

# Antecedents of Value from Inter- Organisational Collaboration

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Collaboration is widely identified as a force for good, with a wide range of benefits attributed to it, but considerable variations exist in descriptions of exactly what constitutes collaboration and how it is undertaken in practice. In the face of this diversity it becomes difficult to understand how effectively the process of collaboration is being undertaken.

In this research, value concept principles are adopted in an exploration of collaboration processes in order to derive a better understanding of how organisations establish new collaborations, and to gain insights into the situational factors and human behaviour that may lead to improved collaboration effectiveness.

The research design featured a constructivist version of grounded theory used in conjunction with the complementary techniques of Situational Analysis. This design is particularly suited to the research context in which social processes feature prominently and in which the objectives include theory development.

A topology of eight generic categories of process is presented in the findings as part of a central category that links temporal, behavioural and situational factors to collaboration outcomes. The identification of social capital and human capital as intermediate forms of value, located in individual actors and their social relationships, is used to highlight the importance of recognising and developing these soft capital forms, if more tangible physical and financial capital is to be generated.

Collectively the data emphasise that organisations do not collaborate, people do. Collaboration is fundamentally a social rather than business process. Three dimensions of collaborative compatibility are discussed that recognise the importance of involving competent individuals that are socially compatible if relationships between potentially compatible organisations are to thrive. Organisational compatibility alone will not lead to effective collaboration.

This study makes four contributions to existing knowledge. A 3-dimensional model of collaborative compatibility, interpreted in the context of a new typology of collaboration processes, extends existing collaboration theory with insights into the

way collaboration relationships form and perform, and the way they are affected by individual and social factors. The recognition of latency in intermediate forms of value makes a contribution to a recognised shortfall in understanding of the temporal dimension of the value literature. In the third, a contribution is made to literature on coopetition and the coordination of inter-firm groups, through the recognition of effective practices in 3<sup>rd</sup> party brokering organisations. Finally, an incremental contribution is made to the extensive body of knowledge and learning literature through insights into the social factors driving knowledge transfer in inter-organisational groups, and the implications these have for organisational knowledge absorption.

These four avenues each have practical implications for how organisations and policy makers plan initiatives to increase economic activity through inter-firm collaboration.

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# Chapter 1. Introduction

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This thesis describes a study of inter-organisational collaboration that seeks to improve the effectiveness of collaboration by understanding how and when value is created, through the social processes of collaboration. The study explores actors, situational factors and asset types that act as precursors to value, for their impact on collaboration processes and value creation. The motivation for the study was derived from the author's experiences in industry coupled with issues perceived with the concept of collaboration that warranted deeper investigation. Accordingly, after initially outlining the benefits of collaboration, this chapter includes a reflective statement of the author's background along with a section on the conceptual issues that together, motivated the research. The research question and objectives are then formally presented with a short section highlighting how those objectives are met through the research approach.

The focus, in this study, is on commercially oriented collaboration and therefore 'inter-organisational' in this context is defined as including at least one commercial organisation. There are a variety of different definitions of collaboration, explored in more detail in the next chapter, but most commonly, collaboration is considered to be two or more actors, working together, to deliver benefits that they would not achieve working alone.

The value focus, introduced in this chapter, is explored in greater detail in the literature chapter. In its simplest guise, the value concept represents all benefits derived from an activity, net of the total sacrifices incurred in obtaining those benefits. The inclusion of value reflects the commercial orientation of the study and provides a perspective in which the cost incurred in collaboration is considered, as well as the benefits.

## 1.1 Collaboration effectiveness

There is extensive discussion in the literature about collaboration in inter-organisational contexts and the concept is associated with a wide range of benefits. There is here an implicit acceptance of collaboration as a universal force-for-good that runs the risk of pre-empting questions about the ubiquity of collaboration benefits, and deeper examinations of the effectiveness and efficiency of collaboration episodes. Benefits from collaboration are frequently discussed in isolation from assessments of

the effort deployed to secure those benefits. Where only the positive side is considered, questions inevitably remain about how much collaboration is worth the effort expended; whether collaboration efficiency matches initial expectations, and whether the results warrant the effort invested. There are questions also to be considered with respect to collaboration processes. The social processes, through which business collaboration is initiated and developed, are not well established in the literature leading to difficulties for practitioners in understanding which techniques are most relevant in a particular context.

## **1.2 Assessing the value of collaboration**

The gains from collaboration have been considered in the literature in a variety of different ways. Gains have been assessed for their impact on cost (Cousins, 2002), for improvements in customer satisfaction (Sahay, 2003), for greater relationship success (Daugherty et al., 2006), for mutual relational satisfaction (Derrouiche, Neubert, Bouras, & Savino, 2010) and for value creation (Fjeldstad, Snow, Miles, & Lettl, 2012; van Winkelen, 2010). Of these different output or outcome perspectives, value, as a net concept, provides the most appropriate lens through which the effectiveness and efficiency of collaboration effort may be assessed. The value concept, widely used in marketing and supply-chain literature, represents a broad range of both tangible and intangible business benefits, net of the costs incurred. By viewing collaboration through a value lens, the study will better be able to take a balanced view and consider ineffective, as well as effective collaboration episodes. The intention is not that value should be dimensioned quantitatively, but merely acts as a conceptual lens that encourages a net-benefit reflection to be explored and analysed. Value, satisfaction and success are all broad concepts capable of encompassing both tangible and intangible benefits, but of these, only value is generally explicitly defined in net-benefit terms. Relationship quality indicators such as success are also considered to be restrictive in the context of this study where pre-relational and episodic collaborative behaviour is also considered. Although much value is subjectively perceived it is still largely considered to be cognitively assessed, whereas indicators such as satisfaction are largely affective constructs (Faroughian, Kalafatis, Ledden, Samouel, & Tsogas, 2012).

### 1.3 Benefits

The wide variety of benefits claimed for inter-organisational collaboration indicates that the concept is diverse, complex and potentially that the term is overloaded, i.e. used to represent multiple phenomena. Collaboration enables organisations to gain access to, and benefit from other organisations' resources. These resources are otherwise unavailable to the benefitting organisation and are considered to add value (Corsaro, Carla Ramos, Henneberg, & Naudé, 2012; Reuver & Bouwman, 2012). Collaboration with external organisations provides access to new ideas and raises the potential for radically innovative and even market changing product and process developments when embraced through a suitable mind-set (Berghman, Matthyssens, & Vandenbempt, 2012). An open mind-set in which organisations are prepared to change their value creation processes through a variety of multi-party collaborations is the basis for value creation (Fjeldstad et al., 2012). It has been suggested that whilst collaboration may sometimes be unwieldy, under the right circumstances it can provide multiplier effects (Kanter, 2012) that are the basis for stepwise improvements in performance.

Collaboration has been noted to reduce risk and improve speed to market (Fjeldstad et al., 2012), improve efficiency (Kanter, 2012), enhance cooperation and trust (Paulraj, Lado, & Chen, 2008), and to contribute to relationship longevity (Cousins, 2002). Benefits noted such as improvements in service levels, reduced cycle times, reduced demand uncertainty (Daugherty et al., 2006; Kumar & Nath Banerjee, 2014) are grounded in supply chain operations, whilst others recognise collaboration as a vehicle for longer-term knowledge development (Nahapiet & Ghoshal, 1998).

These different perspectives on collaboration illustrate a wide diversity in the benefits associated with the concept. There is also a broad temporal horizon over which benefits are realised, as well as variations in the tangibility of benefits. Collaboration to reduce operational costs may provide highly tangible and short-term benefits, whilst knowledge accumulation represents a longer-term investment in an intermediate and intangible product which may or may not prove to be a source of business benefit ultimately.

## 1.4 Issues

Despite the wide recognition of the benefits associated with collaboration there are issues with the term conceptually, including a misunderstanding in extant theory of the intricacy of collaboration (Martin & Eisenhardt, 2010). Although the breadth of application of the term compromises attempts to define it, often collaboration is treated as a simple concept, something that has been recognised as a limitation (Paulraj et al., 2008). In reality, collaboration is complex with many types, styles and extents of collaboration being utilised in different contexts, for different purposes and involving different groups. Given this complexity it seems important that we should better understand which types of collaboration are more effective in a business context, and under what conditions, with a view to improving collaboration, rather than simply restating the generalised benefits.

There is also little depth to our understanding of collaboration process, with the result that in many cases expectations are not being realised (Nyaga, Whipple, & Lynch, 2010; Whipple, Lynch, & Nyaga, 2010). This lack of depth to collaboration process knowledge continues to be raised by these authors who have recently called for more research into the black box of collaborative process (Whipple, Wiedmer, & Boyer, 2015). Collaborations often fail because they are undertaken with unsuitable partners and because too much attention is paid to operational detail above strategic formalisation (Daugherty et al., 2006).

Greater recognition is needed that collaboration fundamentally is undertaken by individuals rather than organisations (Gligor & Autry, 2012) and founded on human social interaction, yet much of the extant literature, particularly in a supply chain context, deals with organisational rather than individual actors. It has been observed that beneath the formal ties of contractual relationship there “lies a sea of informal relationships” at an inter-personal level (Powell, Koput, & Smith-Doerr, 1996, p. 120). A deeper understanding is needed of the social processes through which effective and productive inter-working is established, if organisations are to be able purposively, to steer collaboration. Socialisation is recognised to underpin collaboration, but in a business to business context more research is needed on buyer-supplier socialisation (Cousins & Menguc, 2006) and its role in improving performance. Little is currently known about the types of relationship patterns that are most conducive to effective

socialization (Morrison, 2002). This understanding needs to cover both formally and informally established communication, and again it has been recognised that a deeper understanding of the roles of formal and informal social conduits in building relationships is needed (Cousins, Handfield, Lawson, & Petersen, 2006). In common with any social relationship, collaboration should also not be considered to be static (van Winkelen, 2010) and changes to collaborative outputs over time need also to be considered.

## 1.5 Personal Reflection

The choice of research topic and its scope is also influenced by the interests and experience of the author. This section, therefore, provides a summary of the author's industrial background and research interests that have helped to shape the study's frame of reference.

The author is a mature student who, working as a management consultant, has extensive experience of business relationships in a variety of private and public sector settings. A personal reflection on how career experiences led an increased interest in collaboration is presented below:

The most relevant of my working experience to the topic of collaboration, developed in the late 1990's with involvement in series of outsourcing projects at one of the UK's leading banks. These contracts were established as partnerships in which there were declared commitments to a collaborative working style with mutually beneficial outcomes. In between work on the sourcing projects themselves, I worked with the buyer's service delivery department to develop a governance approach that encouraged collaborative practice. This standard was applied to all the bank's centrally managed business and technology services relationships. Subsequently, I gained further experience of major sourcing and outsourcing contracts with another bank, a high-street retailer and two public sector authorities. The number and variety of relationship problems encountered, several of which were serious enough to result in relationship termination, stimulated my interest in academic research as a potential source of knowledge that could help to improve relationship performance. At MBA level, I studied the impact of power on collaborative relationships. At that stage, my experience of business relationships had been



predominantly centred on large company interaction, but an opportunity that arose in 2012, both extended that experience into the SME domain, whilst the associated career shift provided the chance to undertake this PhD project. The job opportunity was provided by a European Commission funded business growth programme, in which collaboration between manufacturing SMEs was facilitated to increase economic activity and thereby creating new jobs. This position complemented the earlier experience and encouraged me to research collaboration across a variety of business to business contexts.

The influence of the author's previous experience is considered further in the research design section, where the method variant chosen was selected to ensure that previous knowledge and experience complemented the design.

## **1.6 Research Question and Objectives**

The research addresses the question: how may value derived from collaboration be enriched through a better understanding of the social processes of collaboration and the factors, situations and actors that impact those processes.

The specific objectives for the study are to:

- Establish the social processes through which collaboration is established and developed
- Understand the sources from which collaborative value is derived
- Identify factors which inhibit or enable collaborative processes
- Develop theory on improving the effectiveness of collaboration

To achieve these aims, the social processes through which collaboration is developed need to be explored in depth. This will lead to a better understanding of the different forms of social interaction that constitute or support inter-organisational collaboration. In turn this understanding will ensure that practitioners are better equipped to identify the most effective collaboration mechanisms in different circumstances.

## **1.7 Research Approach**

The social nature of the processes and the subjective assessment of outputs indicate the need for a qualitative study. Grounded theory was selected as a method suitable for the study of social processes and for its alignment with the exploratory and theory

generating aims of the study. Inductive methods such as grounded theory can help to provide fresh insights into phenomena. Grounded theory now needs to be regarded as a family of methods, as firstly, the original authors published separate versions, and latterly, as further evolution has witnessed a rejection of the more positivist aspects of the method in favour of constructivism (Charmaz, 2009; Corbin, 2009; Stern, 2009).

In a relatively novel approach to management research this study employs Situational Analysis (Clarke, 2005); a constructivist derivation of Grounded Theory (GT). Situational Analysis enables deeper contextual analyses of phenomena such that situation-process-outcome patterns may be established. Constructivist GT is particularly appropriate to research in established fields such as this because it rejects the impossibility of the tabula rasa and instead enables prior experience to be embraced and deployed in developing deeper explorations of emergent topics.

Through this grounded approach, the study identifies a central phenomenon entitled Inter-Organisational Relationship Mining (I-ORM) that encompasses eight basic processes that actors employ across three main phases of collaborative relationships. A series of factors are also identified that impact the effectiveness of these processes. This framework is used as the basis for a discussion on four main theoretical themes that arose from the findings. In the first, three dimensions of inter-actor compatibility are considered for their effects on the eight processes. In this discussion, the importance of the personal and social dimensions are contrasted with the organisational dimension that is often the main focus of supply-chain studies. In the second theme, actor related value streams are considered and the importance of human capital and social capital are considered, as antecedents to organisational value. These forms of capital are considered to be intermediate forms of value that need to be transformed before commercial value is created for organisations. Much of this intermediate value is also latent and may remain unused for extended periods. In the third theme the role of third party organisations in facilitating collaborative processes is discussed. The findings identified several different forms of these brokering organisations that were repeatedly involved in facilitating collaboration, especially at the formative stages. In the final theme the locus of value from collaborative learning is examined. The risks that inter-organisational social bonding may pose to organisational knowledge absorption are highlighted.

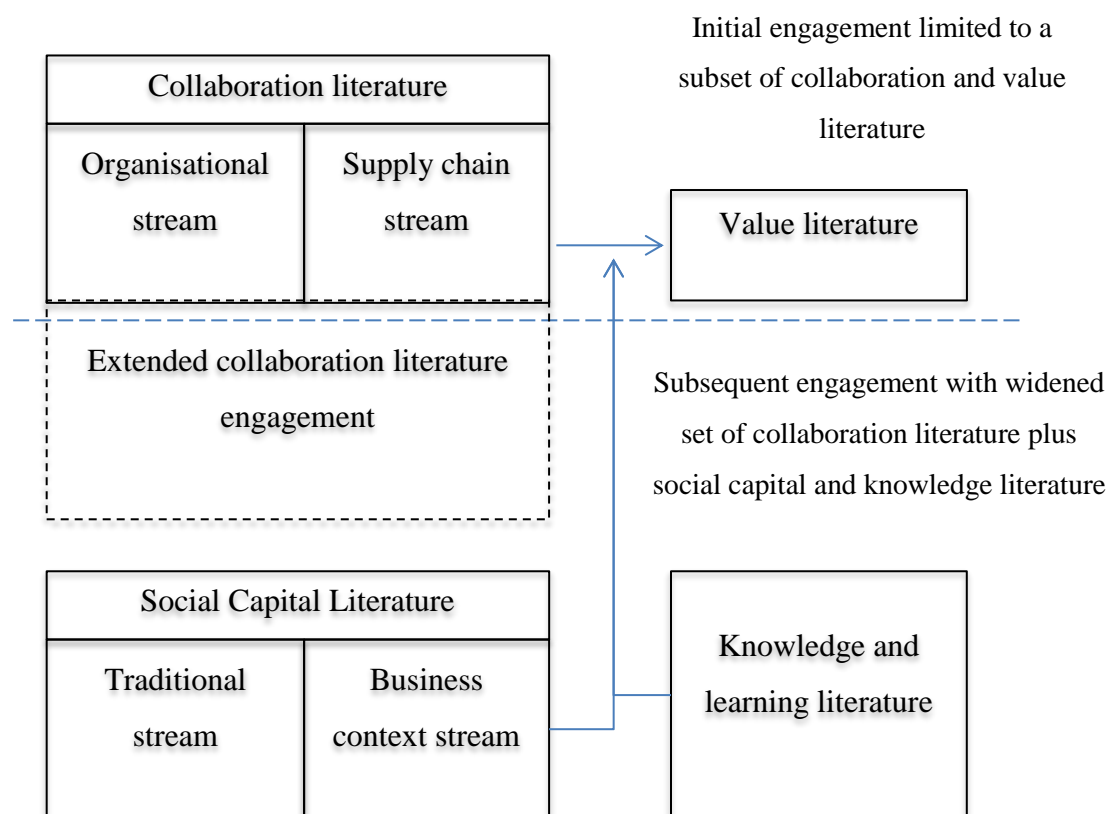
## 1.8 Document Structure

This thesis is organised in a traditional structure in which a review of extant knowledge precedes chapters describing the research design and reporting the findings. A discussion section then interprets these findings against existing literature to establish the academic contribution. In the concluding sections the implications of the research on practice are considered, along with the study's limitations and opportunities for further research. Within this structure, the special requirements of the grounded theory method are accommodated. The literature review, for instance, includes a description of the theoretical sensitivity process through which an initially constrained engagement with the literature is progressively extended during the study. As grounded theory is a complex and controversial method, the research design chapter includes an extended discussion of the three main variants to establish the epistemological suitability of the chosen approach. The findings are presented in a discursive style centred around the grounded theory central category. The central category is an abstraction that enables the main themes to be related through an explanatory framework (Charmaz, 2014). In the discussion chapter, four of these key themes are then explored against existing literature to establish the study's contributions.

