capital. Thus, hypotheses 2, 3, and 4 are supported, respectively. Hypothesis 5 predicts that the relationship between an SME's brand orientation behaviour and SC collaboration will be mediated by an SME's positive network identity, low behaviour

uncertainty, and social capital. We follow Murray et al. (2011)'s approach of using a series of structural equation models to test our predication. We first estimated the direct relationship between an SME's brand orientation behaviour factor and second order SC collaboration factors (model 1:  $\beta = .50, p < .00$ ). Secondly, we estimated the direct effects between the factors in the casual chain relationship suggested in hypothesis 5 in model 2 ( $\beta = .68, p < .00$ ), 11 ( $\beta = .88, p < .00$ ), 12 ( $\beta = .65, p < .00$ ), and 9 ( $\beta = .86, p < .00$ ). Thirdly, we estimated a series of indirect effects among the factors within this causal chain relationship in models 14, 15 and 16. The results suggest that mediating effects are taking place in all of these models. Finally, we estimated the full model (model 17) and our results show strong support for our hypothesis 5. Thus, we conclude that our predication of the casual chain mediating effects of an SME's positive network identity, low behaviour uncertainty, and social capital on the relationship between a SME's brand orientation behaviour and SC collaboration is confirmed.

### 4.2 DISCUSSION

Our objective was to integrate the relational view, transaction cost economics, strategic network, and signalling theory perspectives, in order to understand how an SME's brand orientation behaviour can affect SC collaboration. We found that an SME's brand orientation behaviour has a direct effect on SC collaboration. Our explanation is that an SME's brand can be considered a signal (Erdem and Swait, 1998) and brand orientation behaviour allows it deliberately to undertake concrete actions to communicate its brand (Baumgarth, 2010) in order to signal to its SC partners about the reputation of the organization and, sequentially, facilitate SC collaboration. To seek a deeper explanation, our findings also suggest that an SME's brand orientation behaviour allows the organization to improve its positive network identity, low behaviour uncertainty, or social capital, which can be considered antecedent conditions for SC collaboration, according to the relational view (Dyer and Singh, 1998), transaction cost economics (Brettel et al., 2011), and strategic network perspective (Wu and Choi, 2004), respectively. Our explanation is that an SME's brand orientation behaviour allows it deliberately to communicate its attractiveness (positive network identity), consistency (low behaviour uncertainty), or connectivity and reliability (social capital) as a credible SC channel member. Therefore, each of these factors can mediate the relationship between an SME's brand orientation behaviour and SC collaboration. Finally, by integrating the relational view, transaction cost economics, strategic network, and signalling theory perspectives, we proposed, examined, and confirmed the existence of a causal chain, from a SME's brand orientation behaviour through positive network identity, low behaviour uncertainty, and social capital, ultimately leading to SC collaboration. Our explanation is that deliberately communicating an SME's brand can improve its attractiveness (positive network identity) as an SC partner. As more SC channel members interact with the SME, it makes it easier for others to find information about the SME and evaluate the consistency (low behaviour uncertainty) of its performance in



the SC network. When an SME develops a reputation for acting consistently, it is easier for it to convince others that it will not act opportunistically, which leads to the development of its social capital as more business partners becoming willing to connect with and trust it, in turn, improving SC collaboration.

### 4.3 Theoretical Implications

The findings of this research extend the literature in several respects. Firstly, this study expands the signalling theory perspective of organizational branding, particularly brand orientation behaviour in the SME sector. The signalling theory perspective provides a promising avenue for explaining how an organization can use its brand as a signal to communicate the reputation of the organization (Erdem and Keane, 1996, Erdem and Swait, 1998). In a sense, when an SME adopts brand orientation behaviour in order deliberately to communicate its brand to a potential business partner, this should help to improve an SME's reputation in its business network. Prior research provides concrete evidence that brand orientation yields positive effects on an organization's performance with regard to its customer-related goals (e.g. Baumgarth, 2010, Ewing and Napoli, 2005, Napoli, 2006). However, to the best of our knowledge, no study has explored the potential of brand orientation behaviour in the field of SMEs' SC management. By analyzing the data, this study shows that the signalling theory perspective can be used to explain the effects of an SME's brand orientation behaviour on SC collaboration. This finding is important because it not only extends the scope of the signalling theory perspective on organizational branding by considering how a brand may be used as a signal to guide SC dynamics, but also enriches the thinking on how SMEs can capitalize on their efforts by developing and communicating their brand to their SC channel members.

