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## The perfect match: interpersonal relationships and their impact on chain management

### RESEARCH ARTICLE

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### Abstract

Within the German wine industry, more and more wine estates engage in collaborations to secure grape and wine qualities and quantities to meet the market demands, creating vertically coordinated supply chain networks. The focus of many scholars in this field is mainly set on structural arrangements and less on relational management mechanisms, as studies of structures and their implementation are more readily undertaken and quantified. Both structural and relational mechanisms and their influence on the different levels such as network-, dyad- and firm-level are researched. In the agri-food industry, small- and medium-sized businesses, often family-led, prevail, amplifying the influence of single decision-makers on cooperative decisions. In such a setting, personal relationships and social bonds are stronger than in classical B2B relationships in other industries. Research on chain management does not, generally, take the interpersonal or individual influence of decisions-makers into account. However, recent and emerging literature indicates an influence of managers on chain management. Hence, the questions arise how do managers affect decisions and how can the interpersonal influence be managed? This paper aims to expand the theoretical framework of chain management including the impacts of behavioural and interpersonal aspects in decision-making regarding relationship management.

**Keywords:** behavioural research, buyer-supplier relationship, decision-making, chain management

**JEL code:** Q13

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## 1. Introduction

The successful cooperation between the most popular and leading German fine wine producer Robert Weil from the Rheingau region in Hessa and the largest German food retailer Edeka<sup>1</sup> sparked a discussion in the German wine market in 2017. Up to this moment, there were no strong wine brands with German origin established within the German food retail sector. Until 2017 Robert Weil was mainly engaged in selling their wines abroad and only a smaller portion was sold to high-end gastronomy or specialised retailers on the German market. Together, the wine estate Robert Weil and Edeka, successfully introduced a brand concept called '*Robert Weil Junior*' which is associated with the famous fine wine brand Robert Weil and exclusively sold by Edeka retail outlets. Many industry participants were surprised by the collaboration and many doubted the potential for success, but the last three years showed that the brand introduction and development was positive.<sup>2</sup> Within the cooperation the strategic aims and tasks for both firms are clearly established. Edeka is responsible for the distribution, sale and the management of the brand at the point of sale exclusively within Germany, aiming to expand their wine competence to offer their customers a unique and distinct wine assortment. Robert Weil is responsible for the wine quality (product quality) and to secure the needed quantities. The strategic objective of the wine estate to enter into the collaboration was twofold. The wine estate follows a diversification strategy to spread their distribution risk, engaging in a new distribution channel to improve the market position within Germany. Besides, the wine estate engages in branding, as the demands of German wine consumers change towards branded wines. Robert Weil pursue a brand transfer strategy to generate a brand transfer from their high-end fine wine brand Robert Weil to the new brand concept *Robert Weil Junior*. Through the collaboration Robert Weil is able to expand their target group, reaching new and younger consumer segments through food retail. In the long-run, the goal is the development of those new consumers segments towards their original fine wine brand Robert Weil.<sup>3</sup>

The grapes and wines for their fine wine brand Robert Weil are produced from own vineyards. But for the brand concept *Robert Weil Junior*, the wine estate is not able to produce the demanded quantities from their vineyard area. To secure the required quantities and qualities, the wine estate shifted from a pure vertical integration approach towards vertical coordinated relations, collaborating with partners (grape and wine producers). This case shows that the decision of the wine estate to improve its market position within Germany did not only lead to changes in the distribution strategy but much more to a fundamental change in their strategic organisation of the supply chain. This development is in line with developments of the overall agri-food industry. The agri-food industry is shaped by various modalities of organisation and governance structures to meet the product attributes demanded by consumers (e.g. quality, brands, organic or vegan production, etc.) (Ménard, 2018). Therefore, the wine estate Robert Weil serves as an example, as it faces the same challenges as other agribusinesses being vertically coordinated to manage the supply chain in order to meet changing consumer demands.

Similar to other agri-food companies, the wine supply chain works rather in vertical cooperating networks and not in vertical integrated supply chains, due to the varying firm sizes along the chain. The increase in verticalisation in the wine supply chain, creates therefore netchains (Lazzarini *et al.*, 2001). Those netchains include organisations that have to take on the role of a focal company to manage the network to reach its strategic objectives. Gulati *et al.* (2005) showed that coordination and cooperation are two important means for the management of vertical relationships for the realisation of the strategic objectives of the focal firm.

<sup>1</sup> In 2019, Edeka had the largest market share compared with all other food retailers on the German retail market (26,8%), followed by Rewe-Group (16,2%) and Schwarz Group (16,0%) (Bundesvereinigung der Deutschen Ernährungsindustrie, 2020). Edeka's gross sales in billions of euros were 61,25 generated by its food retail chain called 'Edeka' and the discount chain of Netto which also belongs to Edeka (Statista, 2020).

<sup>2</sup> Details and figures are presented in Section 2.2.

<sup>3</sup> The information for the case study was gathered through press releases, observations and a personal interview with the brand manager responsible for the *Robert Weil Junior* brand from the wine estate Robert Weil.

Hanf and Dautzenberg (2006) show in their framework that the focal firm needs to address the key questions of cooperation and coordination on the network-, dyad-, and firm-level to be able to realise its strategic network goals. Lambert and Enz (2016) summarise in their article, that good management of down- and/or upstream relationships operates on two levels: level (1) structural management mechanisms such as planning, control methods, workflow structure, organisation structure, knowledge management and communication structures are necessary to coordinate the relationship and they are well-understood and implemented. Besides, these mechanisms are easier to manage as they are measurable and technology can be involved most of the time. Level (2): relational management mechanisms such as management methods, power and leadership, risk and rewards, culture and attitude as well as trust and commitment. These mechanisms are equally important, but they are less understood and are less actively deployed or implemented, due to their soft and intangible character.

Recently, there is a range of emerging literature which focuses on the influence of behavioural and interpersonal aspects in the management of relationships. Different studies evidenced, that in some business-to-business (B2B) relationships decisions were taken, which were not in line with the common economically rational assumptions. Tangpong *et al.* (2019) show that, e.g. personality and cognition of agents exert an influence on the decision-making in chain management which cannot be explained solely by the rational economic assumptions. To explain those situations, a different and wider approach is needed. This approach is in line with other research fields such as behavioural operations (e.g. Gino and Pisano, 2008) and behavioural strategy (e.g. Powell *et al.*, 2011). In strategic management, the emphasis was usually not below the firm level, with the exception of research on CEOs and top management teams (Wright and Boswell, 2002). In light of the recent results, the theory on strategic chain management should be discussed and human agents and their influence on strategic relationship management and intrafirm-, interfirrm- and network-level outcomes considered. Thus, the theoretical impacts of interpersonal relationships and their management are put into the centre of the research. How do managers influence decisions and how can the interpersonal influence be managed?