# Chapter 2. Literature review

## 2.1 Literature in a grounded theory study

The grounded theorist is encouraged by the principles of theoretical sensitivity to enter the field with as few predetermined ideas as possible, by minimising initial engagement with literature in the substantive area under study (Glaser, 1978). Theoretical sensitivity is not an avoidance principle, but a process of delayed engagement that tries to ensure that concepts are allowed to emerge from a study's data, rather than data being fitted to existing conceptualisations (Strauss & Corbin, 1990). It is important therefore, that as soon as concepts first emerge during analysis, relevant literature is engaged, at which point it will enhance, rather than predetermine, the researcher's conceptual thinking (Strauss & Corbin, 1990).



**Figure 1 - Conceptual framework**

The research design chapter includes further discussion of this process and considers debates on the feasibility and desirability of a tabula rasa (blank slate) entry into the field. At this point, it is important to note that the selection of major literature themes was guided by the analytical process.

In this study, an initial conceptual framework was produced for study definition and scoping, centred on the concepts of collaboration and value, but the main body of the review was emergent and supported the conceptualization process. The final conceptual framework consists of an extended discussion on collaboration and value plus inductively indicated discussions on social capital, knowledge and learning.

The literature discussion also illustrates the need for further study into business collaboration. Although aspects of collaboration have been widely studied, it is a diverse concept with conflicts and gaps. The social mechanisms through which business collaborations are established and developed are not well understood and few studies to date have considered how organisations may improve value through a better understanding of collaboration process. In this chapter the different structural forms of collaboration and the different genres of literature are first discussed to enable the context of commercial collaborations to be delimited. The discussion of collaboration processes is then extended with sections covering the inductively indicated concepts, including social capital and knowledge capital. Social capital was engaged during the course of the study as the importance of different forms of social interaction and depth of relationship were identified, and led to further exploration of the relationship between social capital and value in a collaboration context. Social capital studies undertaken in a supply chain context are then specifically explored. The knowledge and learning literature was engaged relatively late in the study, as firstly, the importance of human capital and social capital were recognised as intermediate sources of value, and secondly as the significance of learning as a collaborative process became established. This phased engagement of the literature is a feature of the theoretical sensitivity process associated with grounded theory methods. The value literature was engaged early in the study and this discussion serves to illustrate the wide variety of benefits that may arise from collaborative activity and the difficulties in assessing those benefits. As a pre-cursor to the literature review and in recognition of the conceptual diversity, the term collaboration is first defined.

## 2.2 Definition of collaboration

There are issues with the collaboration concept in that its usage is diffuse, its definition vague and its benefits unfocused and largely unchallenged. There is notable diversity in the benefits claimed for collaboration, with many studies focused on the outcomes of collaboration, rather than the underlying basic social process through which collaboration is undertaken. It is not surprising therefore, that there is little agreement on its definition. This section establishes a definition of the term collaboration and delimits its scope in the context of this business to business study.

### 2.2.1 Common features

The Latin etymological foundation for the verb collaborate is the conjunction of *col* (together) and *laborare* (to work) to form *collaborare*. Collaboration in a supply chain context has been variously defined as:

“... collaboration involves two or more independent companies working together to jointly achieve greater success than can be attained in isolation” (Daugherty et al., 2006, p. 61).

“... a close cooperation among autonomous partners involved in joint efforts to effectively meet end users’ needs with lower costs” (Derrouiche et al., 2010, p. 529).

“... simply means that two or more independent companies work jointly to plan and execute supply chain operations with greater success than when acting in isolation” (Simatupang & Sridharan, 2002, p. 19).

There are three common elements notable in these definitions: firstly an explicit requirement for joint working reflecting the etymology, secondly suggestions of synergy inherent in phrases that talk of enhanced productivity compared to isolated working, and thirdly their organisational rather than inter-personal actor orientation. These definitions stop short of explicitly requiring mutual satisfaction in outcomes, though in one of the associated articles the authors go on to claim that “Conventional wisdom suggests that all firms involved in collaboration should reap greater benefits from working together” (Daugherty et al., 2006, p. 61), which suggests that to those authors at least, there exists an implicit assumption at the outset that both parties should benefit.

### 2.2.2 Conflicts between definitions

Despite the apparent similarities in the definitions cited above, it has been claimed that in the literature generally there is little agreement on the definition of collaboration and that a wide range therefore exists (Hardy, Lawrence, & Grant, 2005). These authors propose that collaboration is: “a cooperative, inter-organizational relationship in which participants rely on neither market nor hierarchical mechanisms of control to gain cooperation from each other” (p.58). This conception of collaboration is particularly notable for the explicit exclusion of commercial contractual relationships which is in stark contrast to studies in which the term collaboration is specifically associated with long-term strategically important relationships. Hardy et al see collaboration being undertaken in an environment in which commercial and control agendas are abrogated and exclude therefore both regulatory relationships and contractual relationships because of their control orientation (Hardy et al., 2005). Contrastingly, in an important body of supply chain literature, the term collaboration has been adopted in preference to the term *partnership* to describe relationships in which business partners are formally contracted over an extended period, but where the management style is intended to be based on cooperation, trust and commitment (Nyaga et al., 2010; Simatupang & Sridharan, 2002; Spekman & Carraway, 2006; Whipple et al., 2010). The characterisation of collaborative relationships as one in which hierarchical control is abrogated is also discussed in the context of internal management styles where collaboration is considered as a contrasting management style to hierarchical *control* oriented form of management (Sundaramurthy & Lewis, 2003), and in this sense echoes the incompatibility between collaboration and control as suggested by Hardy et al. (2005).

In this study the focus of attention is centred on those inter-personal interactions through which collaboration develops, rather than on the day to day business process operations at the heart of long-term strategic partnerships, or highly integrated supply chains. The predominant focus is therefore on human social interaction and behaviours that promote or inhibit collaboration, rather than on procedural and technical systems integration activities occurring in long-term joint business operations. This stance ensures that the study is not unnecessarily constrained to one particular category of business relationship, and therefore that all sizes of relationship

are considered equally, and that horizontal collaboration, including coopetition (Ritala, 2012), is considered as well as vertical supply chain relationships.

### 2.2.3 Definition used in this study

The intention in scoping this study is that the full breadth of collaborative processes should be considered, including the identification of, and establishment of, commercial collaborative episodes. It is considered to be important that a wide diversity of collaboration should be investigated such that the relative effectiveness of the different forms may be revealed and a better understanding of when and how to collaborate may be formed. From this perspective, it is important that terminology reflects, rather than constrains, the phenomenon being studied. Accordingly, although the definition of collaboration used here is constrained by the study's commercial, inter-organisational context, it otherwise ensures that the *ab initio* definition is sufficiently broad to support the exploratory objectives.

Business collaboration is two or more actors, representing two or more organisations, *working together* in the pursuit of benefits that would not occur in absence of the interaction.

This definition is intended to ensure the widest possible inclusivity. Firstly, both inter-personal and inter-organisational interactions are encompassed, secondly, there is intent that benefits will result, whilst thirdly, the form, timing and locus of benefits are unconstrained. Benefits may be found to accrue to one or more individuals, groups or organisations, or may not occur at all. In this study, the word *collaborate* is also considered to be a synonym for *cooperate* with which it shares very similar etymological Latin grounding: *co* (together) and *operari* (to work).

## 2.3 Collaboration literature traditions

Collaborative relationships have been noted to differ in their depth, scope, and structural form. Collaborative interactions may be shallow or deep, covering a broad or narrow scope (Hardy, Phillips, & Lawrence, 2003; Lawrence, Hardy, & Phillips, 2002). Collaborative relationships also encompass a variety of structural forms such as: alliances, joint-ventures, buyer-supplier dyads, networks, and research and development consortia (Majchrzak, Jarvenpaa, & Bagherzadeh, 2015). From the



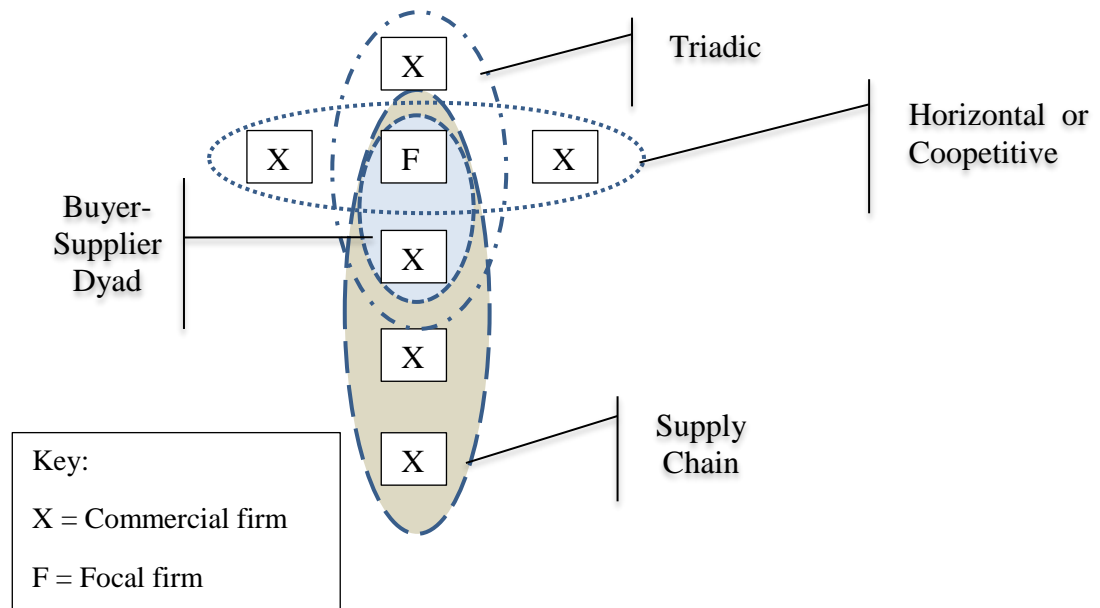
perspective of literature traditions, collaboration may be considered to be extensively discussed in at least three major bodies, including strategy (e.g. Dyer, 1997; Fjeldstad et al., 2012; Madhok & Tallman, 1998), organisational studies (e.g. Schilling & Phelps, 2007; Sundaramurthy & Lewis, 2003) and supply chain literature (e.g. Cousins, 2002; Spekman & Carraway, 2006; Touboulic & Walker, 2015; Whipple & Russell, 2007). Commercially oriented collaborative relationships are represented in each of these bodies, particularly the strategy and supply chain and strategy literature. Commercial relationships are not limited solely to private sector organisations. Collaborative relationships between firms and government agencies, universities, voluntary agencies and state-owned enterprises (Cropper, Ebers, Huxham, & Ring, 2008) in most cases are likely to be commercially founded. These relationship types are therefore included in the scope of the study. Whilst other relationships, such as inter government agency relationships and government agencies to third sector relationships, may also feature a commercial element, this is unlikely to be their primary objective, and therefore these types are excluded from scope. The identification of organisational entity type and the structural relationship between entities, enables different styles of collaborative relationship to be distinguished.

The rest of the chapter is organised firstly, to outline literature that considers the different structural forms through which collaboration is undertaken, secondly to summarise issues and enablers relating to collaboration, before thirdly, in the major review sections, collaboration outputs in the forms of commercial value, social capital and knowledge are reviewed in turn.

## **2.4 Structural forms of collaboration**

Inter-organisational collaborating groups may be characterised by the number of organisations in the group, the type (e.g. sector) of organisations in the group and where appropriate, the nature of the trading relationships between collaborators. Inter-organisational collaboration can also be described in terms of the inter-organisational entities created (nouns) or the actions undertaken by them (verbs). Cropper et al. (2008) identify sixteen entities and nine inter-organisational actions, but several of these (e.g. a relationship, a cooperation, a collaboration) are too general for the purposes of distinguishing commercial inter-organisational relationships required in this instance. In the sections below therefore the review of organisational forms

focuses on those frequently used terms that either infer an organisational structure, or which need to be discussed to reveal inconsistencies in the way they are used, such as with alliances and partnerships.



**Figure 2 - Basic structural forms of collaboration**

### 2.4.1 Supply chain collaborative relationships

The simplest structural forms of collaboration are pure vertical supply-chain relationships, of which the buyer-supplier dyad is the simplest (Figure 2). Collaboration in the supply chain literature focuses mostly on either these dyads (e.g. Spekman & Carraway, 2006; Whipple et al., 2015) or extends its perspective to the whole supply chain (e.g. Cousins & Menguc, 2006; Simatupang & Sridharan, 2002; Whipple & Russell, 2007). A triadic perspective that considers the focal firm's customers as well as immediate suppliers (e.g. Min, Kim, & Chen, 2008) is a less common structural variant.

### 2.4.2 Horizontal collaboration and coopetition

Horizontal collaboration describes a collaborating group that is not linked by hierarchical buyer-supplier relationships. In a specialised form of horizontal

collaboration, coopetition is a term coined to represent a situation in which firms that are competitors in some markets, elect to cooperate in others (Peng, Pike, Yang, & Roos, 2012; Ritala, 2012). Coopetition has been recognised for 20 years, during which period the rate of publications in peer-reviewed journals has continued to accelerate (Bengtsson & Raza-Ullah, 2016), including a recent special issue featuring the phenomenon in *Industrial Marketing Management* in 2016. Coopetition is a risky strategy that is recognised to be effective only in certain market conditions, helping in turn to explain the mixed outcomes experienced (Ritala, 2012). Coopetition is particularly effective under conditions of high market uncertainty where cooperation helps to pool complementary resources and mitigate investment risk (Ritala, 2012). However the competitive risks in these circumstances are underplayed in the coopetition literature, and firms at the network centre are more likely to exhibit aggressive, competitive behaviours (Sanou, Le Roy, & Gnyawali, 2016). Competitive risks in these relationships may also limit inter-organisation integration and require partitioning of collaborative teams with dedicated co-management teams (Le Roy & Fernandez, 2015).