Second, this study contributes to the SC management literature in two aspects. To begin with, it seeks a deeper understanding of the effects of an SME's brand orientation behaviour on SC collaboration by identifying and examining the mediating role of an SME's positive network identity, low behaviour uncertainty, and social capital. A positive network identity mediator is derived from the relational view perspective, which indicates that the organization is more attractive (to collaborate with and so generate relational rent) as a business partner in the network-based environment if it can mobilize and leverage network resources (Anderson et al., 1994, Bonner et al., 2005). The low behaviour uncertainty mediator is developed according to the transaction cost economics perspective, which suggests that an organization is likely to be considered a business partner in a business network if it behaves consistently (reducing the possible opportunism) (Brettel et al., 2011, Wu and Choi, 2004). The social capital mediator is identified based on the strategic network perspective, which advocates that business networks are more willing to collaborate with an organization that possesses more connections and mutual trust with others, both internally or externally (Maurer et al., 2011, Tsai and Ghoshal, 1998). These three mediators are considered the antecedent conditions for business-to-business (i.e. SC) collaboration (Bonner et al., 2005, Cao and Zhang, 2010, Wu and Choi, 2004). By showing that an SME's brand orientation

behaviour could trigger any one of these antecedent conditions for SC collaboration, this study contributes to the SC management literature by suggesting that SMEs' activities related to deliberately developing and communicating its brand can form part of more complex process that will ultimately lead to SC collaboration. This finding is important because it suggests that an SME's business-to-business marketing activities can subsequently influence its operational management activities in the SC.

This study also represents the first attempt to integrate the relational view, transaction cost economics and strategic network perspective with the signalling theory perspective, whereas prior research only attempted to combine two of the above three theoretical perspectives to explain the antecedents for interorganizational collaboration (Cao and Zhang, 2010, Wu and Choi, 2004, Yli Renko et al., 2001). The relational view perspective highlights the joint value developed in an exchange relationship that cannot be created by a single organization, but pays less attention to the potential cost (i.e. transaction cost) generated because of the exchange relationship (Grönroos, 1997). The transaction cost economics perspective emphasizes reducing the cost of opportunism through process integration in the business relationship, but pays less attention to the joint value creation aspect of this relationship (Cao and Zhang, 2010, Wu and Choi, 2004). The strategic network perspective highlights the joint value creation in a business network, but pays less attention to how to deal with situations whereby each member acts in its own self-interest and through opportunism in this relationship (Gargiulo and Benassi, 1997). In this study, we proposed that the relational view, transaction cost economics, and strategic network perspective can be integrated under the signalling theory perspective. This is the case because all three theoretical perspectives seem to emphasize the importance role of organizational (favorable) reputation as a creditable business partner in interorganizational collaboration (the relational view perspective – attractiveness, transaction cost economics perspective – consistency, strategic network perspective – connectivity and reliability). Signalling theory, meanwhile, suggests that an organization can credibly convey some information about itself (i.e. organizational reputation) to others in an information asymmetric situation to differentiate itself from others (i.e. as a creditable business partner) (Connelly et al., 2011, Spence, 2002). Our study empirically demonstrates that this integrative model is sufficiently justified. This finding is important because it not only contributes to our understanding of this integrative theoretical model, but also suggests a new research direction by affirming that this integrative approach offers a more balanced approach to explaining the antecedent conditions of SC collaboration.