A literature review in five journals<sup>4</sup> covering the fields of supply chain networks in the agri-food and wine business showed that most of the chain management literature focuses mainly on structural chain management tools, justifying its assumptions on the bases of rational economic grounds including self-interest, profit maximisation and optimisation.

Therefore, this paper aims to expand the theoretical framework of chain management including the impacts of behavioural and interpersonal aspects in decision-making regarding relationship management within strategic networks in the agri-food business.

In addition, we have decided to apply a case study approach, using the wine estate Robert Weil, representing a larger group of similar companies in the German wine industry. The case study approach is an appropriate tool for inductive theory-building (Hyde, 2000). We followed the guidelines of Eisenhard (1989). The German wine industry was purposefully chosen, because it represents a small sector in which interpersonal relations predominate. The vast majority of the wine estates are owner-managed, and one-third of the workforce belongs to the family. Around 53% of the workforce are seasonal workers and only 14% are permanent foreign (not-family) members of the workforce (Statistisches Bundesamt, 2017). As most of the companies in the wine industry are family-owned, with a single person or a small circle often managing the decision-making, accentuating the influence of single human agents in relationship management decisions.

<sup>4</sup> The literature review covered the journals: Journal of Chain and Network Sciences 2000-2016, International Food and Agribusiness Management Review 2000-2020, Agribusiness: an International Journal 2000-2020, Journal of Wine Economics 2000-2020 and International Journal of Wine Business Research (formerly International Journal of Wine Marketing) 2000-2020. We used the following keywords: interpersonal influence, interpersonal factors, interpersonal relationship, interpersonal + decision-making, chain management, supply chain management, buyer seller relationship, cooperation, coordination, collaboration, B2B marketing, B2B relationship, relationship management, behavioural economics, behavioural operations and behavioural strategy.

At the outset, we give a summary on vertical coordination in the agri-food business as well as in the wine industry, clarifying in this context the challenges for chain management. The next Section briefly introduces strategic networks and their characteristics serving as the base of the framework. In this context, we summarise the structural management mechanisms as well as the relational management mechanisms for an intra-firm, inter-firm and network-level approach. In the following Section we argue why it is necessary to expand the framework by including the level of interpersonal relations and the impact of behavioural aspects on chain management. The final Section gives an outlook on future research on the impacts and the importance of the development of interpersonal chain management mechanisms. The paper closes with a summary.

## 2. Vertical coordination

### 2.1 Vertical coordination in the global agri-food and wine industry

Today, the prevailing strategy in the agri-food sector focuses on vertically coordinated<sup>5</sup> supply chains to adjust with the different changes in the agri-food sector (Carillo *et al.*, 2017; Ménard, 2004). Reasons for the development are issues of food safety, food security, changing consumer preferences, ethical concerns and greater awareness of the environmental impact of food production. The wine supply chain is no exception. Agri-food industries – including the wine industry – are characterised by unique features such as specific product features (e.g. perishability, varieties, organic production, etc.). Fernández-Olmos *et al.* (2009) showed that with an increase in asset specificity – in the wine industry particularly for physical attributes (e.g. specific grape varieties, drip irrigation) and dedicated specificity of techniques (e.g. yield reduction) – the likelihood to adopt vertical integration rises. Codron *et al.* (2013) go even a step further and showed the same influence for other specificities: temporal specificity (perishability of grapes), site specificity (e.g. country, region or vineyard site) and human assets (human skills and capabilities for grape growing).

A self-evident reason for the formation of vertical networks instead of single line chains is the differing sizes of firms along the food chain – from extremely small-medium sized farms due to historical reasons to concentrated manufacturers and food retailers (Saitone and Sexton, 2017). Both are true for the grape production for wine (Goodhue *et al.*, 2003).

Furthermore, product differentiation – to meet customer needs – plays a role in pushing supply chains to be more vertically or horizontally coordinated. Product differentiation in the context of grape production can be associated with characteristics such as specific grape varieties providing specific wine profiles in taste, and also the delimitation of wine-growing regions which influence the final products. Grape quality is a critical variable for wine making and influences strongly the quality of the final product (Ashenfelter, 2008; Fernández-Olmos *et al.*, 2009; Miranda and Chaddad, 2014). Goodhue *et al.* (2003) find that more formal coordination is associated with higher product quality. Fernández-Olmos *et al.* (2009) note the same: wineries that produce high-quality wines are more likely to integrate vertically than those producing low-quality wines.

### 2.2 Vertical coordination in the German wine industry

In recent times, there is a shift from vertical integration towards more diversified coordination mechanisms, but up to date, there is no scientific research regarding vertical coordination in the German wine industry. There was one descriptive publication about vertical coordination in an industry magazine (Bitsch, 2019). In addition, trade press articles were found on ‘wine estates’ sourcing grapes. Bitsch (2019) described a change in the business environment of the grape growers. In earlier times, grape growers had difficulties in leaving wine cooperatives, as there were no alternative grape buyers on the market, but this situation has, in recent times, changed. The number of cooperatives declined steadily, together with the vineyard area cultivated, due to a member decline (Drv, 2017) and the majority of their members left the wine industry. Others left

<sup>5</sup> Vertical coordination describes the process and synchronisation of successive stages across segments of a production/marketing system including factors such as price, quantity, quality, terms of exchange, etc. (Hanf and Gagalyuk, 2018; Martinez, 2002). It does not include transactions on spot markets, where the commodity exchange is based on a price agreement only.

the cooperative to supply wine estates, wineries and other market participants. A third group stayed as members of the cooperative, but they found ways to partially supply other market participants with their grapes (Schilling *et al.*, 2019). This development is fuelled, as more wine estates engage in collaborations with grape and wine suppliers.