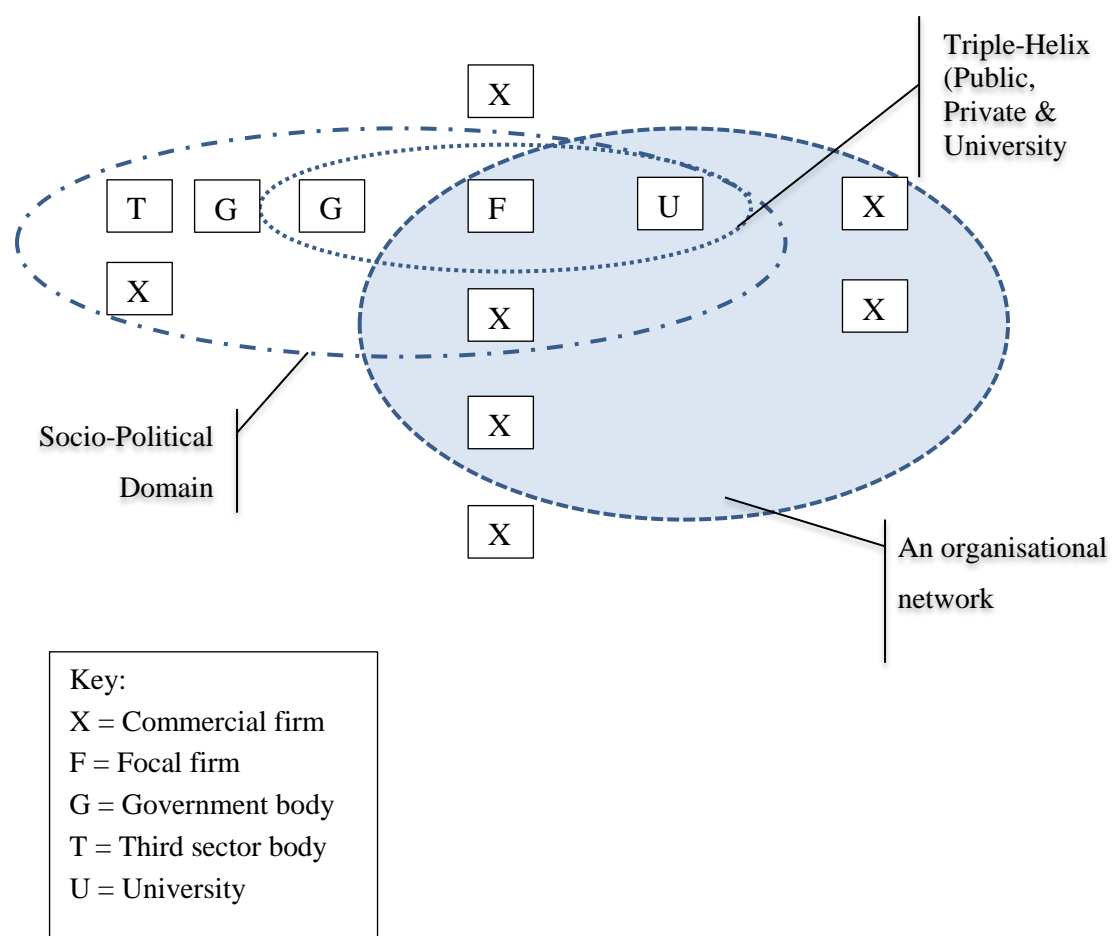
### **2.4.3 Joint-ventures**

The partitioning and co-management of cooperative, collaborative teams, creates a structure that is operationally similar to another collaborative structure: joint-ventures. Joint ventures are specifically characterised by the creation of separate shared equity entity (Dyer, 1997). Cooperative relationships are predominantly horizontal rather than vertical relationships and most frequently are dyadic (Bengtsson & Raza-Ullah, 2016), but like joint-ventures, they are not limited in either of those respects.

### **2.4.4 Partnerships and alliances**

Partnership and partnering are terms associated with relational style, long-term, cooperative relationships that are considered to be a source of competitive advantage (Dyer & Singh, 1998). These terms are more associated with a style of relationship rather than defining structure, but are normally (but not exclusively) used to describe vertical, dyadic, buyer-supplier relationships. Partnerships represent a “strong” form of collaboration in that they are normally formal and contractually founded, a feature that may also be regarded as being incompatible with relational collaboration (Touboulic & Walker, 2015, p. 178). At the most committed end of the relationships

spectrum, the strongest and closest relationships are value-chain partnerships in supply-chain relationships, in which partners may have committed to substantial change to achieve an integrated customer-oriented operation (Kanter, 1994). Where partnerships are discussed in the context of horizontal dyadic relationships, then the term is typically subservient to the more structural term *alliance*. A collaborative alliance is typically a formal horizontal relationship, between large organisations, enacted in a cooperative style. Bengtsson and Raza-Ullah (2016), review a number of high profile examples in which the alliance parties are referred to as partners.



**Figure 3 - Complex structural forms of collaboration**

## 2.4.5 Research and development structures

Collaboration between not-for-profit research institutions, typically universities, and commercial organisations are characterised as R&D collaborations. These

arrangements are particularly common in “high velocity” sectors such as biotechnology, electronics and telecommunications (Eisner, Rahman, & Korn, 2009). Biotechnology is a particularly popular research context because of prevalence of patenting practices that also provide a rich source of researchable data (Howard, Steensma, Lyles, & Dhanaraj, 2015). Collaboration over R&D in biotechnology helps to increase the development of patentable products that are the source of competitive advantage. In an R&D context, relationships with academic institutions have been found to be more productive than private sector only relationships (Al-Laham, Amburgey, & Baden-Fuller, 2010). Although often discussed in the context of peer-to-peer, dyadic relationships, R&D relationships may also be vertical and involve more partners.

An extended version of the R&D relationship that also involves public-sector agencies, in addition to private sector and academic partners, is referred to as a triple-helix collaboration (Eklinder-Frick, Eriksson, & Hallén, 2012; Etzkowitz & Leydesdorff, 2000). The public-sector organisation in a triple-helix structure acts a facilitator for the relationship, but triadic R&D relationships have also been observed in biotech collaborations where firms with low scientific absorption capacity seek an additional mediating partner (Belderbos, Gilsing, & Suzuki, 2016). Whilst firms with high absorption capacity benefit most from direct links, those with low capacity witness stronger performance by adopting a high-tech partner. Though expedient in the short-term, this partnering does not help the firm to develop improved capacity for the future (Belderbos et al., 2016). Firms’ innovation performance in R&D relationships is enhanced by their ambidexterity and the diversity of technical partners (Lucena & Roper, 2016).

#### **2.4.6 Socio-political structures**

Some of the most complex collaborative structures are encountered where collaboration has a strong political emphasis (e.g. Gray, 1985; Hardy et al., 2003; Lawrence et al., 2002), and may involve a wide-array of public, private and even third-sector stakeholders (Vangen & Huxham, 2012). Whilst private sector organisations consider collaboration as a means of accessing resources that ultimately may be a source of competitive advantage, in the complex socio-political domains, collaboration may be an imperative for resolving political issues that are inhibiting any action at all,

and for achieving social rather than commercial outcomes. With political issues, the most important phases of a collaboration becomes the resolution of interaction blockers, and the negotiation of a governance regime acceptable to all parties (Gray, 1985). In the case of significant social issues, collaboration becomes a necessity because no one organisation acting alone has the capability to address such issue (Huxham & Vangen, 2000).

### 2.4.7 Networks

Networks have been characterised in the organisation studies literature as a third organisational form between hierarchical entities and markets (Ceci & Iubatti, 2012). In a collaboration context, a substantial body of knowledge and learning literature is situated in the domain of networks. The unit of analysis in this literature may be at an inter-personal, intra-organisational or inter-organisational level (Phelps, Heidl, & Wadhwa, 2012). An inter-organisational network such as that depicted in Figure 3, represents a group of organisations related by a common interest or need, such as a willingness to collaborate, and is structurally distinct from the more pervasive inter-personal contact and social networks that cross organisational boundaries.

### 2.4.8 Structural models

Despite the diversity in collaboration literature and the variety of potential benefits, there are relatively few studies that propose structural models or classification analyses. Pisano and Verganti (2008) propose a collaborative architecture in which four forms of collaboration are distinguishable according to whether, on one hand, the collaborative network is open or closed, and on the other, whether the group is self-managing or hierarchically governed. The number of relationships in practice however that are truly open in this way is questionable and examples in particular of the *innovation community*, in which open groups are managed peer-to-peer are notably rare. The cited example of the open-source software community remains therefore an exceptional, rather than representative, example. The closed, or partially closed, examples of the peer governed *consortium*, and the hierarchically managed *elite-circle* constitute the more commonly encountered forms.

Four modes of collaboration are also proposed by (Nidumolu, Prahalad, & Rangaswami, 2009) but in their four-box model of sustainability collaborations, the axes contrast a process or outcome operational focus against a value-chain or wider-

stakeholder structure. In other studies five types of cross business-unit collaboration have been identified (Martin & Eisenhardt, 2010) in an intra-business context and peer-to-peer collaboration has been distinguished from supply-chain collaboration (Aarikka-Stenroos & Jaakola, 2012).

## **2.5 Structural scope**

The review of structural forms above, allows a more precise delineation of the research scope to be formulated. The study is focused on commercial value arising from business collaboration. Included within this scope are all collaborative business-to-business dyadic relationships and all larger group collaborations in which at least one commercial entity may be identified and studied as the focal organisation.

This definition includes: buyer-supplier dyads, triads and supply chains; organisational networks; partnerships; alliances; joint-ventures and coopetition relationships. The scope also includes collaborative relationships that include one or more non-commercial organisation(s), such as government, academic, or third-sector organisations, where their participation contributes to commercial value generation of the business partners. This scope does include triple-helix collaboration because of its focus on commercialisation with a business as its focal organisation.

The definition excludes collaboration that exists to meet socio-political, or research only objectives. This therefore excludes examples such as: international political collaboration, intra-national public-sector collaborations, collaborations between public sector agencies and the third-sector, and inter-university collaboration.

Finally, inter-personal networks of collaborating individuals, and collaborations internal to a business, such as between functions or even business units, represent collaborative forms that whilst not specifically identified as falling within the study scope, are nevertheless included by the study insofar as they relate to an improved understanding of business to business collaboration.

## **2.6 Issues impacting collaboration**

Although a wide variety of benefits are possible through collaboration, not all collaborations realise their potential with many failing to address stakeholder concerns, produce expected innovations or even to result in any collective action at all

(Hardy et al., 2005). In supply-chain collaborations, the effects of power imbalances can result in behaviour that is incompatible with good relational practices (Hingley, Lindgreen, & Grant, 2015), and even in exemplary circumstances collaborations are susceptible to failure (Emberson & Storey, 2006). Even in circumstances where relationships persist, they may nevertheless often be “exceedingly unstable” with respect to their structural dynamics (Majchrzak et al., 2015, p. 1339). Collaborative relationships are often considered at an organisational actor level only (Emberson & Storey, 2006; Gligor & Autry, 2012) and at this level relational persistence can mask considerable changes occurring in the goals, organisational structures and interactional styles of the collaborating partners. These changes may be the result of reaction to external trading factors, or be driven by internal reorganisation and personnel turnover within either partner organisation. Changes are a challenge for collaborators, but should not necessarily be negatively regarded. When managed appropriately, instability can be a positive feature of successful collaborations (Majchrzak et al., 2015).

An explanation of why instability may be a positive feature in some relationships is provided by research of overly stable relationships, which have been found to be subject to an erosion in effectiveness over time (Skilton & Dooley, 2010) and a corresponding inclination toward groupthink and dysfunctional decision making (Sundaramurthy & Lewis, 2003). Erosion in effectiveness may be noted where the same group of individuals is involved in repeat collaborations their effectiveness and creativity diminish over time unless new members are introduced and steps are taken to increase *creative abrasion*. An inclination toward groupthink and dysfunctional decision making may occur where the increased inter-personal commitment which builds in closely working groups, leads to groups making risky decisions that individual members alone would not endorse, yet are prepared to back with the support and anonymity provided by a group environment. The effect of these decisions then persists as the group continues to defend previous decisions. (Sundaramurthy & Lewis, 2003). These issues are considered further in relation to the section on social capital and its effects on collaboration.

Collaboration effectiveness is also limited where either individuals or organisations are not adequately motivated to collaborate. There is surprisingly little consideration of collaboration willingness in the literature, particularly with respect to individuals.



In one recent related exception, the capabilities and aspirations of individuals have been linked with collaboration propensity (Schillebeeckx, Chaturvedi, George, & King, 2016). In this study, it is noted that individuals were more inclined to pursue collaboration at an individual level where they perceived a gap between personal achievement and their aspirations with respect to their peers. The greater the aspiration gap, the greater their inter-personal collaboration inclination (Ibid). The impact on inter-organisational collaboration is not considered however. Organisational willingness to collaborate has been identified as a factor impacting technology adoption in industry-university collaborations (Lai, 2011), and observed in survey data to vary by sector and by process (Sahay, 2003). Risk aversion in knowledge intensive industries has been proposed as a factor affecting organisational willingness (Corsaro et al., 2012), but generally collaboration willingness has received only superficial acknowledgement at an organisational level, and even less at an individual actor level. The limited consideration of collaboration willingness at an organisation level may be attributable to the temporal focus. Collaboration studies predominantly focus on the operation of established relationships, rather than on formation processes. The limited consideration of collaboration willingness in individuals, on the other hand, may be attributed to the predominance of organisations as the sole unit of analysis in collaboration studies. The role of individuals and their social relationships in the creation and operation of collaborative interaction is an important facet of this study.

## **2.7 Collaboration facilitation**

Collaboration is facilitated by a number of communication and social interaction factors. Enhanced inter-firm communication improves message integrity and conveyance (Gligor & Autry, 2012) and contributes to collaborative advantage by fostering knowledge development and exchange (Paulraj et al., 2008). Communication itself is facilitated through inter-personal dialogue that helps shared meanings to be developed (Ballantyne, 2004). In a similar vein discourse, text and conversation have also been identified as three critical elements of collaborative interaction (Hardy et al., 2005). Hardy et al consider the effectiveness of collaboration from a discursive perspective over an extended period of time, utilising multiple media, and propose that the key to effective collaboration is the establishment, through discursive processes, of a collective identity among members which then is the basis for collective action. The very social processes however that produce the collective

identity, also lead to a convergence in ideas, beliefs and knowledge which then leads to a reduction in collaborative effectiveness that requires the introduction of new group members, in order to maintain “the tensions that produce effective collaboration” (Hardy et al., 2005, p. 72). The tension referred to by Hardy et al is similar to the concept of creative abrasion which is also identified as an important element in effective collaboration, but dependent on some personnel rotation through groups (Skilton & Dooley, 2010). These studies have important implications for business-to-business collaboration for suggesting firstly that behaviour and behavioural adaptations over time need to be understood, and secondly for the identification of the importance of collectives. In a business to business context a collaborative collective is an inter-organisational group unrecognised by studies that limit their attention to composite organisational actors such as companies, public bodies or charities.

The dynamic social processes, through which collaboration effectiveness firstly waxes as a collaborative team bonds, but then wanes as the group knowledge homogenises, can be explained through a related body of literature on social capital that has developed over the last forty to fifty years. The social capital literature is reviewed in detail later in this chapter.

An enhanced level of socialisation resulting from collaboration episodes in one context can also facilitate further subsequent collaboration in other contexts (Howard et al., 2015). Novice technology firms that have learned collaboration techniques from a larger and more experienced partner subsequently exhibit higher levels of inter-organisational social interaction amongst technologists, increasing subsequent collaboration between those novice firms (Howard et al., 2015).

These close social processes through which complex tacit knowledge is exchanged (reviewed in section 2.11), are important not only for the purposeful inter-organisational exchange of technical knowledge, but also, unintentionally are the mechanism through which organisations learn how to collaborate better with each other (Feller, Parhankangas, Smeds, & Jaatinen, 2013).

## 2.8 Review of the value literature

Three major categories of collaborative value were inductively indicated by the grounded theory analysis: commercial value, social capital and human capital. This first section examines the value concept and, with respect to collaboration, considers the timing of value creation, difficulties in its assessment, and the impact of service dominant logic.

### 2.8.1 Introduction to the value concept

In a business environment, collaboration like any other business process must have a productive outcome for it to be considered worthwhile. Positive outcomes of collaboration potentially may be witnessed in any aspect of improved business performance from customer oriented measures of satisfaction and sales, through to operational efficiency and risk reduction. The concept of business value, prevalent in the marketing literature, has utility in a study of collaboration by enabling the full diversity of net-benefits to be recognised. Inevitably however, the breadth of the value concept leads to issues. In this section a review of the concept is undertaken with a view firstly, to identifying the diverse sources of value to which collaborative activities may potentially contribute, and secondly, to highlight the conceptual complexities with respect to the assessment of value.

The importance of value arising from businesses interactions has been increasingly recognised over the last 25 years and has witnessed a considerable broadening of knowledge and conceptual complexity, particularly in the latter half of that period. The definition of value however, has been described as a “major and unresolved issue” (Blois, 2004), with complaints levelled about vague definitions (Cox, 2004). From a simple transactional perspective, value constitutes a trade-off between benefits received and sacrifices incurred in obtaining those benefits, i.e  $\text{value} = \text{benefits} - \text{sacrifices}$  (e.g. Flint, Woodruff & Gardial, 2002; Walter, Ritter & Gemünden, 2001; Möller & Törrönen, 2003; Blois, 2004). The term *sacrifice* has become preferred to *costs* in recognition of in-tangible costs, such as opportunity costs, that an organisation may incur in addition to more readily measured operational, logistical, purchasing and maintenance costs (Blois, 2004).

For most authors, particularly in contemporary literature both benefits and sacrifices include a variety of intangible, subjectively assessed elements, whilst to others value

should be constrained explicitly in terms of financial assessment: “value in business markets is the worth in monetary terms ...” (Anderson & Narus, 1998, p. 6). Even these authors go on however, to recognise the complex range of benefits covered, including technical, service and social elements. Benefit categories may be further extended to include competitive gains, competences, relationships, and knowledge (Möller & Törrönen, 2003), and improved performance (Blois, 2004).

Definitions of value in much of the marketing and supply chain literature are expressed explicitly from a customer perspective only (e.g. Blocker, Houston, & Flint, 2012; Ulaga & Eggert, 2006). Others have sought to redress this imbalance either by recognising supplier value (Walter & Ritter, 2003; Walter, Ritter, & Germünden, 2001) or by defining value in relationship terms (Pinnington & Scanlon, 2009).