Thirdly, this study contributes to the business-to-business marketing literature by exploring how SMEs can use their brand to seek further collaboration in the business-to-business relationship. Prior research on business-to-business marketing focuses more on SMEs' using the organizational brand to differentiate themselves from their competitors in the business-to-business marketplace and achieving greater business performance (e.g. Baumgarth, 2010, Kotler et al., 2006, Roper and Davies, 2010). The results of our study suggest

that the organizational brand can also be used as a signal to communicate the organizational reputation to each party in the process of improving the business-to-business relationship. This finding is important because it provides evidence to support the concept that organizational brand has a strategic function of both differentiating SMEs from the competition and building a relationship with their business partner.

Finally, this research has implications for agri-food industry research. Based on data from UK agri-food SMEs, our research results contribute to our further understanding of their practices in the areas of branding and SC management. Due to the changing of lifestyles, agri-food SMEs are collaborating with one another to meet the increasing customer demands regarding the freshness of agri-food products (Blackburn and Scudder, 2009, Hingley, 2005, Matopoulos et al., 2007). Our study shows that, by deliberately developing and communicating its brand, an agri-food SME can achieve greater collaboration in the SC.

#### 4.4 Managerial Implications

This study also has several managerial implications. Firstly, in comparison with large companies, SMEs often emphasize innovation and technological development, while allocating relatively fewer resources to marketing (i.e. branding) (Coviello and McAuley, 1999, Spence and Essoussi, 2010). Even with the limited resources allocated to marketing, the primary objective of SMEs' branding is to differentiate themselves in the consumer marketplace (Berthon et al., 2008). Our study shows that SMEs can also use their brand to manage their SC relationship. By using their organizational brand as a signal, the SMEs' management can communicate to the SC channel members their reputation as creditable partners for collaboration. Second, it is critical that managers are aware of the antecedent conditions for SC collaboration, and design and communicate their organizational brand clearly in order to trigger these conditions. This research, along with the findings from other studies (e.g. Bonner et al., 2005, Brettel et al., 2011, Cao and Zhang, 2010, Wu and Choi, 2004), highlights the effects of positive network identity, low behaviour uncertainty and social capital in terms of stimulating the business collaboration. Therefore, operation managers who are involved in managing the SC should collaborate with marketing managers to design appropriate brand messages and communicate effectively with the SC channel members. Finally, our research findings indicate that organization should integrate their marketing and operation functions in order to manage the SC relationship more effectively. This will usually not be a challenge for smaller SMEs, given that managerial control is often concentrated within a small number of executive members (Berthon et al., 2008, Nooteboom, 1993). However, as SMEs grow in size, the executive managers should ensure that the marketing and operational functions remain closely integrated.

#### 4.5 Limitations and Future Research Opportunities

Despite its important theoretical and managerial implications, this study is not without its limitations. These limitations also yield opportunities for future research studies.