The wine estate Robert Weil entered into a strategic collaboration with the German leading food retailer Edeka in 2017, introducing the exclusive brand concept of Robert Weil *Junior*. Due to limitations in their vineyard area, the wine estate was and is still not able to produce the required quantity. They had to search for collaboration partners in the form of grape and wine suppliers to secure the demanded quantities and qualities. They work together with grape suppliers and a bottler from the Rhinehessia region. (Weinwirtschaft, 2017) The wine estate sells 650,000 bottles of their 'original' brand Robert Weil from its own vineyards. In the first year for the newly-established brand Robert Weil *Junior* 400,000 bottles were produced (100,000 bottles per wine: 3 white, 1 red). In the following year, the quantity produced almost doubled to 730,000 bottles (200,000 per white wine + 130,000 bottles for red wine) (Gault Millau, 2020). Further positive developments are expected.

Since 2017, similar approaches to collaborations between food retailers (e.g. Rewe or Kaufland) or discounters (e.g. Aldi and Lidl) with German wine estates have emerged and considerable volumes of German wines have been sold via those collaborations (e.g. Handelsblatt, 2015, 2017; Weinwirtschaft, 2017; Wirtschaftswoche, 2018).

A small producer survey<sup>6</sup> indicates that for the last 10 years a change is taking place in which wine estates engage more in vertical coordination. The wine estates establish relationships with grape and wine suppliers to fulfil customers' demands, creating a strategic network with close ties between suppliers, producers and retailers/sellers. We conclude, therefore, that vertical coordination is an emerging field in the German wine industry, following similar developments as in other agri-food industries. Hence, the following Section is based on strategic networks in agri-food industries as the results are transferable.

### 2.3 Strategic networks

Lazzarini *et al.* (2001) define netchains as 'a set of networks comprised of horizontal ties between firms within a particular industry or group, such that these networks (or layers) are sequentially arranged based on the vertical ties between firms in different layers'. Supply chain networks or netchains are mainly organised in a pyramidal-hierarchical structure, in which a focal firm from the downstream chain part is the centralised decision-making unit (Jarillo, 1988). Other network partners are dependent on the focal firm, due to long-lasting relationships. Thorelli (1986) describes networks as long-term relationships of power and trust through which organisations exchange influence and resources between at least two or more actors in the networks. If the focal firm depends on critical inputs from the suppliers, mutual dependencies exist and the suppliers reclaim some of the power (Medcof, 2001). The focal firm coordinates the network to reach the strategic objectives and it possesses the necessary authority to do so (Lorenzoni and Baden-Fuller, 1995).

Supply chain networks consist of a multitude of participating firms along the food chain. Therefore, the embedded upstream and downstream flows of resources and information must cross various stages of the chain. Networks are flexible organisations; therefore, dynamic capabilities such as integrating, building, and reconfiguring internal and external competencies (Teece *et al.*, 1997) can be seen as one of their competitive advantages. Thus, network science highlights that collaboration is determined by the complementary abilities of the involved firms and through risk reduction strategies (Ménard, 2004). In addition, networks themselves can be regarded as an origin of inimitable resources creating inimitable and non-substitutable value due to their inter-organisational links (Gulati *et al.*, 2000) thereby expanding beyond the traditional resource-based view (Barney, 1991).

<sup>6</sup> In a voluntary online survey, German wine estates were questioned about their production structures. Roughly 30 out of 50 of the participants engaged in vertical coordination covering a significant production share with it.

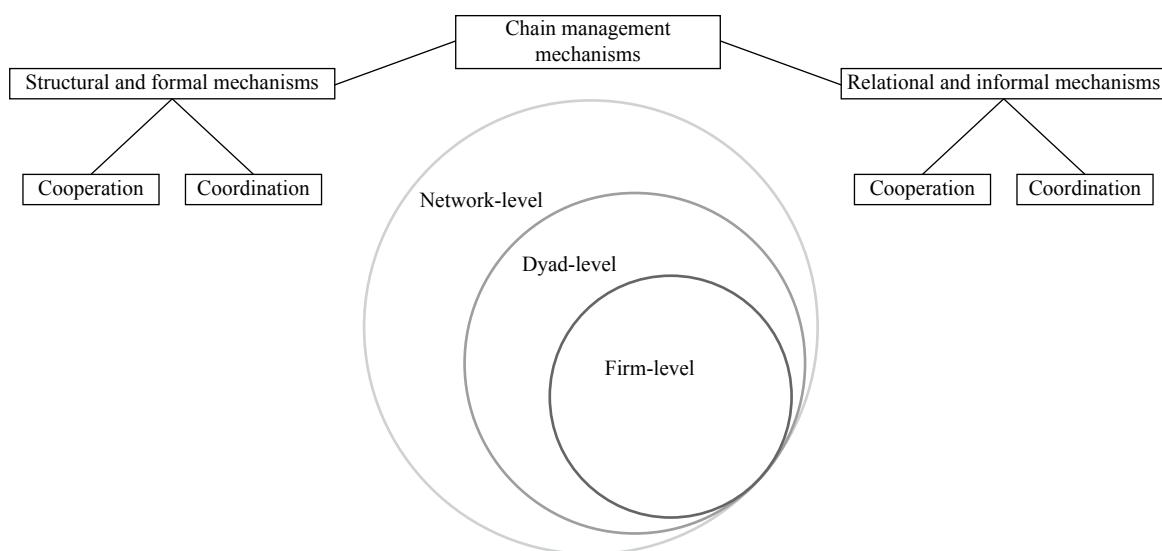
Gulati *et al.* (2005, 2012) showed that coordination and cooperation are two facets of collaboration and both are important means for the management of vertical relationships. Coordination can be understood as the alignment of actions to achieve mutual goals between intentionally chosen partners. Cooperation refers to the alignment of interests between the partners in which the intended scope of the relationship is laid out (Gulati *et al.*, 2005).

In the process of structuring of the long-term exchange relationships within a supply chain network, the focal company has to take into account that the problems of cooperation and coordination appear at the three different levels of collaboration, i.e. the firm, dyadic and network levels (Duysters *et al.*, 2004). At the firm level problems primarily include issues related to resource endowments and cooperation capabilities. At the dyadic level, the issues that arise, e.g. problems of opportunistic behaviour or information asymmetry, are analysed; whereas, at the network level, analysis deals with issues of collaboration among more than two firms. The problems at the network level include the complexity of the network structure, bullwhip effect, etc. (Hanf and Dautzenberg, 2006). For this purpose, systematic approaches – known as collective strategies – must be jointly developed and implemented (e.g. Bresser and Harl, 1986; Carney, 1987). They are regarded as instruments that deal with variations in the inter-organisational environment. Figure 1 gives a graphical illustration on chain management with its structural-formal and relational-informal mechanisms on the three different management levels.