The value concept is relevant both in business to consumer (B2C) and business to business (B2B) contexts and has resulted in a spectrum of academic contributions from pure B2C (e.g. Prahalad & Ramaswamy, 2004), through generalised models (e.g. Woodruff, 1997) to pure B2B contributions (e.g. Flint, Woodruff, & Gardial, 2002; Walter et al., 2001). In an inter-organisational research context, extant literature needs to be interpreted cautiously therefore, to ensure its relevance to organisational buyers, rather than retail consumers. The prevalence of customer centred logic, further extended by the popularity of Service Dominant Logic (SDL) (Vargo & Lusch, 2004, 2008b) has meant that value has received little consideration in the context of multi-party, organisational collaboration, and been mainly considered in a vertical supply-chain context.

The following sections consider the complex nature of value in more depth. Variations in value patterns over time, and between collaborating partners, are considered first, and followed by a discussion on the implications that service dominant logic may have for inter-organisational value generation.

### **2.8.2 Types of value and temporal variations**

A review of leading journals across a 20 year period has demonstrated that value should not be considered solely in financial terms. In their review, Terpend, Tyler, Krause, and Handfield (2008) identify four main categories of value in the literature: operational performance, integration orientation, capability factors and financial

performance. Although these themes have not changed markedly during that period, there has been a significant shift in scope away from the narrow short-term perspective typically referred to as a transactional or exchange orientation, toward a relational orientation that considers a wider range of longer-term value sources (Lindgreen & Wynstra, 2005). In a relational view of value, strategic and behavioural dimensions need to be considered in addition to the economic dimension (Wilson & Jantrania, 1994). This shift in thinking away from goods exchange, toward collaborative relationships has resulted in an extension to the sources of value considered, and in particular that derived from services (Vargo & Lusch, 2008a). The shift in thinking away from value at the point of exchange has also complicated the timing profiles for the parties engaged in collaborative relationships.

The “temporal horizon” of value continues to be identified as a key theme requiring further research (Lindgreen, Hingley, Grant, & Morgan, 2012, p. 211). In their framework for further value-related research, Lindgreen et al. identify the temporal horizon as one seven key avenues for further research, yet they do not explore the issue beyond an identification of the difference between continuous and episodic on-going relationship styles. Value is temporally complex because benefits and costs may be incurred at different times, such that value assessed at different points in time may be very different. Both benefits and costs may accumulate gradually or be incurred in a short window.

The timing profile for both the benefits and cost sides of the value equation are likely to be different for collaborating organisations, especially those operating in vertical rather than horizontal relationships. Buyers, who pay up-front for products with a longer-term payback period, initially incur costs that exceed early benefits and therefore need to anticipate eventual returns in assessing value. Payment schedules affect the cost side of buyer value equations and the benefit side of supplier value equations and establish a value-timing profile for each. In the case of service delivery both benefits and sacrifices may fall within a narrow temporal window.

The period of benefit accrual extends progressively as longer terms goals are considered above immediate product or service attributes (Woodruff, 1997). In the service dominant logic view of collaborative relationships, value is co-created at the point of service delivery, and evolves over time as both parties develop their

knowledge and effectiveness (Ballantyne & Varey, 2006). This effectiveness can be further enhanced where suppliers work closely with their customers to anticipate their future value requirements (Flint, Blocker, & Boutin, 2011). Temporal horizons therefore differ between the here-and-now horizon of transactional exchanges and long-term value in adaptive partnering-style, strategic relationships. The four levels of value generation proposed by Ford and McDowell (1999), may similarly be considered to represent four different temporal horizons. Ford and McDowell add two levels that consider an organisation's competitive position in wider value-networks to the two above covering transactional and partnership relationship levels.

### 2.8.3 Assessment of value

When either intangible or long-term sources of value are considered, value inherently, becomes a difficult entity to measure. Intangible benefits are subjectively assessed which can result in variations between stakeholders, even within the same organisation. Consequently it has been suggested that only *core* value, that is production oriented, short-term and largely tangible value can be “sufficiently estimated in terms of costs and benefits” (Möller & Törrönen, 2003, p. 114). Collaborating organisations also may judge value differently from each other (Walter & Ritter, 2003) as may different departments and functions within the same organisation (Pinnington, Meehan, & Scanlon, 2016). From an SDL perspective “value is always uniquely and phenomenologically determined by the beneficiary” (Vargo & Lusch, 2008b, p. 9), implying that the same supplier offering may be interpreted differently by each customer. This contextual uniqueness of value assessments, compounded by the variety of human perceptual assessments, temporal variations in benefit accrual and difficulties in quantifying non-core benefits, may explain why there has been little or no progress reported on the objective measurement of value since it was observed to be “still in its infancy” (Ulaga, 2003, p. 677).

The more subjective value judgements become, the more assessment is discussed in terms of human perception, rather than objective measurement. Value, for instance, has been defined as “judgments or assessments of what a customer perceives” (Flint et al., 2002, p. 103). Grönroos (2011, p. 242), refers to a “perceptual dimension” of value that covers such intangibles as trust, commitment and perceptions of a suppliers long-term value to its customer. Long-term or strategic value derived from business

relationships is particularly difficult to quantify, but even short-term benefits may be difficult to assess where they contribute to back-office or secondary value-chain functions rather than direct customer services. Benefits relating to improvements in human skills, knowledge or inter-personal relationships are also resistant to quantification, such that for socio-cognitive value “objective determination of value is ruled out.” (Haas, Snehota, & Corsaro, 2012, p. 97).

This difficulty with attempting purely objective assessments of value is illustrated by a recent study in which knowledgeable industrial buyers are shown to perceive different value from the same set of services, according to how the services are bundled. Buyers are shown to be willing to pay nearly 5% more for the same set of services where they are offered and evaluated separately, rather than as a single bundle (Steiner, Eggert, Ulaga, & Backhaus, 2014).

Subjective value perceptions also may be established relative to expectations (Cheung, Myers, & Mentzer, 2010) that are experientially grounded and evolve over time. It has been observed for instance that customer expectations change and, in some instances, “quite rapidly and extensively” (Flint et al., 2002, p. 102). Where value is judged relative to an expectation, it follows that the greater the initial expectations, then the higher the level of actual value must be, before value is positively perceived. Suppliers potentially have several strategies available to increase perceptions of value. They may seek to lower expectations, increase real value delivered, or as has been suggested, improve perceptions by emphasising attributes and achievements (Blois, 2004).

#### **2.8.4 Value appropriation and mutuality**

Mutual value creation is central to the success of collaborative relationships (Wagner et al., 2010), and therefore it is important that all collaborating parties consider value to have been generated by the relationship, and that all have benefited adequately from the relationship. In dyadic collaborations this means that a supplier perspective must be recognised, as well as the customer perspective (Walter et al, 2001; Walter & Ritter, 2003), and that all parties’ value returns must be considered in multi-party collaborations. Suppliers derive tangible, *direct* value in the form of profits, efficient capacity utilisation and demand certainty. They also derive less tangible *indirect* value through competitive advantage arising from relationship innovations, and marketing

advantages arising from sources such as widened contacts and knowledge, facilitated access, and customer references (Walter et al, 2001). Suppliers also consider these benefits against sacrifices made to obtain them, through the use of value equations to ensure that actions such as adaptations do not result in a reduction of supplier value (Blois, 2004). Although Walter et al's value sources are proposed in the context of suppliers in vertical supply-chain relationships the principles apply equally to multi-party collaborations in which each partner ultimately will form subjective perceptions of value based on an assessment of the direct and indirect value received compared with costs incurred. Organisations will tend to maximise their own returns in a relationship (Cox, 2004), therefore the extent to which value is positively perceived will also depend on perceptions of distributive justice, in which partners weigh-up their own value assessment against perceptions of their partners returns (Wagner et al., 2010). In multi-party collaborations this logic needs to be extended to the collaborating group, rather than being restricted to supply-chain relationships.

### **2.8.5 Adaptations**

Mutual or reciprocal action where two or more parties create value for each other is “an ultimate basis for business” (Grönroos, 2011, p. 246). There is a danger with customer-centric value logic that incremental adaptations are pursued based on customer net value assessments alone. Adaptations that consume more supplier resources than the customer value produced are negative-value actions resulting in *value-destruction* (see also Bowman & Ambrosini, 2003). A relational assessment of changes (Pinnington & Scanlon, 2009) ensures that adaptations make a net value contribution and grow the size of the pie available for distribution. All adaptations increase buyers' switching costs (Walter & Ritter, 2003), and therefore even positively assessed changes are not always in the buyer's best interests in the long-term.

### **2.8.6 Service Dominant Logic (SDL) and collaborative value**

The biggest development in value conceptualisation, in the last 20 years, has witnessed the rise in prominence of a services rather than a goods perspective on value. This significant shift has, in the process, also re-elevated the importance of human skill and knowledge above the features of inanimate products, but also further emphasised the extent of value perception differences arising in different contexts.



In traditional goods centred logic, value is added during manufacturing as components are worked on and assembled, such that the resultant good is of higher value than its constituent components. This value-chain perspective (Porter, 1985) is production oriented and considers value to inhere within the good itself, and is readily enumerated. This good is of exchange value to the vendor, and embedded with utility to customers (Vargo & Lusch, 2004). The maximum price however which a vendor is able to exact for a product is determined by the market however, and by the value which the good represents to buyers. Customers are therefore the ultimate arbiters of value (Ballantyne & Varey, 2006). The utility inherent in any product differs between customers, each of whom may use the product for purposes that may vary in their business criticality. As the distinction between services, with their characteristic of utility at the point of delivery, and goods, has become blurred, authors have recognised progressively the importance of product-related services (Vandermerwe & Rada, 1989). Suppliers wrap additional services such as installation, monitoring, maintenance, training and even disposal around their goods to improve their attractiveness to customers (Steiner et al., 2014). Services have pervaded all aspects of strategic planning and are a primary source of competitive advantage in what has been called the servitization of business (Vandermerwe & Rada, 1989). Despite this recognised importance of service, there remains a sense in the servitization literature that service is the differentiator of product and therefore supplementary in purpose to the products. In a seminal article Vargo and Lusch (2004), propose a fundamental shift to this logic in which all supply chain exchanges are fundamentally service based; services which optionally may also be facilitated by goods. In S-D logic, goods are considered merely as mechanisms for service provision, and product exchanges are viewed as only one of many opportunities to interact with customers to co-create value (Lambert & Enz, 2012).

In this body of literature, rather than playing a supporting role, service is increasingly acknowledged as the common denominator of business exchanges (Payne, Storbacka, & Frow, 2008). In traditional Goods Dominant Logic (GDL) (Vargo & Lusch, 2004), the central focus is on *operand* resources; those tangible resources on which transformative and transactional actions are performed to produce an effect. In the shift to service pre-eminence it is the *operant* resources, employed to act on operand resources, which assume centre stage. Operant resources are the intangible skills,

knowledge, processes and technology through which organisations deliver service. In Service Dominant Logic (SDL) goods exist only as appliances used to facilitate value at the point of service delivery. Human skill and knowledge is elevated in importance, above product features, both as directly manifest in service delivery, and indirectly where it is embodied in machines.

SDL is not a simple shift from tangible to intangible value, but a reconceptualization of how the customer derives value from its supply chain. The focus on operant resources as “conveyors of competences” (Vargo & Lusch, 2008a, p. 256) and how they utilise knowledge in service processes to the benefit of the customer, is the key to making this cognitive transition. From a service perspective, the same outcome has been achieved where a service is delivered manually, or through automata in which the same human knowledge and skill have been embedded.

Goods logic is founded in economic exchange theory, whilst SDL with its focus on knowledge and skills is closely aligned with the concepts of core competences and Resource Based Value (RBV), in which organisations derive competitive advantage through difficult to imitate skills and knowledge, rather than through the tangible outputs of production processes (Vargo & Lusch, 2004).

The focus of SDL on the point of service delivery runs the risk of concentrating attention on short-term operational horizons once again, much as was the case with the transactional perspective. This issue is partly addressed through a distinction between *value-creation*, in which the customer creates value through their contextual use of supplier services, and *value-generation* as that more extensive and strategically integrated interworking characterised by collaborative partnerships (Grönroos, 2011). Value-generation therefore, reflects longer-term temporal horizons.

### **2.8.7 Collaborative value and SDL**

SDL emphasises that suppliers only facilitate the co-creation of customer value and cannot create value alone, indeed only the customer presence is necessary for value creation and the supplier’s presence is optional (Grönroos, 2011). This focus on customer value has implications for collaborative relationships where there is a risk that supplier value and mutuality are insufficiently prioritised. The role of the customer as a source of value to the supplier is absent from much discussion. The

importance of value realisation by both parties in a business engagement is recognised (Grönroos, 2011), but then only discussed in terms of how the customer may enable value creation by the supplier. Previously identified sources of supplier value (Walter & Ritter, 2003); their timing and the role of the customer in facilitating value creation to their suppliers is at best left implicit within SDL principles.

This has led to claims that the role that collaboration may fulfil in the creation of more diverse forms of value, and the processes through which that is effected, are only scantily covered by the extant literature (Aarikka-Stenroos & Jaakola, 2012; Lindgreen & Wynstra, 2005), with a “surprising lack of work directed at providing frameworks” to help businesses manage the process (Payne et al., 2008, p. 85). Some progress is claimed through the distinction of specific customer and supplier sides roles for collaborative value creation in knowledge intensive business services, but here collaboration is narrowly interpreted as a problem solving process, and it is recognised that much more research effort is required in studying these processes (Aarikka-Stenroos & Jaakola, 2012). This gap in understanding how collaborative processes lead to value is a key focal point for this research.

## **2.9 Social capital: collaboration as a social process**

The importance of this literature body was indicated inductively in this study as, firstly, the importance of the development of inter-personal relationships over time was indicated, and secondly, as the nature of relationship value was considered for its importance as a productive output from collaboration. Accordingly, this section examines the principles of social capital in detail and then discusses them in the context of those limited number of supply chain studies that have drawn on social capital concepts. At the end of the section, the discussion considers social capital concepts for their relevance to collaboration processes through a discussion based on innovation as an example of collaboration.

### **2.9.1 Introduction to collaboration as a social process**

Social capital has proven difficult to define (Nahapiet & Ghoshal, 1997) because of the variety in its content and scope, but commonly represents some aspect of social structure that facilitates productive action by actors that would not otherwise be possible in its absence (Coleman, 1988). The discussion below firstly examines the wider underpinning social capital literature to establish the fundamental principles and

then critically examines selected supply chain studies in which social capital features. The examples selected have each reported unexpected, unexplained or contradictory results.

### **2.9.2 Social capital basic concepts**

An extensive body of social capital literature has been established over the last 50 years with studies covering a wide variety of social and population contexts. Although a relatively small percentage of these studies are set in a business context, the established principles have important implications for business relationships both within and between, business communities. Although some authors have argued that social capital principles are grounded on insights provided by pre-war sociologists, it is the modern era that has witnessed the coining of the terms social-capital, bridging, bonding and structural-holes. In particular work that challenged universal presumptions about the effectiveness of close relationships, helped to identify important benefits to be gained from a wide range of weaker relationships (Granovetter, 1973). In this section the benefits of different types of relationship strength are considered for the effects on social capital accumulation. The developments of this fundamental argument that led to the definition of key concepts such as bridges, bonding, structural holes, closure and embeddedness are discussed. The nature of social capital as a form of capital is also considered, and weighed against knowledge as an asset, through concepts such as human capital and intellectual capital. Finally, studies which propose different dimensions to the nature of social capital are also considered.

### **2.9.3 The strength of weak-ties and the origins of social capital**

In a seminal paper from the early 70's Granovetter proposes a counter-intuitive argument that weak social links have some important communication advantages compared with close links (Granovetter, 1973). Granovetter distinguishes between the strong social ties established between close friends and the much weaker links that exist between acquaintances. Close-friend groups are typically highly inter-connected as members are likely to have strong relationships with all other members of the group, and share much of the same information. Peoples' acquaintances on the other hand are much less likely to know each other well, but will each have strong social groups of their own. A weak-tie with an acquaintance in another group may therefore act as

a bridge between those groups which gives members of each group access to information and contacts to which they previously had no access (Granovetter, 1973, 1983). This weak-tie is a source of informational power to the holders. As weak-ties require much less time to establish and to maintain than strong ties, they are more resource efficient and considerably more ties may be maintained for the same investment of time.