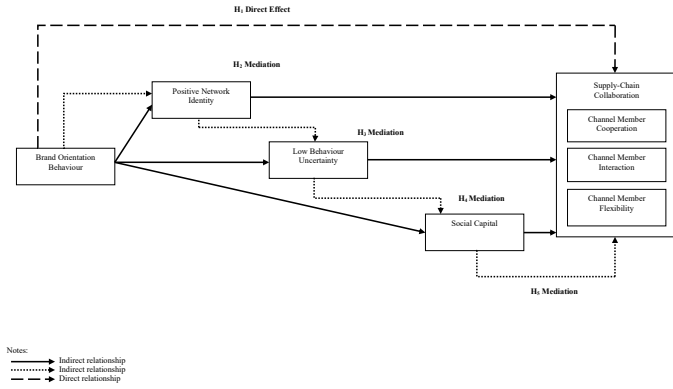
First, this research adopts a cross-sectional research design to conduct a survey at a single point in time. Therefore, we cannot draw definite conclusions about the causal processes that occur in the proposed relationships. Although the vast majority of the structural equation model studies used cross-sectional data, we still need to acknowledge that the relationships among the variables take place simultaneously, rather than being purely causal in nature (Rindfleisch et al., 2008). Future researchers may use a longitudinal research design to confirm the causality. Second, we propose that SC collaboration consists of three activities (i.e. channel member cooperation, channel member interaction, and channel member flexibility) and adapt the measurement from the existing literature. Perhaps, more activities may also be considered essential for SC collaboration. For example, Cao and Zhang (2010) proposed that SC collaboration consists of information sharing, goal congruence, decision synchronization, incentive alignment, resource sharing, collaborative communication, and joint knowledge creation. Future researchers might study the effects of an organization's brand orientation behaviour on different measurements of SC collaboration, and compare their results with this study. Thirdly, we adapt and modify the measurements of brand orientation behaviour, positive network identity, low behaviour uncertainty, and social capital from the existing literature. We acknowledge that there is more than one way to measure these variables. For example, social capital can also be assessed as a structural, cognitive and relational dimension of the activities associated with social relationships (Tsai and Ghoshal, 1998). Future research may adopt different measurements of these variables to design a study similar to the current one, and compare the results with this study. Fourthly, we assessed all of the variables in this study using a subjective measurement. Future researchers should try to use an objective measurement to verify our findings. Finally, this research was carried out in a single country, the UK, and in a specific industry context, the agri-food industry. Future research should replicate this study in different cultures and industry contexts to achieve greater generalizability for the current research findings.

#### 5. Conclusions

The findings from this study suggest that a firm's brand orientation behaviour allows it to improve its level of collaboration with its channel members. The mediating mechanism involves positive network identity, low behaviour uncertainty and social capital. These findings extend the theoretical insights on the relational view, transaction cost economics and strategic network by illustrating how signalling theory can be used to explain the impact of brand orientation behaviour on supply chain collaboration.

Figures

Figure 1: Conceptual Model



Tables

Table 1: Discriminant Validity Analysis

Factor Structure Model	$\chi^2(df)$	$\chi^2(df)$	CFI	RMSEA	p-value
5-Factor Model: Hypothesized Model	1084.84 (462)	2.34	.93	.06	.00
4-Factor Model: (BO+PNI), LU, SC, (CMC, CMI, CME)	1321.52 (466)	2.83	.90	.07	.00
3-Factor Model: (BO+PNI), (LU+ SC), (CMC, CMI, CME)	1633.52 (469)	3.48	.86	.09	.00
2-Factor Model: (BO+PNI+LU+SC), (CMC, CMI, CME)	1582.73 (471)	3.93	.83	.09	.00
1-Factor Model: Omnibus Model	2519.58 (475)	5.30	.76	.11	.00

Notes:  
 $\chi^2$  = Chi-Square  
 $df$  = degree of freedom  
 CFI = comparative fit index  
 RMSEA = Root mean square error of approximation

Table 2: Construct Means, Correlations, and Reliability

	Mean	S.D.	CR	AVE	X1	X2	X3	X4	X5	X6	X7	X8
X1. Firm Size	3.37	2.53	--	--	--	--	--	--	--	--	--	--
X2. Brand Orientation Behaviour (BO)	2.54	.85	.84	.58	-.03	--	--	--	--	--	--	--
X3. Positive Network Identity (PNI)	2.42	.86	.81	.59	-.12*	.59**	--	--	--	--	--	--
X4. Low Behaviour Uncertainty (LU)	2.13	.83	.91	.72	-.08	.56**	.72**	--	--	--	--	--
X5. Social Capital (SC)	2.27	.66	.91	.57	-.16**	.46**	.46**	.58**	--	--	--	--
X6. Channel Member Cooperation (CMC)	2.18	.72	.88	.66	-.06	.39**	.39**	.53**	.78**	--	--	--
X7. Channel Member Interaction (CMI)	2.91	.78	.90	.52	-.13*	.44**	.35**	.42**	.61**	.58**	--	--
X8. Channel Member Flexibility (CMF)	2.61	.79	.81	.58	-.04	.34**	.31**	.38**	.52**	.55**	.63**	--