### 3. Chain management mechanisms

Gulati *et al.* (2005) showed that coordination and cooperation are two important means for the management of collaboration and for the realisation of the strategic objectives of the firm. Hanf and Dautzenberg (2006) developed a framework showing that the focal firm must manage the chain on different levels to be successful. In their framework it is argued that the focal firm needs to address the key questions of cooperation and coordination on the network-, dyad-, and firm-level to be able to realise its strategic network goals. In Section 3.1 the structural and formal mechanisms and in Section 3.2 the relational and informal mechanisms are summarised; within both Sections, cooperation and coordination issues on the different levels are addressed.<sup>7</sup> Section 3.3 expands this approach, arguing that behavioural aspects of human agents can affect interpersonal relations and thereby, firm-, dyad- and network-level outcomes. Hence, the interpersonal level needs to be

<sup>7</sup> For an extensive overview see Hanf and Dautzenberg (2006) and Lambert and Enz (2016).



**Figure 1.** Overview on chain management and the management levels.

added as a fourth level of analysis in the context of strategic decision-making to develop chain management mechanisms to lead a successful netchain.

### *3.1 Structural and formal mechanisms*

The assumptions for decision-making are based on self-interest, monetary motives, rational decision-making and optimisation (Donohue and Siemsen, 2010). Examples for the ascribed characteristics of human agents are rational, calculative and reward-contingent decisions (Blau, 1967; Williamson, 1985).

In general, problems in cooperation arise because self-interested individuals optimise their own private benefits before they strive for collectively-beneficial outcomes (Gulati *et al.*, 2005). Just as coordination can be considered the alignment of actions, coordination problems arise if actors are unaware that their actions are interdependent and if there is uncertainty about roles, relationships and others' rationality, so that one does not know how the others will act (Gulati *et al.*, 2005).

The following gives an overview of the most researched structural and formal management mechanisms which are applied to manage cooperation and coordination within the network on a firm-, dyad- and network-level.

Structural and formal mechanisms to overcome 'cooperation problems' are: contracting (Williamson, 1999), common ownership of assets (Grossman and Hart, 1986), monitoring and sanctions (Williamson, 1985), and the prospect of future interactions (Baker *et al.*, 2002). Another formal mechanism to align interests is the use of incentives (Dal Bo, 2005). In general, mechanisms to overcome intrafirm conflicts can be found in the intraorganisational management literature (Bleicher, 1991; Bühner, 1999; Thompson, 1967). Besides, it is important to ensure that the staff of the different business units are collaborating and that they are willing to collaborate with the staff from the partnering firm. Mechanisms derived in particular from the principal-agent approach such as the implementation of incentives schemes, monitoring mechanisms, or agent tenure, can be regarded as adequate mechanisms (Bloom and Milkovich, 1998; Holmstrom, 1982; Shaw *et al.*, 2000).

Structural and formal mechanisms to overcome 'coordination problems' are: programming, hierarchy, and feedback, as well as culture, commitment, and a collective strategy (Kogut and Zander, 1996; Nadler and Trushman, 1998; Thompson, 1967). However, the need and the explicit knowledge of firm strategies, culture, and values differ with the firm size – i.e. the strategic management of farmers differs significantly from that of retailers or large manufacturers.

Building routines can also be regarded as a coordination mechanism. Additionally, as the evolutionary economics show, knowledge assets are embedded in routines (Nelson and Winter, 1982). Moreover, the networks' ability to establish learning routines can be viewed as a further mechanism to build up unique and network-specific knowledge, creating a further inimitable and non-substitutable collaboration advantage (Dyer and Hatch, 2006; McEvily and Marcus, 2005).

Netchains in the agri-food business quite often consist of heterogeneous firms; therefore, the IT-infrastructure of the network firms' differ between each other. Mechanisms such as the exchange of hostages or shared investments (Sydow, 1991) must be installed to demonstrate that the other firms will not behave opportunistically. Firms are often not only part of a single network, but instead, they possess a multitude of collaborative partnerships; such skills aim to provide the intrafirm structural mechanisms to manage the alliance portfolio (Reuer and Ragozzino, 2006).

It has been observed on all levels that often rather formal mechanisms are used at the beginning of the collaboration, whereas over time they are substituted by informal mechanisms (Gulati, 1995).

### 3.2 Relational and informal mechanisms

A shift from economic rationality/profit maximisation towards bounded rationality gives room for behavioural and relational/informal approaches (Hadjikhani and LaPlace, 2013). For instance, relational exchange theory assumes that the actions of human agents are shaped and dictated by social norms (Wrong, 1961).

Within strategic networks, the focal firm has to build a social system, creating ‘interdependent, reciprocal exchange relationships’ shaped by ‘the density, multiplexity, and reciprocity of ties and a shared value system defining membership roles and social responsibilities’ (Achrol, 1996) to align the interests, to motivate and to control the members to reach the strategic chain objectives.

Relational and informal mechanisms to overcome ‘cooperation problems’ are: ensuring transparency of the network structure and affiliation as the absence of such transparency increases the probability of free-riding. To solve this problem, networks must take measures to reduce anonymity and encourage identification with the network, as well as set incentives which align the interests of the single firm with those of the overall network (Zaheer and Bell, 2005).

Power and trust as constructs of business-to-business relationships have been researched extensively. Applied to the economic context, power is defined as ‘the ability of one firm to influence the intentions and actions of another firm’ (Emerson, 1962). Several others agree that power can be seen as an ability to influence or control the behaviours, decisions, intentions or actions of others in the pursuit of one’s interests (El-Ansary and Stern, 1972; Hu and Sheu, 2003). The powerful focal company must be allowed and be able to apply sanctions and fiats such as excluding network firms from the network which are not pursuing the network goal (Brito and Roseira, 2005). A better way of enhancing predictable behaviour is to introduce hierachal elements such as single sources of authority and centralised decision-making (Thompson, 1967).

In the economic context, trust is seen in the light of gains and losses which the firms may have by entering a trustful relationship. This idea is reflected in the definition of Gambetta (1988) who asserts that trust is ‘the probability that one economic actor will make decisions and take actions that will be beneficial or at the least not detrimental to another’.