Strong-tie group relationships also confer advantages on group members. Groups of closely linked individuals share contacts and information sources and develop social capital through shared meanings, normalised values and commitment to other group members (Coleman, 1988). This bonding form of social capital facilitates responsive action amongst group members but may constrain certain types of valued action, such as innovation because the group's ideas are already known and shared. There are other disadvantages of closely bonded groups where introspection leads to disengagement between groups, and a fragmentation of the larger network or social community. The fewer weaker ties someone has, then the more encapsulated they become in terms of knowledge beyond their immediate circle of close-ties (Granovetter, 1973). In contexts such as business, where new knowledge is a valued asset, bridges between social groups become especially important as a route to ideas and contacts. For the reasons outlined above, no strong-tie acts as a bridge. All bridges should be weak-ties, though not all weak-ties are bridges (Granovetter, 1973). The significance of a bridge is that in its ideal form, it provides the *only* link between networks, and therefore provides the bridging nodes with access to information and ideas that would not previously have been available to any of the group comprising their close-ties. This is the bridging form of social capital and occurs when diffuse social networks contain structural holes that weak-ties may bridge (Burt, 2000). Burt's concept of structural holes re-focuses the bridging concept to a network locus, rather than being relationship centred. The structural holes concept extends the weak-ties concepts by recognising the significance that network structure has on the efficiency and effectiveness of social networking. The avoidance of redundancy in links between contacts is the key to maximising the potential benefit derived through bridging ties (Burt, 1992). In a pragmatic world, an *effective* bridging tie may not represent the only possible connection between two networks, but rather be the most direct. In complex networks where other more distant routes also exist, then the utility of the weak-tie bridge is

determined by the distance and levels of indirection that information would need to travel in any alternative route. As with a bridge in a road network, the greater the level of indirection in an alternative route, then the higher the utility of the bridge. Individuals with many weak-ties are best placed to diffuse ideas quickly to the largest number of individuals (Granovetter, 1973), but only provided that these ties also bridge structural holes (Burt, 1992).

#### **2.9.4 Relative strength of ties**

In reality therefore bridges may not exist in an ideal form, with other more indirect connections also existing. The strength of social ties is also not a clear dichotomy in practice. The strength of ties may be characterised through a combination of the time, intimacy, emotional intensity and reciprocity extant in the relationship (Granovetter, 1973). This characterisation allows the concept to be operationalized and emphasises its continuously variable, rather than binary nature, as is often implied by weak-tie verses strong-tie debates. Just as the effectiveness of a bridge is linked to the weakness of the tie, so too is the bonding form of social capital dependent on the relative strength of bonds and local network structure. The concept of *social closure* is linked with an increased level of inter-actor trust. Closure refers to the strength of internal links within any group such that the members of the group can be relied on to observe group norms (Portes, 2000). Social closure leads to a greater willingness, and greater capacity through proximity, for the exchange of tacit knowledge. The trust established also leads to a greater willingness and ability of the group to deal with task uncertainty (Adler & Kwon, 2002).

The relative merits of bonding verses bridging forms of social capital are widely discussed in literature, but in a contingency perspective, Adler and Kwon (2002) suggest that each have their relative merit depending on the nature of the task, and that task uncertainty is an influencing factor. From their task contingency perspective, they identify that social closure is better suited to complex and uncertain problem solving. However, where tasks are more certain but information or resource access are issues, then network bridges provide for a more cost-effective means of access to a wider range of resources (Adler and Kwon, 2002). Ahuja (2000) also identifies the benefits of close collaborative interaction that establishes high levels of trust between an organisation and its direct partners, but questions the amount of value resulting from

weaker links with indirect ties that were the source of new knowledge. Ahuja finds the trust benefits from extensive direct ties to outweigh the negative effects on innovative knowledge sourcing that arise from a dense network with few structural holes. Whilst Ahuja's study acknowledges that sector specific conditions meant that the strongest potential from new ideas from outside the sector was not exploited, the focus on *indirect* ties as the source of new ideas also meant that the true potential of *direct* weak-ties across a wide diverse network was not considered. A wide diverse network, high in structural holes is most likely to arise through links with more distant, extra-sector links.

### **2.9.5 Sources and factors impacting social capital effectiveness**

Whether the bridging or bonding forms of social capital are being considered, the ultimate effectiveness of any social capital is contingent on other factors in addition to the structural network conditions. The existence for instance of a bridge across a structural hole is not in itself enough to generate social capital: "Brokerage opportunities do not by themselves turn into success, and people are not equally comfortable as brokers between groups" (Burt, 2000, p. 383). The establishment of social capital is therefore contingent on personal, as well as network and task factors. Actors must be motivated to utilise their social capital, as well as having the opportunity and capability (Adler & Kwon, 2002), and must also have an expectation of success (Nahapiet & Ghoshal, 1998). In their study Nahapiet and Ghoshal (1998) consider these four factors as enablers to three interrelated dimensions of social capital. The first two dimensions extend Granovetter's (1985) concepts of structural and relational embeddedness. The structural dimension refers to the patterns of links between actors in a network, and the routes information may need to travel between indirectly connected actors. The relational dimension considers the nature of the interpersonal relationships between actors, established through the history of their interaction. Trust, norms and obligations are the assets which may be established resulting in outcomes such as respect, friendship and loyalty. In their third dimension the authors draw inspiration from the strategy literature in their definition of the cognitive dimension. In the cognitive dimension shared language, codes and narratives are considered to be social assets which act to enable future action (Nahapiet & Ghoshal, 1997, 1998). Although these dimensions are all inter-related and difficult to separate, it has been argued that the relational dimension is most dominant and acts

as a mediator to the other two (Korte & Lin, 2013). This assertion is partially supported by Tsai and Ghoshal (1998), who found strong associations between the relational dimension and each of the other two, but found no relationship between cognitive and structural dimensions.

### **2.9.6 Locus of social capital.**

Much of the social capital literature considers social capital to inhere within personal relationships. It therefore represents a largely personal resource, although some acknowledge that relationships between corporate actors may also constitute social capital (Coleman, 1988). It is important that studies should clarify both the locus of social capital and the locus of its effect. Social capital accumulated through bridging relationships for instance involves individual actors, but social capital accumulated by bonded groups may also be considered an asset of the collective, rather than its individual members. The effect, particularly in facilitating knowledge creation may be similarly distinguished between groups and individuals. Human capital represents the accumulated knowledge and experience of the individual (Coleman, 1988), whilst intellectual capital (Nahapiet & Ghoshal, 1998) represents the group equivalent. Spender (1996) makes a further distinction between group tacit and explicit knowledge using the terms collective knowledge and objectified knowledge respectively. In the context of businesses and inter-business relationships it is important that the structure and scope of socialised groups is clearly delineated. The locus of social capital is of particular interest in supply chain studies where both individual and collective knowledge may be located in boundary spanning relationship teams.

### **2.9.7 Is social capital really a form of capital?**

In addition to considering where social capital inheres, it is appropriate to consider its properties as a form a capital. Coleman (1988) considers the question by contrasting social capital against physical capital and human capital, and concludes that social capital shares enough basic properties to be clearly accepted as a form of capital, though it is crucially distinguished from those other basic forms. The most significant differences are that social capital is a property of relationships between actors and not a property of any entity, and unlike other forms of capital those creating capital may not be the beneficiaries. This phenomenon is manifest through “enforceable trust”



where beneficiaries appropriate social capital through a facilitating donor within the socialised group (Portes, 2000, p. 9). In common with other forms of capital though, social capital has an asset value and is to some extent fungible. Social capital is also by definition productive, and facilitates action that may result in creation of other forms of capital (Coleman, 1988). Whilst strongly concurring with Coleman's conclusion that the term capital is appropriate, Adler and Kwon (2002) extend the argument with further positive and negative examples. Social capital requires maintenance like physical and human capital but unlike other forms of capital, investments in its creation are not easily quantified (Adler & Kwon, 2002).

### **2.9.8 The Disadvantages of social capital**

Social capital should not however be regarded solely as a beneficial resource (Nahapiet & Ghoshal, 1998), as forms useful for one purpose may be ineffective or detrimental to other purposes (Coleman, 1988). It has been claimed that the preoccupation with contrasting the relative benefits of the bonding verses bridging perspectives has meant that negative facets of social capital are underplayed (Portes, 2000). Portes suggests four potentially negative consequences arising from social capital. In the first the close bonding of a highly socialised group can lead to the exclusion of outsiders and consequently isolation from outside information, ideas or potentially positive influences. Secondly, the obligations associated with closely bonded groups can lead to excessive claims on willing members and lead potentially to a "gigantic free-riding problem" (Portes, 2000, p. 16) which stifles business success. Restrictions on individual freedoms inherent in the socially agreed rules of a close group are also proposed to represent a negative outcome. Portes does not discuss a business example, but clearly any suppression of individual flair and inspiration would compromise change and innovation behaviours and preserve the status-quo in businesses. In the fourth scenario, downward levelling norms may occur, where a collective achieves solidarity through a common sense of adversity that may then normalise value destroying behaviours (Portes, 2000).

## 2.10 Social capital in business and supply chain contexts

There are relatively few studies in the supply-chain literature that draw on social capital theory and amongst those that do, there are conflicting findings. In this section a selection of studies are critically examined against the wider social capital literature to identify potential explanations for the reported findings. In examining supply-chain social capital studies, examples were encountered of unexpected findings (Cousins et al., 2006; Cousins & Menguc, 2006) unexplained and potentially conflicting findings (Meehan & Bryde, 2014; Tsai & Ghoshal, 1998), whilst the expected integration of two regional networks also largely foundered (Eklinder-Frick, Eriksson, & Hallén, 2011). Such results indicate weaknesses in extant knowledge and suggest that further depth of understanding of the socialisation process is required, at least in a supply-chain context.

### 2.10.1 Impact of socialisation on operational performance

In the first example, Cousins and Menguc (2006) test their hypotheses linking supply-chain socialisation on the one-hand with improved supplier communication performance, and on the other-hand with improved supplier operational performance. In an extensive survey with 520 respondents they duly find both associations to be highly significant, with both effects also contributing to improved contractual performance perceptions. However, for the parallel hypothesis in which supply-chain integration is proposed as an antecedent to communications performance the study establishes no link between supply chain integration and improved performance, contrary to their expectations. Integration describes the extent of systems integration between organisations, and the failure to establish a relationship is attributed to the suppliers' systems and process immaturity (Cousins & Menguc, 2006). Although not highlighted by the authors, the significance in this unexpected finding may lie in the complex nature of communication in larger aggregated supply relationships. Whilst systems integration may be effective in the exchange of detailed planning, ordering, and payment systems information, social interaction may be a necessity for the exchange over time of tacit knowledge that provides insights into the buying organisation's business operations and priorities. Poor systems integration may be rectified through inter-personal communication, but systems integration can at most

only support the socialisation process through which collective tacit knowledge is established (Spender, 1996). Their findings that socialisation improves both communications and performance suggest that relationships are sufficiently closely bonded that both cognitive and relationship forms of social capital (Nahapiet & Ghoshal, 1998) have been established. The authors suggest that the findings emphasise the importance from a supplier perspective, that clear communication is established and that this should be through a mixture of both formal and informal routes. Supplier conferences, governance meetings and steering groups are proposed as suitable formal communications forums.

### **2.10.2 Impact of formal and informal socialisation**

Related parallel research however finds no link between formal socialisation processes and increases in relational capital, but does establish a link with informal processes (Cousins et al., 2006). Informal interaction may be summarised as business-as-usual daily supplier management interactions. This study identifies that formal relationship structures alone do not lead to the establishment of relationship capital (Cousins et al., 2006), but that they may facilitate the building of informal socialisation mechanisms over time. Informal socialisation is considered to be the key to establishing trust and social norms that lead to more productive relationship outcomes. Formal socialisation does not directly lead to the same positive outcomes but is considered to help facilitate informal patterns of behaviour that generate social capital. The importance attributed to “time” and “close working relationships” (p. 859) is indicative of the tacit nature of this accumulated wisdom. The study’s definition of social capital as the “process by which individuals in a buyer-supplier engagement acquire knowledge of the other enterprise’s values and norms” (Cousins et al., 2006, p. 853), is inclined toward the bonding form of social capital, and hence dependent on strong-ties between members of a close working team. Formal organisational structures often may differ from social network structures in those organisations (Aalbers, Dolfsma, & Koppius, 2014). Where formal contract management and reporting structures do not match the social structures that represent the regular day-to-day interaction communication, then it may be expected that the informal group becomes more socially cohesive and more suited to the transfer of complex knowledge (Hansen, 1999).

Contrary to their proposition, Cousins et al. (2006) also find that relationship quality is negatively related to knowledge acquisition; a finding they attribute to “overembeddedness” (p.860) in which overly close relationships insulate firms from other sources of information (Granovetter, 1985). Although unexpected, this finding is consistent with discussions on disadvantages of social capital (Portes, 2000), and with predictions of the negative impact of close bonding on external knowledge access (Granovetter, 1983).

### **2.10.3 Rich-ties: benefits of formal interaction in knowledge transfer**

In contrast to Cousins et al.’s findings other recent research finds significant evidence to indicate that the benefits of formal interaction are at least as effective as informal interaction (Aalbers et al., 2014). The context of their study is intra-organisational, but set in two large multi-divisional multi-nationals. Aalbers et al. (2014) find that rich-ties are most effective at facilitating innovative knowledge dissemination, and also find that mandated formal ties are at least as effective as informal. These results warrant further examination for their apparent contradiction firstly to the findings on tie formality, but more significantly with respect to tie-strength and innovation.

Rich-ties may be established between actors when formal and informal networks, established for different purposes, overlap. This relational multiplexity [sic] leads to more, as well as more reliable information exchange (Aalbers et al., 2014). Rich-ties, formal-ties and informal-ties are each found, significantly (at better than the 1% level), to facilitate knowledge transfer, but with the (fourth) model containing all three tie-types illustrating the greatest explanatory power. Rich-ties show particularly high beta values in the combined model, indicating their particular effectiveness in knowledge dissemination. When the effectiveness of formal and informal ties were contrasted (rich-ties not included), it was also noted that that formal-tie beta values were higher for both organisations in the study, suggesting that formal links were more effective than informal networks in disseminating innovative knowledge (Aalbers et al., 2014). The definitions of formal-ties including both organisation structure links and quasi-formal links such as membership of task-groups, committees and “dotted-line” (p. 836) reporting links matches closely to Cousins et al. (2006, p. 854) inclusion of “regularly scheduled meetings and conferences, or matrix-style reporting structures”. The

differences between these studies therefore lie in the wider relational capital measures utilised by the latter, but perhaps most relevantly between their contexts. Aalbers et al (2014), study formal internal structures, whilst the Cousins et al (2006) study is set in a supply chain context. The explanation for the different findings may be attributable to the nature, depth and frequency of interaction that occurs in formal internal interaction compared with external interaction, with a much lower level of bonding social capital to be expected in the latter. This would have significant implications for supply chain innovative knowledge exchange. Another potential explanation though lies in the structure of the innovation teams that were the crux of the study. Structural holes are implicit in the boundaries between divisions within large organisations and any cross-functional team spans more structural holes and therefore has more access to information (Burt, 2000). The structural relationship between innovators within a company may be expected to contain more formal cross-functional links compared with established business processes, because innovators may already be linked through projects, change initiatives, innovation forums or technology interests. Should this be the case in the two companies studied, then it may be expected that formal ties would be relatively more productive compared with informal ties. Where innovators are already associated through quasi-formal structures rather than hierarchy, then it should also be expected that the study data would be able to distinguish these two sub-groups within the formal ties data group. Those linked through quasi-formal structures would be expected to show the stronger effect on knowledge dissemination.

In the second apparent divergence from extant theory the finding that rich-ties are the most effective at disseminating innovative knowledge through a company apparently contradicts established social capital literature in which innovation performance is linked with weak-ties (Granovetter, 1983). Indeed innovation may even be inhibited by strong-ties especially where bonding reduces innovation through group constraints on divergent thinking (Portes, 2000), or by introspection. Close examination of the Aalbers et al (2014) study suggests that the significance of the findings is that rich-ties facilitate complex knowledge transfer, which it is assumed will enhance innovation activities. No evidence is provided to support the innovation improvement however, and other work suggests that this may not be the case. In a similar empirical setting, examining new product development across 41 divisions of a global electronics

company, Hansen (1999) supports the suggestion that complex knowledge transfer is dependent on strong-ties, but crucially also finds that the sharing of innovative ideas is best facilitated through weak-tie networks. Aalbers et al. (2014, p. 841) claim “that tie strength does not alter the findings” but by focusing respondents’ attention on their 6 most important contacts, which one may assume are all relatively strong ties, a very narrow range of variation of tie-strength would be expected. Rich ties embracing multiplex formal and informal networks increase inter-actor tie-strength. The finding that such ties enhance the transfer of knowledge, especially where socially or technically complex is highly consistent with benefits identified for the bonding form of social capital (Coleman, 1988), but this may inhibit the studied companies’ access to external innovation.