Notes:  
 \*p < .10; \*\*p < .05  
 Sample: n = 343  
 CR = Composite Reliability  
 AVE = Average Variance Extracted  
 S.D. = Standard Deviation

Table 3: Structural Models

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																	
2	.488(.73)**																
3	.288(.43)**	.488(.73)**															
4	.288(.43)**	.288(.43)**	.488(.73)**														
5	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**													
6	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**												
7	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**											
8	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**										
9	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**									
10	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**								
11	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**							
12	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**						
13	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**					
14	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**				
15	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**			
16	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**		
17	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.288(.43)**	.488(.73)**	

Notes:  
 \*\*p < .05; \*\*\*p < .01  
 Standardized coefficients are reported with t-value in parenthesis.  
 Bold value indicates mediating effects on weakening direct effects.  
 CCC = Supply Chain Collaboration (second-order factor: CMC, CMI, CMF)

Appendix 1: Measurement and Factor Loading

Measurement	Loading*
<b>Brand Orientation Behaviour</b> (Baumgarth 2010)	
Ve invest in image advertising	.60
Ve teach our employees about the brand	.91
Ve instruct new employees about the positioning of our brand	.92
Ve conduct regularly market research studies of our brand	.52
<b>Positive Network Identity</b> (Anderson et al. 1994; Bonner et al. 2005)	
because of our brand, our firm in the market as a "partner of choice"	.72
because of our brand, we have competitive strength of our business network	.68
because of our brand, we can strengthen our relationship with key business partners in our business network	.88
<b>Low Behaviour Uncertainty</b> (Brettel et al. 2011; Wu and Choi 2004)	
because of our brand, our business partners have faith in us.	.87
because of our brand, our business partners believe that we will never act opportunistically	.85
because of our brand, our business partners know that we will supervise our distribution channel closely	.78
because of our brand, we can strengthen our relationship with key business partners in our business network	.90
<b>Social Capital</b> (Maurer et al. 2011; Wu 2008)	
because of our brand, we were in touch with most of the companies in our industry	.91
because of our brand, we were in touch with most of the companies relevant for our business	.91
because of our brand, our business partners were very close to each other	.77
because of our brand, we communicate very often with our business partner	.74
because of our brand, when we offer help to our business partners, we can expect reciprocity eventually	.66
because of our brand, our business partners always trust our company to act professionally and competently	.54
because of our brand, our business partners always trust our company to provide necessary and reliable information and service	.49
because of our brand, our business partners always trust our company to keep the promises we make	.89
<b>Channel Member Cooperation</b> (Kozza and Dant 2007; Samaha et al. 2011)	
our business partners can work together well	.72
our business partners can count us as team player	.86
our business partners and our company look after each other's interests in our relationship	.82
our business partners can describe the relationship with our company as cooperative	.83
<b>Channel Member Interaction</b> (Johnson and Ford 2006)	
our business partners support us in developing our knowledge, skills, and expertise and we do the same to them.	.82
Ve normally combine our knowledge and skills with those of our business partners for instance in development of new products	.66
Ve develop our business plans in consultation with our business partners	.73
our business partners and us consult in development of our respective organizational structures	.70
Ve work together with our business partners in development of each other's organizational culture and values.	.74
our standards or quality are consistent with those of our business partners and we support each other in maintaining them.	.78
Ve have integrated our technical systems and procedures with those of our business partners.	.69
Ve work together with our business partners in the identification of technological requirements of each party	.64
<b>Channel Member Flexibility</b> (Kaufmann and Dant 1992; Samaha et al. 2011)	
our business partners would willingly make adjustments to help our company when faced with special problems or circumstances	.74
our company would willingly make adjustments to help our business partners when faced with special problems or circumstances	.69
our business partners set aside the contractual terms in order to work with us in difficult times	.85

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