Overall, trust can be seen as a prerequisite to gain the advantages of cooperation, because trust reduces the perception of risk associated with opportunistic behaviour, encourages effective communication and information sharing, and creates strong social bonds (Mohr *et al.*, 1996). Having trust also means that a firm can have confidence in the information which is transmitted by its collaborating counterpart (Das and Teng, 1998). Enhanced communication enables trust-forming, learning of and reacting to changes in one’s partners’ expectations; therefore, it can be regarded as another informal mechanism, i.e. ineffective communication causes conflicts resulting in improperly functioning relationships (Mohr and Nevin, 1990). There are five kinds of trust classified according to their origin: calculus-based, experience-based, cognition-based, goodwill, and affect-based trust. Affect-based or personal trust is seen as the ‘emotional bond’ based on ‘one’s instincts, institutions or feelings’ between parties (Lewis and Weigert, 1985). This concept gives rise to personal differences and their direct impact on trust-building which was shown to be an important chain management tool (Hansen and Morrow, 2003).

Relational and informal mechanisms to overcome ‘coordination problems’ are: as in supply chain networks, where many actors are involved, information problems can arise. Studies at the network level emphasise the role of social capital to enhance and bring about information exchange which results in information advantages (Uzzi and Gillespie, 2002). Because information is generally exchanged by people on an operational level, on the dyadic level social and personal relationships of the people involved are also very important. Thus, on the intra-firm, dyadic level as well as on a network level, an important managerial task is ensuring that the involved people match each other (Kale *et al.*, 2002). In this context, not only relationships outside, but also inside the firm are important sources of social capital (Coleman, 1988). The stability of networks

facilitates value gains as ‘social structures, and the resources to which they provided access, accumulate rather than decay over time’ (McEvily *et al.*, 2012). Through long-lasting relationships, and standardised processes cooperation will emerge, resulting in trust, common and shared norms and language improving coordination and performance (Payne *et al.*, 2011; Taylor and Greve, 2006). Each network firm is embedded into structures of social relations that can take place on a relational, structural and positional level, leaving out the interpersonal level<sup>8</sup> within the network, but all levels can impact the performance of each firm (Granovetter, 1985).

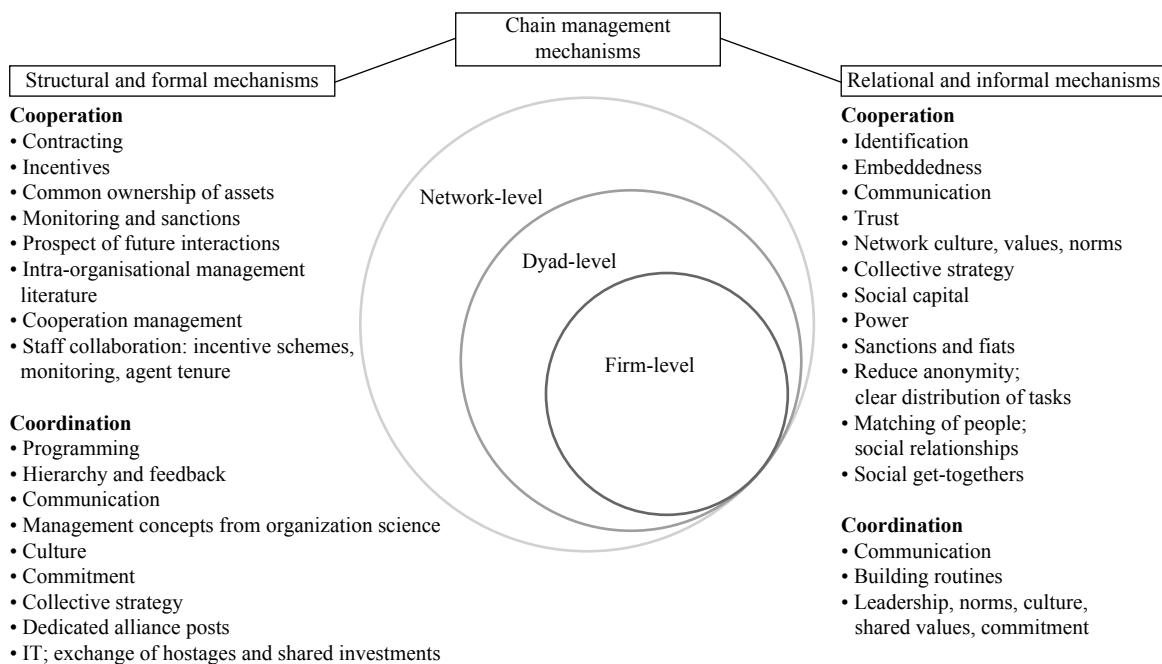
Many authors acknowledge an influence of interpersonal relationships on inter-organisational relations and their outcomes (e.g. Hanf and Dautzenberg, 2006; Lazzarini *et al.*, 2001). But the influence is believed to either influence the operational and less the strategic perspective or to have a minor and even negligible influence and is, hence, left out or discussed within the framework of firm-, dyad- and network-level chain management.

But recent literature has emerged shifting the focus from a macro-level (firm- / dyad- / network-level) towards a micro-level taking into consideration the influence of human agents and their interpersonal relationships on decision-making in chain management (e.g. Gulati *et al.*, 2012). Figure 2 summarises the structural-formal and relational-informal chain management mechanisms on the three different management levels.

### 3.3 ‘Behavioural’ chain management mechanisms comprising interpersonal aspects

The majority of B2B relationship literature regarding managerial decisions centres around the macro levels such as intra-firm, inter-firm and network-level. Our literature review showed that most of the chain management literature focuses mainly on structural chain management and to a lesser extent on relational chain management. Relational mechanisms are equally important, but they are less understood and less frequently implemented, due to their soft and intangible character. In the fields of operation and supply chain management, strategic management and organisation psychology, the interpersonal influence of human agents

<sup>8</sup> Abdirahman *et al.* (2014) suggest for further research to analyse the inter-individual perspectives and its consequences on chain performance.



**Figure 2.** Summary of chain management mechanisms.

is only recently considered. But research is scattered and many authors agree that the fields are still under-researched and a great potential for further research exists (e.g. Fahimnia *et al.*, 2019; Gino and Pisano, 2008; Powell *et al.*, 2011). In the context of cooperation and especially cooperation in agricultural economics, the amount of research integrating the influence of human agents is even less. Hence, this paper aims to expand the theoretical framework of chain management by including the behavioural and interpersonal impacts of human agents on decision-making regarding relationship management.