#### **2.10.4 Social capital in a regional collaborative network**

In the fourth example in this section, a European Union Regional Development Fund (ERDF) project illustrates the complicated nature of collaboration links between organisations. The context is a European Union funded, triple-helix collaboration (public sector, private sector and University partners) set in the north of Sweden that sought to integrate companies in a regional network (FIRSAM), with a view to improving their competitiveness (Eklinder-Frick et al., 2011, 2012). Although the study reports a small increase in links between the two existing groups, the expected level of integration and the expected benefits were not achieved as the effects of existing social bonds proved difficult to displace.

Social capital in business relationships is not a guaranteed force for good (Adler & Kwon, 2002), and in this industrial study, advantages and disadvantages are noted for both bridging and bonding forms of social capital (Eklinder-Frick et al., 2011, 2012). Companies in the region were already linked, but in two distinct networks. Electronics companies in the first network were linked by association with the former Ericsson site, either as suppliers or as former employees. Companies in the second network were characterised as metals fabricators and had been linked through a previous supply chain project. The study reports that the project failed to achieve the aim of realising one cohesive network, a failure that is largely attributed to the effects of bonding within each of these groups in which the collaboration benefits were not accepted:

“some respondents seemed unable to grasp the idea of merging the two sub-groups” (Eklinder-Frick et al., 2012, p. 804). The failure of the project to disrupt a normalised acceptance within each group that a change to their network was desirable, is a recognised consequence of closure within tightly bonded groups (Portes, 2000), and was exacerbated it seems by a misunderstanding of the nature of information which should have been exchanged. The project however makes simultaneous reference both to its attempts to bridge the two networks and to an ideal of a single cohesive network. The study review does not directly highlight this incompatibility between aim and approach. A single cohesive network could only be established through close bonding of equal strength to the strong-ties established in the extant networks, something which is likely to have required a high degree of informal socialisation (Cousins & Menguc, 2006). The project’s attempt to establish multiple bridges between the networks resulted in content exchange confusion, and a network structure with high redundancy (Burt, 1992).

The Firsam case study exemplifies the importance of understanding what form of social collaboration is both desirable and effective in a given context. The project needed to be clear whether it was looking to establish closely bonded vertical supply chain links, a single closely-bonded integrated group, or weak-ties to enhance wider industry networking. The Firsam group may have been too large and diverse to have been integrated efficiently.

The study also does not consider the effects of homophily (McPherson, Smith-Lovin, & Cook, 2001) that are likely to have also contributed to integration resistance. The phenomenon of homophily recognises the tendency of people with similar characteristics and values to coalesce into groups. Educational, technical and social status homophily effects (McPherson et al., 2001) may have all increased the bonding within the separate electronics and fabricator groups. Members of these groups may also have developed social identities as an electronics engineer, or a fabricator-welder respectively. Social identity also is a factor in the establishment of social capital (Min et al., 2008) that may have impeded the project’s objective of creating a single integrated community.

### 2.10.5 Social capital dimensions

A study within a large international electronics company (Tsai & Ghoshal, 1998) utilises an existing three dimensional model of social capital (Nahapiet & Ghoshal, 1997, 1998) to examine its effects on knowledge creation and value creation through product innovation. The study finds its strongest support for a link between the relational dimension (particularly trust and trustworthiness) and knowledge creation, but finds only a weak association between the structural dimension and knowledge creation, and contrary to expectations, finds no link between the cognitive dimension and knowledge creation (Tsai & Ghoshal, 1998).

Their findings contrast with another more recent study, that utilises the same three dimensional model of social capital (Nahapiet & Ghoshal, 1998) to examine effective sustainable procurement in a social housing context (Meehan & Bryde, 2014). Contrary to expectations, and in contrast to Tsai & Ghoshal's results, Meehan and Bryde (2014) linked only the structural dimension. Their finding that the relational and cognitive dimensions did not make a significant contribution to their model was considered to be counter-intuitive by the authors. The explanation however, again may lie in the study context. Procurement in social housing is considered to be a developing sector in which the dissemination of new knowledge is particularly important (Meehan & Bryde, 2014). When access to new knowledge is the key requirement, then the structural importance of bridging weak-ties across structural holes increases (Burt, 2000). The relational and cognitive dimensions of social capital however are concerned with the development of socially normalised common meanings and values, and the establishment of trust. These elements, as noted earlier, underpin the bonding form of social capital, which is dependent on close-ties formed over time (Coleman, 1988; Granovetter, 1983) and is most suited to problem solving. Meehan and Bryde's results may be interpreted therefore to indicate that close-tie, problem-solving capital is not significant to sustainable procurement, but that broad access to emergent knowledge is significant.

These results contrast with the Tsai & Ghoshal study examining the effects of these social capital dimensions on value creation within a global electronics company (Tsai & Ghoshal, 1998). Here the relational dimension was most strongly linked to knowledge generation and ultimately to value creation. The structural and cognitive



dimensions are found to be significant mainly for their indirect contribution via enhanced relational capital. This link between relational trust and knowledge accumulation, particularly tacit knowledge, demonstrates the benefits of bonding social capital. The two studies therefore may be considered each to demonstrate the different contributions expected from the bridging and bonding forms of social capital. The different outcomes that resulted from studies using the same models may also suggest that different processes are in operation and therefore that further understanding of process is critical if the models are to be useful.

In a further example, a different outcome again is reported. In a study examining local government performance in the U.K., Andrews (2010) found that the relational and cognitive dimensions of social capital had significant effects on service performance, but could not establish the expected link with the structural dimension. The study suggested that this may indicate that individuals were exploiting weak-tie social capital for personal career related ends, rather than for organisational benefits. There may also be a further contextual explanation. The findings may also indicate a lack of knowledge diversity in the relatively homogenous community of local-government that does not give rise to the same level of innovation benefits that may have been expected in a more heterogeneous community. The benefits of a weak-tie network internal to the community may thus be compromised.

#### **2.10.6 Summary of social capital in a supply chain context**

The original principles underpinning social capital have been developed in a wide variety of social contexts. Authors have identified additional factors on which social capital production may depend (Adler & Kwon, 2002), and others have proposed three different categories of social capital (Nahapiet & Ghoshal, 1997). Arguably though little fundamental has changed over the last 30-40 years in that two fundamental characterisations persist, much as proposed by Granovetter (1973). In the first, tightly-knit groups of highly socialised members share a common set of values and beliefs and are willing and available to help resolve issues pertinent to the group. In the second, benefits are recognised through the maintenance of a diverse set of weak social relationships with dissimilar and otherwise disconnected groups. The bridging of such groups provides widened access to knowledge and practices to which group members would otherwise not have access. The establishment of bridges across structural holes

in sparse networks is particularly associated with value-adding innovation. However, even highly contemporary research is still not agreed on the effects of social capital in business or business to business contexts, with the result that uncertain and unexpected results are still reported.

### **2.10.7 Countervailing social capital effects on value from innovation**

One of the routes through which social capital facilitates the creation of other forms of capital is through innovation processes. The bridging and bonding forms of social capital however provide different and ultimately countervailing benefits that have led to a number of studies reporting inverted ‘u’ shaped results in which an unexpected decline was observed beyond the anticipated positive relationships. Although these studies utilise different constructs, the effects reported appear to have common roots in social capital.

Innovation value may be facilitated by a diverse set of weak-ties through which productive links are established that result in new ideas, sourced from people with different experience, mind-sets and knowledge. This access to new ideas is in contrast to the effect that arises over time in highly bonded groups where new ideas are progressively more difficult to generate, as firstly the group shares existing knowledge and normalises a common understanding, but also as the group abrogates creative abrasion in favour of group harmony (Skilton & Dooley, 2010). Although weak-ties alone may be the source of simple, easily transferred ideas the situation with complex or highly technical information is different. Complex knowledge transfer requires a common level of language and basic understanding to be established before the receiving organisation is able to assimilate further ideas. More closely bonded relationships enable a high-level bonding, trust and shared cognition to be established. Rich-ties (Aalbers et al., 2014) in which actors are linked by multiple routes help to enhance the bonding process and facilitate complex knowledge transfer. At the same time however, diverse knowledge sources are the source of much innovative new knowledge. The more distant the source of knowledge, the more innovation potential it may have, but also the more difficult it becomes to understand and to realise that potential. This distance has been termed *cognitive distance* and been shown to have an inverted ‘u’ shaped relationship with organisational learning (Enkel & Heil, 2014).

An organisation's ability to absorb learning is its absorption capacity. To a limited extent organisations potentially may improve their absorption capacity, and thereby shift the curve toward an improved learning outcome, but still reach a point at which the cognitive distance is too great, and the giver and receiver of knowledge are too weakly related for knowledge transfer to be possible. Similar inverted 'u' shaped results are reported between search strategy and innovation performance (Laursen & Salter, 2006) and between the level of social interaction and innovative value creation (Molina-Morales & Martínez-Fernández, 2009). In the first case organisations are shown to benefit from adopting open-innovation practices in drawing on ideas from external sources, but a tipping point is soon reached at which point the strategy becomes counter-productive as both the search costs escalate (Laursen & Salter, 2006) but also as the cognitive distance increases. In the second case, the extent and frequency of interaction and accumulated trust are partially associated with innovation value; operationalised as new or significantly improved products or services. In this case the reverse effect of the same tension between the bonding and bridging effects of social capital is exhibited, as value is at first enhanced by an increase in social interaction, which may be expected to enhance tie richness, but soon reaches a point after which the groups become too closely bonded and innovation performance is inhibited.

Organisations should therefore no longer consider innovating alone (Pisano & Verganti, 2008) and need to ensure that they seek ideas from broad enough sources, both internally and externally (Hansen & Birkinshaw, 2007), whilst also ensuring that they have an absorptive capacity appropriate to the complexity of knowledge being assimilated. The absorptive capacity needs to be sufficient not just to transfer the knowledge into the organisation, but also so translate this into tangible value, something which many companies do poorly (Hansen & Birkinshaw, 2007). The size of collaborative groups may vary from the simple closed dyadic relationships associated with delivery partnerships (e.g. Spekman & Carraway, 2006) to large open collaborative networks. Companies need to ensure that the social capital advantages inherent in open innovation are balanced against risks associated with leakage of intellectual property as well as free loading where members of collaborative groups reap the rewards whilst making only a minimal contribution. Open innovation may also be inappropriate in knowledge intensive collaboration in which only the "best

players” are selected (Pisano & Verganti, 2008, p. 81). Collectively these issues drive organisations toward closed, invitation-only collaboration structures.

## **2.11 Knowledge and learning**

Three major categories of collaborative value were inductively indicated by the grounded theory analysis: financial value, social capital and human capital. In this section literature on human capital is reviewed in the context of collaboration.

### **2.11.1 Human and intellectual capital**

Human capital is created by changes in people that enhance their skills and capabilities such that they are able to perform in new ways (Coleman, 1988). These changes are the outcome of learning processes through which individuals acquire new knowledge and skills. Learning processes comprise cognitive and behavioural elements through which individuals’ understanding and actions respectively are modified (Beesley, 2004).

In contrast to social capital that is considered to inhere within the relationships between actors, human capital is embodied within individuals. Knowledge and skills may also be accumulated by social collectives, and in this context the term intellectual capital has been suggested as the collective equivalent to human capital in individuals (Nahapiet & Ghoshal, 1998). Social collectives in a knowledge context include organisations, professional practices and intellectual communities (Nahapiet & Ghoshal, 1998). Knowledge, and the ability of organisations to learn provides an important basis for modern competitive advantage (Beesley, 2004).

### **2.11.2 Actor levels**

Responding to a gap in the literature that explains how knowledge moves between layers of social collectives, Beesley (2004) proposed a four layer onion-ring model in which knowledge is established first at an individual level, before then being absorbed at group, organisation or network levels. A key principle claimed in this model is that learning must be established at each lower level before it can be absorbed by the next layer.

Learning is considered to have occurred at group, organisation and network levels only when both cognition and behaviour of the entity has changed (Knight & Pye, 2005). This characteristic of embedded learning means that any social collective is more than just the sum of its members' knowledge (Dodgson, 1993), and suggests that behavioural changes survive changes in the collective's membership. Changed behaviour must be extensive and sustained to constitute a learning outcome for a particular collective (Knight & Pye, 2005). A sustained change within a limited section of a business would therefore be considered to constitute group, rather organisational learning, unless adopted extensively within the organisation. Whilst learning outcomes need to be extensive with respect to an actor domain, the processes through which these outcomes are established, are localised (Knight & Pye, 2005). This distinction itself becomes a potential problem in larger organisations and in complex networks, where dynamic learning processes may be expected to occur at different rates in groups across the entity, leading to the possibility that early-adopter groups have already evolved further whilst earlier learning is still being absorbed by late-adopter groups. In such a system it may be impossible to establish that any learning outcome has met the 'extensive and sustained' criteria. The lack of definitive structure in professional practice groups also contributes to a difficulty in bounding the group in which a behavioural change is being assessed (Knight, 2002). Human and intellectual capital are valuable resources and the basis for productive action (Nahapiet & Ghoshal, 1998), but the learning process through which they are established is not necessarily linked with improved performance (Knight, 2002).

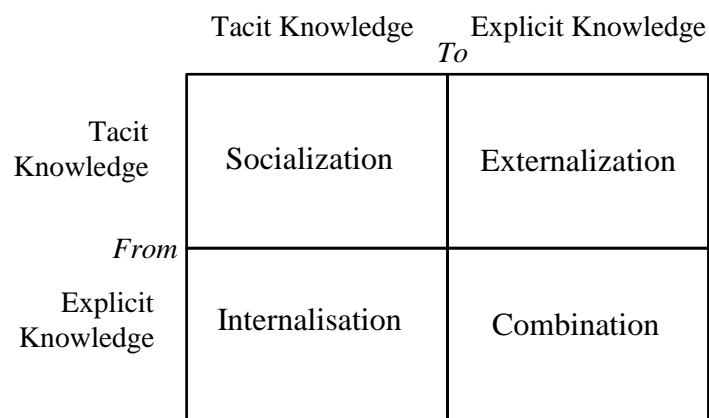
Although knowledge and learning are distinguished from social capital, there is nonetheless a dependency where collaborative knowledge building is predicated on inter-actor trust established through the relational dimension of social capital (Dodgson, 1993). Trust is established by intense interaction that is a characteristic of partnership style collaboration and has the potential to provide organisations with additional unenvisioned knowledge through indirect access to a partner's other collaborative relationships (Ahuja, 2000). The value however of this knowledge to an organisation is reduced in progressively more densely connected networks, because competing organisations are likely to have access to the same information. Knowledge utility is likely to be much higher where access is gained through indirect links to organisations that are not otherwise connected to the organisation's competitors

(Ahuja, 2000). These structural conditions, Ahuja (2000) finds, are more likely to pertain for organisations that have a relatively low number of intense direct relationships and therefore that have more incentive and capacity to pursue their indirect links. The quality of shared information is also likely to be affected by the path length of indirect links; the longer the path or *reach*, the slower and more distorted the information (Schilling & Phelps, 2007). In their study of innovation in collaborating networks, Schilling and Phelps (2007) identified *clustering* and *reach* as two particularly important characteristics of network structure that impacted innovation effectiveness. Clustering increases the information transmission speed and capacity of a knowledge network as similar or proximate organisations naturally interact more intensely and frequently (Schilling & Phelps, 2007). Cognitive and physical proximity are important particularly where knowledge being transferred is either tacit or complex because the underlying transfer processes are social. Knowledge is established by individuals not organisations, but organisations provide a context in which information is iteratively established and amplified (Nonaka, 1994). In Nonaka's model of learning it is proposed that knowledge is progressively established at group and then organisational levels via a spiralling process through which knowledge is transformed between tacit and explicit forms during its communication between individuals and its further development (Nonaka, 1994).

### **2.11.3 Tacit and explicit knowledge continuum and the learning spiral**

Since the recognition of the distinction between explicit, codified knowledge and tacit, non-codified knowledge, most frequently attributed to Polanyi (1967), the nature of knowledge and the processes of its creation and exchange have been extensively debated. The process by which tacit knowledge is transferred between people has provoked particular interest because, by definition, tacit knowledge cannot be readily articulated. Nonaka (1994) rejected the notion of tacit and explicit knowledge as a distinct dichotomy, and instead proposed a single knowledge continuum, of which tacit and explicit knowledge formed the extremes. Four types of knowledge exchange: socialization, externalisation, internalization and combination were proposed by Nonaka to cover the respective scenarios of tacit-tacit, tacit-explicit, explicit-tacit and explicit-explicit exchange respectively (Figure 4). Through these processes individuals create and exchange knowledge, but the effective dissemination of

knowledge across an organisation requires a complex interaction between all four processes, through a spiralling process, in which knowledge is repeatedly transformed between tacit and explicit states (Nonaka, 1994). From this connected continuum perspective, tacit and explicit knowledge are inseparable and it is through the complex interaction between them that knowledge creation and transmission is enabled (Nonaka & Von Krogh, 2009).