Gulati *et al.* (2012) argue in their paper 'The two facets of collaboration: cooperation and coordination in strategic alliances' to include the interpersonal influence of alliance managers in the analysis of collaborations. It can be assumed that collaboration partners have subjective understandings of cooperation and coordination issues, as well as subjective interpretations of success or failure of the collaboration (Van de Ven and Walker, 1984). These subjective interpretations and understandings have their roots in heuristics and biases, which may influence the alliance managers' interpretations and therefore the performance outcomes. Gulati *et al.* (2012) take the examples of attribution heuristics and confirmation biases to show how they can impact perceptions of cooperation and coordination in inter-organisational relations, leading to decisions and actions which may not mirror the reality and are therefore not adequate.

Heuristics and biases are not the only aspects which can affect decisions within B2B relationships. Recent empirical studies cover a wide field, which is not yet systematically researched.

First results show that personal differences such as personality and cognition have an influence in the decision-making of human agents regarding B2B relationship decisions (e.g. Lussier and Hall, 2018; Tangpong *et al.*, 2010; Widmier, 2002).

Behavioural research in supply chains showed an influence of buyers' risk preference, misperceptions and cognitive biases/reflections on the optimal order quantities under uncertain demands (e.g. Kocabiyikoglu *et al.*, 2016) as well as regarding varying inventory management (e.g. Moritz *et al.*, 2013).

In the field of contracting Wu (2013) indicated that decision-makers have fairness concerns deviating from the self-interest assumption. Besides, Li *et al.* (2013) demonstrates that the decision-makers' sense of duty, as well as interfirm reciprocity, affects contract adjustments. Furthermore, it was shown that the level of human agents' cooperativeness reinforces relational norms by suppressing opportunism. Su *et al.* (2017) revealed, that firm-level governance and individual negotiation styles had effects on opportunism and compliance. Besides, Tangpong *et al.* (2010) evaluated a co-development of agent-level factors (e.g. co-operative and competitive attitudes) and system-level (e.g. partner-based or opponent-based relationships) in the context of supply chain decisions.

Furthermore, research showed that the supply chain decisions of human agents in B2B relationships are influenced by the openness' and honesty of the agents (Dion and Banting, 1988), by cognitive and heuristic biases (Iyer *et al.*, 2015), and by the emotions such as anger, joy, fear, etc. (Bagozzi, 2006). In the context of B2B relationships between salesperson and customers, the research showed that incentives and personal traits of the salesperson such as empathy and tenure take an influence (Widmier, 2002). Lussier and Hall (2018) highlighted the difference between perceived cooperation by customers and the actual cooperation which took place. This mismatch was influenced by the salesperson's personality as well as by relationship features (e.g. customer orientation and long-term relationship).

In the agri-business industries first studies are taking place as well. Kostov *et al.* (2008) demonstrated in their study regarding decisions for land prices in Northern Ireland, that personal relationship characteristics – in this study they differentiated between family- and non-family relationships – can have an influence on decisions regarding land prices. The difference was small but still existent. Besides, a cross-EU study emphasised the positive contribution of personal embeddedness/personal bonds between decision-makers to the relationship goodness (Fischer *et al.*, 2008). Lewis *et al.* (2015) showed a positive relationship

between personal bonds/camaraderie feeling and network-outcome. The concept of personal bonds and their management, was in both studies not investigated further. In a recent study in the agri-food industry, Woodard *et al.* (2017) display a variance between managers of behavioural variables such as risk perception, business risk vulnerability and being optimistic and due to human induced-heuristics. These variables can have an influence on the manager's decisions. Since in networks the exchange between the firms is administered and exercised by employees, the general challenge for the companies is to install mechanisms to transform these skills, contacts, and knowledge from the personal-level to the firm-level to make it 'manageable'. Ployhardt and Kim (2013) suggest the development of recruiting and selection competencies criteria with which to select suitable replacements, if employees leave. Recruiting focuses more on the firm-level and only a few studies consider the individual characteristics of potential candidates, although the individual employees are the foundation for the firm (Ployhardt and Hale, 2014). Aguinis and Kraiger (2009) show that training and development can be helpful in managing interpersonal and behavioural influences. Generally, management literature shows that decisions made in teams or groups diminish or reduce the personal and individual influence of each member. For example, the upper echelon theory analyses especially the influence of the top management teams and the CEOs on strategic decisions, but even in this context the values and the cognition of the members influence the decisions (Hambrick and Mason, 1984).

Summarising, the literature shows there are starting points in research which indicate an influence of human agents on an interpersonal-level, which can affect inter-firm and network-level outcomes. Therefore, it is necessary to discuss and evaluate further possible structural and relational management mechanisms which can be used to control, to limit and to integrate the individual behaviour of human agents for the focal firm to reach its strategic objectives as well as the strategic objectives of the chain.

## 4. Conclusion and future outlook

### 4.1 Lessons learnt for management

Kale *et al.* (2002) argue, that it is important to ensure a perfect match between the staff of the cooperating network firms to realise the full potential of shared gains. In this context the importance of human resources (intangible resources) in the resource-based view is emphasised (Hatch and Dyer, 2004; Ployhardt and Hale, 2014). In order to find the optimal fit of human resources, firms need competences in recruiting, selection and allocation of employees. For recruiting and the right allocation of employees, firms must accumulate knowledge about the personal attributes and characteristics of the employees which are necessary in the different positions. If an employee has strong relations with the customers, the organisations face the threat of losing the employee which can have severe implications for the relationship management with the customers and hence on the cooperation.

Human capital can be divided into generic human capital which is transferable across jobs or organisations (i.e. an employee's general cognitive ability, personality factors, etc.) and specific human capital, which is non-transferable and only applicable in a certain organisation / context (Ployhardt and Hale, 2014). Knowledge accumulated by employees can be defined as specific human capital, which can lead to a sustained competitive advantage. Knowledge management is one of the most researched examples in cooperation research including the employees as an important influence factor. It is obvious that cooperation is initiated by personal relations (in the form of the employees) and that the interaction of the employees are needed to accumulate knowledge, which needs to be transferred into the firm-, dyad- and network-level to sustain the collaboration. The firms need to assure a decoding of the knowledge to transfer into 'firm knowledge', diminishing the risk of losing the knowledge if the employee is leaving the firm. Thus, the firm needs to install mechanisms and processes to transfer, keep, collect and further develop the knowledge. This is only possible in terms of 'hard facts', e.g. process knowledge. In addition, the firm can only collect the knowledge of the firm-internal employee, but not from the counterpart of the cooperating firm. Therefore, the firm can only 'manage' their own employee and only the 'hard knowledge'. Intangible or soft knowledge, e.g. about humour, preferences, personal stories, etc. which arise or are shared over time in a trusted relationship between

the employees cannot be 'managed'. In other words, the employee collects knowledge on the counterpart's personality, characteristics, behavioural aspects, etc. which can have an influence on the cooperation. This knowledge will be lost when the employee leaves and no mechanisms are installed or activated prior to such events. But human capital does not only interact with knowledge management. It also plays an important role in the routine and capabilities building (Felin *et al.*, 2012). The question arises: 'which other personal and behavioural characteristics of employees are important for the management of a successful cooperation?'

The influence of the employee can be seen as two sides of the same coin. On the one hand, the employee and his personal and behavioural characteristics can have positive benefits for the firm or network, as stable and strong relations are established and reinforced. On the other hand, the firm risks to lose the employee which may negatively influence the partner or customer relations, reducing the achievement of the potential shared network gains. Organisations, which have a short-term employee fluctuation, bear the risk that their partner or customers are not fully engaging in the relationship, leading to a situation in which the potential shared gains of the collaboration are not achieved. As shown, personal characteristics could influence the decision process between cooperating firms. This means that, e.g. emotions or fairness perceptions of the employees could either negatively or positively influence the relationship (decisions). In the long run, organisations should find possibilities to implement structures to learn about the personal characteristics to be able to replace the employee accordingly, if she/he leaves to ensure a good on-going cooperation.

Overall, the focal company needs to develop chain management mechanisms to control the interpersonal influences. Control in this context can mean two different things. On the one hand, it means to at least neutralise or mitigate negative influences and to reinforce positive interpersonal influences of their own employee. The firm needs to establish processes to learn about the relationship-specific impacts caused by the personalities and behavioural influences of the employees. On the other hand, control can mean to use the knowledge of personal characteristics, heuristics and biases to understand and even influence (if possible) the decisions of the employee from the cooperating firm. Up to now, research focuses more on knowledge management, and less on the personal characteristics and behavioural influences of their 'own' employees. The perspective of using the knowledge and awareness to assess and/or change the decisions of the cooperating partner plays a small role in chain management research. For instance, in marketing or organisational management, first controversy discussed approaches draw on psychological concepts such as neuro-linguistic-programming<sup>9</sup> to include this perspective (e.g. Kotera *et al.*, 2019; Wood, 2006).

A transfer of the discussion above, into our example Robert Weil and Edeka now follows. In the context of the example Robert Weil, one brand manager works with Edeka and the grape and wine suppliers. On the side of Edeka, a key account manager is in charge of the collaboration. In both cases, the decision aims to set up a trustful and long-term relationship by implementing personal relations and recurring meetings between the same managers. Having the same employees for a longer time in the same position can help to stabilise and improve B2B relationships positively, creating trust and security to reach the strategic objectives. For Robert Weil and Edeka only a single person is responsible for the management of the cooperation. The personalities of the managers and their subjective perceptions of the collaboration are the basis for all the relationship decisions. The firms have the risk of 'losing control' and being solely reliable on the personal relations of the managers. Mechanisms to counter the dependence on the brand manager would be e.g. to employ an additional brand manager/key account manager, who can learn and experience the relationship to inherit the necessary characteristics. This mechanism depends on the financial resources and is, for most of the time, not an option for small and/or family-owned agri-businesses. Another possibility would be the adoption of recruiting processes to assure that the new employee inherits the same or similar personal characteristics to continue the successful cooperation. So far, not much research is done in this area.

<sup>9</sup> Neuro-linguistic-programming assumes, that people 'have three main internal sensory representational systems namely auditory, kinaesthetic and visual' which influences the message received by people. This internal system is reflected in their choice of words. Communication partners can use the same or a similar choice of words to influence the behaviour of the receiving partner (e.g. via advertisement in marketing) (Skinner and Stephens, 2003).

Personal characteristics e.g. emotions or fairness perceptions of the brand manager could either negatively or positively influence the relationship (decisions). A positive example would be that personal characteristics of the brand manager such as openness, honesty or motivation foster identification of the partner with the network objectives which then lead to a better cooperation. In the relationship with Edeka this could find its expression in intensified advertisement measures as e.g. second placements, inclusion in advertisement sheets for each household, etc. In relations with farmers, the benefits of a stronger cooperation could be e.g. over-achievement of contract details in quality and/or quantity, improved communication, etc.

A negative example could be bargaining situations in which the brand manager's emotions or fairness concerns lead to sub-optimal negotiation outcomes. For instance, if the brand manager mis-perceives the situations and pushes too hard in price negotiations with Edeka, it could lead to reduced cooperation affecting future collaboration by reduced sales, less marketing support, etc. In the long-run, all network participants would lose.

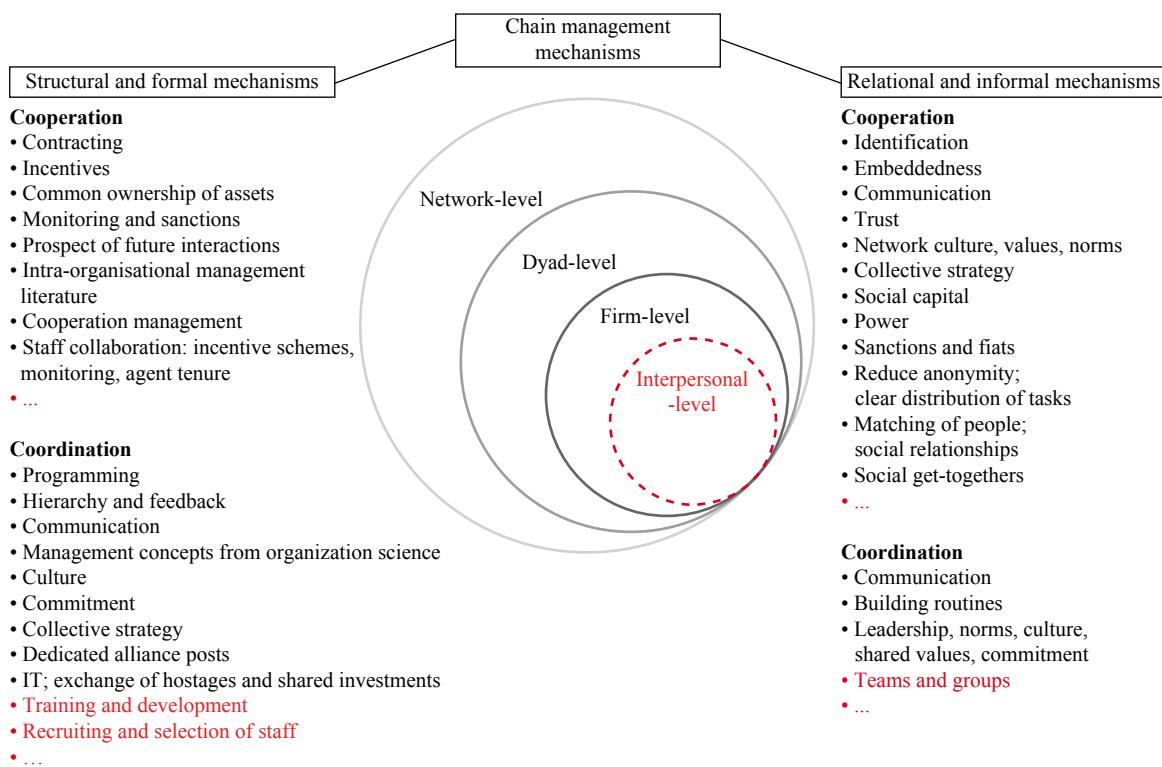
Mechanisms to prevent these occurrences could be training of the brand manager to make them aware of his behavioural impacts and subjective perception or to have negotiations and important decisions always in teams to diminish the personal influence.