**Figure 4 - Modes of Knowledge Creation (Nonaka, 1994)**

The cyclic nature of this process helps to account for why it has been observed that the transfer of complex and tacit knowledge “is aided by intensive, repeated interaction” (Molina-Morales & Martínez-Fernández, 2009, p. 1015). To the extent that actors cooperate in such interaction, the process of knowledge exchange may be considered to be fundamentally collaborative. The more tacit the knowledge exchange then the more collaborative the interaction needs to be, and the more it becomes based on shared experience rather than shared language (Nonaka, 1994).

#### **2.11.4 Tie-strength and knowledge diffusion**

Learning at group, organisation and network levels therefore occurs progressively as more and more individuals are drawn into, and contribute to a shared understanding and a commonly accepted set of behaviours. The efficiency and effectiveness of this spiralling process of knowledge diffusion depends on the technical complexity and the tacit content. Transfer of complex knowledge, or highly tacit knowledge, requires stronger ties between the knowledge source and recipients (Hansen, 1999). Strong ties

ensure not only that trust and commitment are established between members of a bonded team, but most importantly that shared cognition is achieved (Nahapiet & Ghoshal, 1998). Whilst strong inter-organisational ties have been described solely in terms of formal contract structures with defined roles and responsibilities (Schurr, Hedaa, & Geersbro, 2008), complex knowledge absorption requires a common level of understanding and language, including shared meanings, which cannot be guaranteed through structure alone. Organisations that collaborate externally need to consider applying similar community of practice principles to their inter-organisational teams as they do to internal teams if they wish to increase their absorptive capacity (van Winkelen, 2010). Communicating individuals in these teams need both to have the ability and motivation to effect knowledge transfer (Hansen, 1999). Individuals and managers involved in complex knowledge transfer need also to have strong subject matter knowledge, as was illustrated in an intra-organisational context where Martin and Eisenhardt (2010) unexpectedly found business-unit centred collaboration to be more effective than at a corporate level. They report a “misunderstanding of the intricacy of collaboration” (Martin & Eisenhardt, 2010, p. 266). In the context of the software industry where the importance of subject specific knowledge is high, business unit managers were found to be more effective managers of collaboration projects than executives, who were relatively distanced from the detailed subject matter.

## 2.12 Orchestration

In truly collaborative multi-organisational peer groups in which power is abrogated in favour of cooperation and trust (Hardy et al., 2005), coordination of group’s activities becomes a challenge. In innovation networks, it has been suggested that a focal or hub organisation needs to assume the mantle of a non-dominant orchestrator of value enhancing activity (Dhanaraj & Parkhe, 2006; Nambisan & Sawhney, 2011). Orchestrators need to recognise knowledge as the chief currency, and need to recognise three main functions: knowledge mobility, innovation appropriability and network stability. Knowledge mobility needs to address the ease with which knowledge is shared between collaborators, and needs to enhance absorption into organisations through socialisation and increased commitment achieved by reinforcing a common identity. Suitable management practices help to maximise the total value created whilst maintaining perceptions of distributive justice, whereas enhancing



network stability depends on reinforcing organisational dependency and commitment. In particular the orchestration role needs to recognise the weaknesses of loose-coupling (diffuse network structure and weak-ties), that are likely to exist in larger more open structures for their impact on network stability (Dhanaraj & Parkhe, 2006). Hub orchestrators can operate either as an integrator, providing the technology architecture and infrastructure and controlling the resultant products and associated value appropriation, or they can act as a platform leader in which they facilitate and steer innovation and the creation of complementary products, with partner value appropriation occurring through open market mechanisms (Nambisan & Sawhney, 2011). However, whilst it is appealing to consider that a single focal actor would recognise the need, and fulfil the obligations of an orchestrator, it is not difficult to imagine circumstances in which, either more than one, or no obvious or acceptable orchestrator exists, especially in commercial contexts where an orchestrator may derive more commercial advantage than the rest of the group. Innovation networks may be difficult to orchestrate (Desouza et al., 2009) or impossible where a typical network is recognised to be the outcome of actions and ambitions of a number of its members, in which no single company is the hub (Håkansson & Ford, 2002).

In contrast to the orchestration of commercial collaborating groups, Gray (1985) studied collaboration as a preferred alternative to adversarial dispute resolution in complex, multi-organisational, high-dependency relationships. In these complex problem domains the role of a *convenor* is recognised to ensure that the right conditions for collaboration are established, and that stakeholders are committed to working cooperatively. The convenor role may be performed by a central umbrella organisation, if one exists in the problem domain, otherwise one needs to be identified that all stakeholders agree has the legitimate authority to organise the domain (Gray, 1985). Although the priority for the convenor differs from that of the orchestrator, in that the primary focus of the convenor is dispute resolution and removal of disablers, rather than exploitation of opportunity, there is much the roles have in common. Orchestrators, like convenors, must be accepted in their role by all parties for them to be able to perform their network stabilising function.

## 2.13 Locus of collaborative value

Three bodies of literature that provide different perspectives on collaborative value have been reviewed in this chapter. There are important differences embedded within these perspectives concerning the actor level at which created value is located. Commercial value, social capital and knowledge capital each exhibit different profiles with respect to individual, group and organisational actors.

The definitions of commercial value, reviewed earlier, typical are aligned with organisational actors. Value equations, for instance, (e.g. Blois, 2004) separately consider value accruing to buyer and supplier organisations. A deeper analysis of value sources however, especially of *indirect* value sources (Walter et al., 2001), suggests that an inter-organisational actor level should also be considered. Indirect value to suppliers in dyadic relationships, for instance, includes reputational enhancement, market knowledge and enhanced access. Although these sources of value are considered to be organisational assets (Walter & Ritter, 2003; Walter et al., 2001), their continued existence depends on the relationship and its underlying inter-personal relationships. Staff changes in the buying organisation could reduce access and reference value to the supplier.

Social capital meanwhile, is described as an asset located in personal relationships (Coleman, 1988). In the case of bonding social capital, spanning closely socialised groups, the asset may be considered genuinely to be a group asset as the values and behaviours survive changes in group membership as new members quickly learn and adopt the social practices and values of the group (Korte & Lin, 2013). In the case of bridging social capital, this also is relationally centred, but only at a dyadic level with each bridge representing a relationship between two individuals.

Knowledge and embedded learning can be individually located in the form of human capital (Coleman, 1988), or considered to be located within a collective (Spender, 1996), or an organisation (Tsai & Ghoshal, 1998). The collaboration literature is notably vague in its treatment of groups or social collectives. The implication of models such as Beesley's levels of learning (Beesley, 2004), is that groups are intra-organisational and a fractional part of organisational entities. The reality for business to business collaboration is likely to be more complex however. Collectives that cross organisational boundaries are recognisable where operational teams span multiple

organisations and in the case of communities of professional practice. In small organisations there may also only be one effective social group, such that group and organisation levels may therefore be the same, whilst at the opposite extreme, very large divisional organisations may be sufficiently diverse that different divisions could be regarded as separate organisational entities when considering embedded learning and the innovative potential of bridging social capital.

## 2.14 Summary

This chapter introduces a conceptual framework that was developed progressively during the study in accordance with grounded theory's theoretical sensitivity principles. As a widened body of literature was engaged by the study, social capital literature and knowledge and learning literature were engaged in addition to the initially engaged bodies of collaboration and value literature.

The collaboration literature was sub-divided in recognition of (at least) two major traditions with different perspectives on collaboration and which cover different contexts. In the first, the organisational studies literature takes a relatively broad perspective on collaboration behaviour in which human actors feature prominently, particularly with respect to learning and knowledge transfer processes. Many of these studies are set in intra-organisational contexts and some specifically exclude certain types of inter-organisational contexts. In the second, the partnering and supply chain literature adopts a more constrained perspective, with organisations as the unit of analysis. These studies are predominantly focused on vertical supply chain relationships rather than horizontal collaborations and concentrate on the operation of existing partnerships above the circumstances of their formation.

In the context of business to business collaboration, the review of value literature serves to emphasise the wide spectrum of possible benefits. The review however, also highlights that the client-side priority for much contemporary value literature needs to be ameliorated if the concept is to have utility in demonstrating mutually satisfactory outcomes for collaborating partners.

In the social capital literature the contrasting forms of bridging and bonding social capital are reviewed in the context of inter-organisational collaboration. These types

of social capital are potentially valuable to collaborating parties in different ways. The somewhat dialectical nature of these forms is considered in the context of several empirical studies of social capital in business contexts, and helps to explain the inverted ‘u’ shaped results curves noted in several quantitative studies, unexpectedly in several cases.

As the importance and location knowledge was established during the category elaboration stage, existing literature on knowledge creation and learning processes was engaged. The difference between tacit and explicit knowledge, and the processes through which they may each be transferred between people, is highly relevant in a collaboration context.

Collectively, the review highlights extensive bodies of literature pertaining to knowledge and learning, social networks and social capital, and factors affecting inter-organisational collaboration. However, both supply-chain and strategy literature have focused on collaboration at an organisational level, such that the role of individuals and social processes in collaboration has “largely escaped scholarly attention” (Schillebeeckx et al., 2016, p. 1494). This underplaying of the role of individuals, also echoed by others (Emberson & Storey, 2006; Gligor & Autry, 2012), is the result of considering organisations to be populated by a homogenous, malleable and randomly distributed group of individuals (Schillebeeckx et al., 2016) that ignores individual characteristics and preferences. This perspective of organisations as groups of virtual individuals is not necessarily wrong but is insufficient (Emberson & Storey, 2006) for a detailed understanding of the effectiveness of collaboration processes. Accordingly, this study seeks to establish a deeper understanding of the social processes through which the effectiveness of business collaboration may be enhanced.

In these first two chapters, the research scope and the associated conceptual framework have been introduced. In the next chapter, the research philosophy, research design and detailed method application are considered. In subsequent chapters the findings are presented and then discussed. In the concluding chapters the practical and theoretical contributions from the study are discussed along with calls for further related research.

## Chapter 3. Research design and application

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This study seeks a better understanding of the social processes through which collaborative business relationships are formed and developed, such that the effectiveness of those processes may then be enhanced through that understanding. The value concept is adopted to ensure that factors affecting processes are assessed from a commercial perspective, whilst the objectives include an intention to extend collaboration theory.

The research concerns social interaction in which the actions of one actor follow the interpretation and meaning attributed to the action and language of other actors (Delanty, 2005). Unlike the natural sciences, for which an objective reality is often claimed to exist, independent of human perceptions of such a reality, studies of social science and social interaction are constructed by, and imbued with meaning, solely by human actors. The underlying ontology of interpretivism (alternatively referred to as constructionism) is one in which social reality is an interpretation of the meanings of actors (Bryman, 2015). The difference between an interpretivist philosophy and the positivist philosophies associated with the natural sciences is encapsulated within the German terms *verstehen* and *erklären* (Johnson & Duberley, 2003, 2015). The former represents subjective, empathetic understanding associated with interpretivism, whilst the latter, represents the rules and facts associated with objective science.

This study therefore adopts a constructivist research paradigm, consistent with an enquiry aim related to understanding (rather than causality), in which knowledge is sophisticated, constructed and dynamic, rather than being established as laws or facts (Guba & Lincoln, 1994). Of the potential range of interpretivist methods, grounded theory was selected (the reasons for which are explored in further detail in section 3.2.2).

The constructivist philosophical position has implications for how a grounded theory study is undertaken, especially with respect to the way the field is engaged.

Accordingly, the method variants are examined at some length, in section 3.3, to highlight the differences and to reveal the practical consequences.

## **3.1 Chapter Structure**

The rest of this chapter is divided into sections covering research design, method issues, method application, quality and ethics. The design section begins with a researcher reflection on personal values and beliefs, to ensure their compatibility with the selected philosophy, before then briefly presenting a range of interpretive methods from which grounded theory was selected.

In the second section, there is an extended discussion of some of the controversial issues surrounding the method and it is here that justification is made for use of a contemporary variant. As part of that discussion the chosen variant is aligned with the philosophical research stance outlined above.

In the third and largest section, extended details are provided on how the method was applied in practice and how the NVivo® software tool was used in support of the method. This section covers the main method application stages of data gathering, analysis, conceptualisation and theory presentation. The analysis description covers both the coding of texts and the production of Situational Analysis maps.

In the following sections, the approach taken toward quality assurance and ethics is described. A quality approach, suited to qualitative research, is described that draws on the trustworthiness criteria proposed by Lincoln and Guba (1985).

## **3.2 Research Design**

It is recognised that researchers all enter the field with prior beliefs and philosophical assumptions that can affect the method choice (Creswell, 2013). The method choice must be congruent with the study objectives and the underlying research philosophy. Accordingly, this section reflects on the philosophic stance and the choice of research strategy compared with other prominent candidates. The purpose of this reflection is primarily to ensure that the method is closely aligned to the research objectives and the context (Taylor & Taylor, 2009), but also to ensure paradigmatic alignment in the overall research approach such that the method chosen is likely to achieve its aims. In beginning the chapter with a reflection on the researcher's preconceptions and

epistemological position, followed by a review of research approaches, this approach follows the initial three phases of the research process, as proposed by Denzin and Lincoln (2011).

### 3.2.1 Personal reflection

In this section, a summary is presented of the researcher's underlying beliefs that have influenced the choice of research paradigm. This statement is drawn from a reflective memo (Charmaz, 2014) drafted at the start of the research. Reflection is an important skill in interpretive research (Johnson & Duberley, 2015) and helps to ensure that decisions and actions are continually assessed to ensure that method choice and application remain consistent with the research objectives, and the declared research philosophy. In this excerpt the author describes a gradual ontological shift towards interpretivism and an appreciation of multiple socially constructed realities in which individuals each develop their "own sense of reality" (Collis & Hussey, 2009, p. 59).

In the context of this study, I adopt a strongly interpretivist philosophical stance and a social constructivist epistemology. I do not however consider myself wedded to an interpretivist stance, indeed having undertaken a science bachelor degree and then pursued an early career as a computer systems designer specialising in systems modelling techniques, I recognise the benefits also of positivist approaches under appropriate circumstances. It was as my career evolved and my roles became more consultative that I became progressively more aware of human behaviour and its impact on business, especially in inter-organisational contexts. Not only is human behaviour complex, highly varied and unpredictable but also it evolves through social interaction, as social groups negotiate common understandings of phenomena. I do not see this wider recognition as a conversion from positivism to interpretivism, but rather as a broadened perspective associated with a more open-minded attitude to other people's interpretations of phenomena. Such a position suggests an underlying ontology that is close to Bhaskar's critical realism.

The researcher in this study also enters the field as an experienced practitioner. This experience is, on the one hand, of benefit because familiarity with terminology and common issues, enable deeper more meaningful dialogue to be established quickly, but could also be a limitation should preconceptions either bias a positivist study, or

inhibit the insights gained from an interpretivist study. The issue of prior knowledge is recognised at this point and then explored in depth in the main methods section where it was a factor in the choice of a constructivist method. This philosophical stance, and the method selection described below, are all consistent with a constructivist research paradigm (Guba & Lincoln, 1994). The constructivist paradigm is also considered, in section 3.3, to have advantages with respect to its positioning of the experienced researcher as an active participant and facilitator of “multi-voice reconstruction” (Guba & Lincoln, 1994, p. 112).

The constructivist philosophy combined with the theory generating objectives are particularly suited to qualitative methods, rather than to theory testing quantitative designs (Bryman, 2015). Qualitative techniques help researchers to achieve an enhanced understanding of people’s experiences, opinions, feelings, behaviours and actions through the gathering and analysis of human social communications (Patton, 2002). In the following section, leading approaches in the qualitative tradition are contrasted and the reasons for the study’s method selection are discussed.

### **3.2.2 Range of qualitative approaches**

Within the qualitative tradition there are a wide range of methods and methodologies in existence across the social sciences. Wertz et al. (2011) suggest five main approaches that achieved prominence in the 1970’s and that have since largely remained independent of each other. They propose phenomenological psychology, grounded theory, discourse analysis, narrative analysis, and intuitive inquiry. The Wertz et al classification is produced with a particular focus on psychology, but like many other typologies of research approaches, it is broadly applicable across the social sciences. This typology is one of many typologies of qualitative approaches that have been developed in the last 30 years, some of which differ notably in their content, whilst others (such as Denzin and Lincoln, 2011) extend their own earlier work. Creswell (2013), reviews a dozen typologies and concludes that common themes are evident, especially when naming variations for similar approaches are accounted for. Creswell abstracts a similar list to Wertz et al. encompassing: phenomenology, grounded theory, ethnography, narrative analysis and case study. In selecting a suitable approach for this study, the features and strengths of these approaches were reviewed against the research aims and objectives.