Another problem for organisations arises, as it is not possible to always apply a 'one size fits all approach'. Employees or human agents have individual characteristics, resulting in different outcomes depending on the match of personalities. At the beginning of a relationship, interpersonal connections matter. Tangpong *et al.* (2014) showed that a co-evolution of interpersonal and interfirm relationship systems take place. The organisation should be able to influence the interpersonal aspects in so far, that a co-evolution to the desired interfirm system (in line with the strategic objectives) is possible. This means firms have to identify employees who match with the organisation's culture and who have a fit in personal and organisational strategic objectives in the long-run. Recruiting and staffing processes within the firms should be developed to identify the most important characteristics which future employees need to possess to further realise the full potential of the cooperation gains.

Table 1 gives an overview on the status quo of chain management, including examples of some management mechanisms on the heavily researched levels (network, dyad and firm). A detailed collection is offered in Figure 3. In addition, Table 1 highlights that a fourth level needs to be integrated and that future research needs to address and to expand possible chain management mechanisms for the interpersonal-level.

**Table 1.** Overview chain management mechanisms integrating the interpersonal-level.

Chain management	Network-level	Dyad-level	Firm-level	Interpersonal-level
Structural and formal	e.g. monitoring and sanctions, collective strategy, building routines	e.g. contracting, prospect of future interactions, common ownership of assets	e.g. incentives, programming, hierarchy, feedback, culture, commitment	e.g. training and development, recruiting and staff selection Others?
Relational and informal	e.g. transparency, identification, embeddedness	e.g. trust, power, communication, social capital, matching of staff	e.g. social relations, culture, norms, leadership	e.g. motivation, teams and groups, leadership, culture Others?



**Figure 3.** Expansion of the framework by adding the interpersonal level.

#### 4.2 Future outlook

The literature review has shown that interpersonal aspects influencing decisions regarding chain management exist. But up to now, only a few aspects are researched and it is not yet clear, if there are more interpersonal aspects affecting and to which extent they affect relationship decisions and therefore firm- or network-level outcomes. We encourage future research to identify more interpersonal aspects and to evaluate the extent to which these determine if organisations should govern interpersonal aspects in B2B decision-making, and how such governance or management should be exercised. Future research should identify interpersonal aspects and analyse if there are positive/negative impacts on existing chain management mechanisms. Generally, what is the influence of interpersonal aspects? Do they have a strong or more mediating role? Do certain personality characteristics e.g. honesty have a positive correlation with trust used as a mechanism to overcome cooperation and coordination problems? Do emotions of human agents interfere e.g. in difficult relation situations and lead to different uses of power? During the literature review it was revealed that many studies used qualitative research to analyse behavioural factors. A more direct approach to counter biases includes behavioural experimentation as suggested by Ariely (2009).

The field for future research is large, since behavioural supply chain management still presents a relatively small niche when compared to the extensive breadth of the entire discipline of supply chain management. The review has shown that the research results in this field are scattered and no systematic approach exists. In addition, so far mostly qualitative research methods are used, leaving room for the application of various research methods such as experimental and other quantitative methods. In this context, future research needs to further explore the relevance and conceptualisation of interpersonal behavioural aspects in decision-making in B2B relationships. The wine industry is a particular industry, which needs to catch up in terms of specific relationship management due its peculiarities, but nevertheless most of the research conducted in the wine industry can be generalised to other industries.

#### 4.3 Summary

Hanf and Kühl (2005) showed that brands are rising in importance in the German agri-food sector, ascribing the brand responsibility to retailers and/or producers. Being the trustee of credence characteristics of food items, brands must guarantee the correctness of their products throughout the whole food supply chain. In order to ensure this, vertical coordination mechanisms have to be installed, resulting in focal-firm led netchains which the focal firms need to manage. The same applies to wine estates such as Robert Weil, as consumers ascribe the brand responsibility to ensure quality, etc. to the wine estate. Hence, a good management of down- and/or upstream relationships is essential.

The case study of Robert Weil was an example which relates to a wider context of the agri-food industry, as results are not industry-specific. In the agri-food industry, taking the wine industry as an example, most of the businesses are small or medium-sized as well as family-run.<sup>10</sup> We can, therefore, assume (with some confidence) that social bonds are stronger as the same persons interact over a long(er) period, assigning more importance to interpersonal relations and behavioural aspects. Due to the strong social bonds, more informal management mechanisms are applied. The literature review has shown that interpersonal aspects influencing decisions regarding chain management exist and are potentially of some consequence. This paper contributed by expanding the theory of chain management with a focus on the three macro-levels to four levels by adding the interpersonal level. Within the paper it was argued that the interpersonal influence can impact chain management decisions, thus the focal firm needs to address and manage the impact for a successful chain management. As decision-making in general is complex and heavily influenced by psychology in terms of heuristics and cognitive biases, yet it is still considered a ‘new and emerging topic’ and management mechanisms are sparse. Joint decision-making within cooperation is even more complex. The development and implementation of management mechanisms to control (to mitigate negative influences and to reinforce positive influences) of their own employees and the employees of the partnering firm(s) are lagging behind in research.

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