### ***3.2.2.1 Phenomenology***

Phenomenology describes the study of common meanings shared by several individuals through their lived experience of a phenomenon. The focus is on common experiences and the distillation of a “universal essence” (Creswell, 2013, p. 76). Phenomenology focuses on a particular issue or concept (the phenomenon) and proceeds with partial detachment between researcher and interviewees through a focus on the interviewees’ lived experiences of the phenomenon (Goulding, 2005). Data collection is predominantly through interviews of candidates selected through purposive sampling (to ensure that they have suitable experience of the phenomenon) and the output of the research process comprises a descriptive passage that discusses the essence of what people experienced and how they reacted.

### ***3.2.2.2 Grounded Theory***

Grounded theory has been described as “one of the most popular research designs in the world” (Birks & Mills, 2015, p. 1), though its use in management studies is less evident than in other social science disciplines. The term grounded theory is used to describe both the method itself and the output of the method. A grounded theory is grounded in data derived from theoretically sampled participants who have experienced the process being studied and through this inductive nature, is distinguished from a priori derived theory (Strauss & Corbin, 1998a). Data is typically collected through interviews, supplemented by other sources, from participants purposively selected for their experience of the studied process. Theory may be generated to either a substantive (context delimited) level, or to a more widely generalized formal theory level (Glaser & Strauss, 1967). Grounded theory is well suited to any study of behaviour which includes an interactional element (Goulding, 2005). Different versions of the method exhibit subtle variations in their coding and analysis procedures, but fundamentally still follow common principles through which theory is abstracted from data. The more significant development in recent versions of the method is a philosophical repositioning away from the post-positivist roots of the original authors (Guba & Lincoln, 1994) to a constructivist position espoused by the second generation of grounded theory authors (Birks & Mills, 2015). Importantly, this shift repositions the researcher as an involved and engaged actor within the research process.

### ***3.2.2.3 Ethnography***

Ethnography is a research approach in which the ethnographer seeks to establish the shared and learned patterns of a group, in terms of their values, behaviours, beliefs and language. The term is used to describe both the approach and the descriptive output. The unit of analysis is a culture sharing group and the research process requires deep immersion of the researcher in the day to day practices of the group and the lives of the participants in order to build a complex and complete account of the group (Creswell, 2013). An emic, insider perspective, forms the heart of an ethnography (Goulding, 2005) and is the basis of a rich description of the group culture, whilst through an etic, outsider perspective, researcher explanations and interpretations of participant experiences enable deeper insights to be gained than would be achieved through individuals' accounts alone. Although the combined emic and etic approach elevate the output to a cultural level and in so doing achieve a higher level of abstraction than is attempted in phenomenological study, an ethnographic analysis is typically 'not developed beyond the level of "thick description"' (Goulding, 2005, p. 300).

### ***3.2.2.4 Narrative Research***

Narrative research once again examines people's experiences through the stories of individuals, typically, chronologically ordered. These stories are used to shed light on individuals' identities and perceptions of themselves, as related in interviews, or gleaned through documents. In narrative research attention is paid to different phases and to turning points or specific events that occur in time. Attention is paid to tensions, interruptions, pauses and the targets of statements, as well as their content. A variety of data collection and analysis methods are used but involve "considerable time" (Creswell, 2013, p. 74) with subjects.

### ***3.2.2.5 Case Study***

A Case study strategy focuses on an understanding of the dynamics present in particular settings (Eisenhardt, 1989). A case represents a bounded system but may encompass many subsidiary cases. Cases may be bounded by structure, place or time (Miles & Huberman, 1994). The intention of a case study may be in relation to a specified problem, or it may be features of the case itself that are unusual. Cases selected to investigate specific problems are instrumental cases, whilst unusual or unique cases are termed intrinsic cases. Multiple cases that illuminate a single issue

represent a collective case (Creswell, 2013). Case studies may be used to generate descriptive output or as the base for theory development (Eisenhardt, 1989).

### **3.2.3 Selected approach**

The brief review of qualitative approaches illustrates many commonalities especially in data gathering, data coding and data analysis procedures. It is unsurprising that in a practical comparison of methods, undertaken on the same data set, one study found that its initial results revealed many similar insights (see Wertz et al, 2011). At later stages however, more substantial differences were manifest. Phenomenology analysis procedures for instance were noted to be very similar in the early stages to others including grounded theory, but phenomenology is essentially descriptive and supposes that experience is “intrinsically intelligible” (p. 281) without theoretical modelling, whereas grounded theory moves “briefly through descriptive reflection toward higher-level abstractions” during which explanatory models may be constructed.

Grounded theory was chosen in this study as the most suitable fit to the research objectives because of its process focus, sampling approach and theory generation capability. The focus on process and action helps to ensure that collaboration-as-action is maintained as the central theme, above actors, structures or issues that are the central focus of other research strategies. The theoretical sampling process of grounded theory ensures that a suitable variety of examples are engaged, without being limited to either a pre-determined cultural group, or a case oriented group. Forms of narrative research could also have been used to achieve the objectives, but their strength lies in the historic analysis of phenomena punctuated by key events, incidents or turning points that characterise key decision making. The grounded theory focus on basic social processes was considered to be more relevant to the study of ongoing collaborative behaviour, than methods focusing on key events or incidents.

## **3.3 Grounded theory discussion**

As grounded theory is a complex and controversial method, with several different variants, it is important that variants and controversial issues are discussed to provide confidence that the most appropriate variant has been selected and that the practical implications of this choice are recognised. Grounded theory is a popular method in

the health sciences and much of the social sciences, but its use in management research is still relatively low. This may in part be due to ongoing issues associated with the method and added complexity arising from the existence of at least three major variants. Through an extended discussion, this section proposes that the most recent version is not only well suited to the research of socially complex management phenomena, but also helps to address the more controversial methodological issues associated with the traditional versions of grounded theory. Particular attention is paid to the significance of the epistemological shift towards constructivism because this has significant implications for the way the researcher engages the field, and on the way the resultant data is regarded during analysis. The previously controversial positions associated with grounded theory that the researcher should enter the field without engaging prior theoretical knowledge (the blank slate) and that a dualist detachment should be maintained between the researcher and participants are both rejected by the chosen constructivist version. This section explores the advantages of this philosophical change against the risks and in the final part of this section considers why this shift in thinking could also enable experienced researchers to achieve progressively more insightful theoretical products.

### **3.3.1 Background**

Over the last half century, grounded theory has been the subject of much critical analysis and debate, particularly after new versions were introduced, leading to divisions of opinion amongst proponents, and most notably between the original authors. Glaser's book on 'emergence vs forcing' for instance (Glaser, 1992), contains an extensive rebuttal of many areas of Strauss and Corbin's first book. In this section, the epistemological foundations of the different variants are explored in conjunction with the recurrent themes of debate and controversy which adhere to the method. An argument for a constructivist approach is developed that is relevant both to the objectives and to the research context. Calls for more extensive use of grounded theory in management are highlighted, but previous calls have typically failed to identify the potential inherent in the constructivist approach for researching complex phenomena where existing experience and knowledge are considered to be pre-requisites. Many aspects of grounded theory have attracted extensive debate, and controversy even surrounds its title. Many scholars prefer to reference the method as Grounded Theory Method (GTM), whilst reserving the term 'grounded theory' to describe only the

output. In this discussion, however, the original authors' overloading of the term 'grounded theory' is retained, and applied to both the method and its outputs.

Grounded theory is used extensively throughout the social sciences with over 3,650 papers utilising or discussing the method having being noted by the middle of the previous decade (Mills, Bonner, & Francis, 2006). There remains however a relatively low adoption in management studies where it has been claimed that grounded theory concepts and guidelines are "clearly under used" (Gummesson, 2005). Calls for grounded theory studies continue to be made however, both in management research in general (Cassell, Buehring, Symon, & Johnson, 2006), and across a variety of management disciplines such as marketing (Goulding, 1998; Gummesson, 2005), logistics (Mello & Flint, 2009), operations management (Binder & Edwards, 2010), and supply chain management (Kaufmann & Denk, 2011). These calls are consistent in identifying the potential inherent within the method for providing insights into management phenomena in which human interaction features prominently; a bracket into which business to business collaboration falls by definition. Grounded theory's foundation in symbolic interactionism makes it well suited to studies of human interaction in general, but it is also particularly well suited to studies which consider the ways in which individuals interpret reality (Suddaby, 2006), and how they interpret each other's behaviour (Kaufmann & Denk, 2011).

Grounded theory may be generated in many different disciplines, and in both new and well researched areas. The method is traditionally associated with theory generation in under researched areas (Binder & Edwards, 2010), but its utility for elaboration of existing theory has also been emphasised (Corbin & Strauss, 2014; Stern, 2009; Strauss & Corbin, 1994). Grounded theory has for instance added new insight to well researched B2B phenomena such as logistics (Mello & Flint, 2009).

Grounded theory is neither a simple nor uncontested method. At least three major variants of the method exist, and differences in opinion, particularly between its original 'fathers', Glaser and Strauss, have been widely published and discussed in the literature (Walker & Myrick, 2006). As well as potentially inhibiting the wider uptake of the method in management studies, these differences also may have contributed to its poor or misguided application (Goulding, 2005; Suddaby, 2006). It has been noted that with the emergence of more than one approach to developing grounded theory it

is particularly important to establish at the outset which version is being utilised and the ontological and epistemological basis which has informed the choice (Fendt & Sachs, 2008).

### 3.3.2 Grounded theory variants

The ‘Discovery’ of grounded theory (Glaser & Strauss, 1967) was announced over 40 years ago through the publication of that seminal text. The book addressed a need at the time for a qualitative method which would lead to the generation of new theories that were traceably grounded in data, and through a sufficiently verifiable process that would be acceptable to academics of the era (Strauss & Corbin, 1994). The book combined Glaser’s positivist sociology background at Columbia University, an institution with a reputation in formal theorizing (Mello & Flint, 2009), with Strauss’s background in symbolic interactionism at the University of Chicago. Symbolic interactionists consider that it is an individual’s interpretation of reality, socially grounded in words, meanings and languages that shapes their behaviour when interacting with the world (Kaufmann & Denk, 2011). The resultant method provides a rigorous process for generating theories relating to social interaction that, manifestly, were derived from data.

It was a recognition of practical issues encountered by students and researchers in applying the principles that led Strauss, over 20 years later, toward the publication of a researcher handbook (Strauss & Corbin, 1990, 1998a). This text was not intended to provoke controversy nor to re-define the method, but to provide guidance and a set of tools to facilitate its application (Corbin, 2009). The first version of the handbook prompted a spiralling dispute with co-founder Barney Glaser and led to the publication of an extensive rebuttal of the Strauss and Corbin version (see Glaser, 1992). The differences between these positions are largely technical rather than epistemological with both variants being considered to follow a post-positivist paradigm (Guba & Lincoln, 1994), and an objectivist epistemology (Charmaz, 2003).

A third major branch of Grounded Theory was established with the publication of a constructivist version of the method (Charmaz, 2006). This more radical departure deliberately re-positions the research paradigm away from its *objectivist* origins to one in which meanings and feelings, and their situational grounding take precedence over the establishment of facts that earlier versions imply to exist. The associated

recognition that the product of researcher interactions with respondents is socially co-constructed, represents a significant move away from the dualist detachment advocated by the original authors. Constructivism empowers researchers to pursue deeper and more interactive dialogue with their contacts, and to explore issues in greater depth through a more active discourse. The method in its constructivist guise is described as being “profoundly interactive” (Charmaz, 2009). In this version significantly, data is not passively collected, but instead is recognised as being actively constructed.

The constructivist position has gained wide acceptance amongst many leading grounded theorists (Clarke, 2003), including Juliet Corbin (Corbin, 2009) especially in health and wellbeing disciplines, but is conspicuously absent from reviews published in management literature (e.g. Suddaby, 2006; Wagner, Lukassen, & Mahlendorf, 2010). This seems to represent a significantly missed opportunity in a discipline in which researcher subject knowledge may be a particularly important element of socially connoted management research. For a researcher investigating complex, subjective or even emotional phenomena to be able to establish a productive dialogue with interviewees, the researcher may need to demonstrate sound knowledge of that sector including: terminology, specific legislation, typical business processes, personnel issues, and prevalent technology. Interview based data gathering provides only a relatively short capture window, compared with ethnographic approaches. It is important that interviews establish deep and meaningful dialogue at the earliest opportunity, and are not constrained to descriptive sessions, covering background information.

### ***3.3.2.1 Elements common to all GT variants***

Before exploring further, the paradigmatic differences between the method variants, and the implications these have for the research process, it is important firstly to establish the characteristics which should be common to any grounded theory approach, and which distinguish it from other interpretive methods.

The main elements common to at least the three major variants reviewed here are those of: constant comparison, theoretical sampling; iterative and inter-related data gathering and analysis; conceptualisation, and theory generation grounded in data. Collectively these elements define a grounded theory approach. Grounded theory

researchers generally would also normally be expected to expound their approach to theoretical sensitivity (Suddaby, 2006). Variants of grounded theory differ in their approach to the researcher role during data gathering, to the way tools are used during analysis, to the way risks to the conceptualisation process are managed, and to the generalizability of generated theory. The common purpose of all variants however is to generate theory grounded in data, and it is this which is the key discriminant from phenomenological approaches (Goulding, 2005).

### 3.3.3 Epistemology alignment

The ontological and epistemological differences which lie at the heart of debates on grounded theory variants, have implications for research practice, particularly with respect to the relationship between researcher and participants. A fundamentally different data gathering philosophy is indicated when adopting a constructivist rather objectivist philosophy (Cassell, 2005; Charmaz, 2003).

The original ‘Discovery’ of grounded theory (Glaser & Strauss, 1967) has been characterised as pursuing a post-positivist paradigm (Creswell, 2013; Guba & Lincoln, 1994) because the method is considered to be founded on an ontological assumption that an objective reality exists independent of the researcher. The authors’ frequent use of terms such as *emergence* and *discovery* of theory add to suggestions of a passive researcher role in revealing a pre-existing truth. A realist ontology it has been said, mandates an “objective detachment” between researcher and participants (Guba & Lincoln, 1994, p. 108), and this in turn requires dualist data gathering methods in which potentially confounding factors are controlled. It is the belief that it is even possible to measure and assess such a reality without influencing it, that characterises a positivist or post-positivist approach (Guba & Lincoln, 1994). For others any form of human discourse, such as an interview or a focus group, constitutes social interaction in which by definition the researcher plays some part in the co-construction of outputs (Charmaz, 2003). This difference is significant for any research in which the researcher needs to interact closely with participants in order to clarify points; explore sincerity and the evidential background of expressed opinions, or to explore potentially value laden phrases which may otherwise remain superficially expressed. Glaser advocates a primarily passive approach to data gathering: “much GT interviewing is a passive listening” (Glaser, 2002, p. 29), but this arms-length approach



may constrain the researcher to prompting passages of monologue response. There is a risk that without challenge and exploration, passively received input may cover only superficially held views and feelings. These data may be valuable in research into phenomena centred on the individual, such as in mental health studies, but ultimately will lack richness and may fail to explore the depth of phenomena relating to collaboration within social groups. An active dialogue contrastingly, may be considered to have significantly greater potential in revealing insights into business collaboration; a phenomenon in which human social interaction is a central component (A. Bryant, 2003; Charmaz, 2003). The passive, dualist interviewing approach with its belief in objective independence has been described as being “shattered”, even with respect to the physical sciences (Guba & Lincoln, 1994, p. 107). Guba and Lincoln (1994), go on to suggest that especially for the social sciences, more plausible findings result from passionate and interactive data gathering sessions.

Constructivist grounded theory rejects the need for researcher-participant separation and instead recognises the output from interviews and focus groups as being a social construction and analyses it accordingly. In this respect, the constructivist approach exhibits a pragmatic mind-set in which the inevitability of the researcher having an impact on the field is not only recognised but exploited for its advantages. Threats to data quality are managed through reflexivity (Charmaz, 2006, p. 188), supported by memo writing and analysis, to ensure that new insights are not constrained by pre-conceptions and prior knowledge. These processes help to manage the risks which have been extensively outlined by Glaser, that pre-conceptions may result in data forcing (Glaser, 1992). As a result the constructivist researcher is liberated to pursue active engagement with participants and undertake an intensive and emergent line of questioning which goes beyond either the prompts of a distanced observer, or even the interaction of polite social conversation (Charmaz, 2006). Charmaz’ position is that “Interviewing is a flexible, emergent technique; ideas and issues emerge during the interview and interviewers can immediately pursue these leads” (Charmaz, 2006, p. 29). Such active exploration is not prohibited by dualists, but the hands-off, passive-listening style of interviewing is likely only to pursue a fraction of the potential leads which a more interactive style would naturally encourage.

An active, intensive interview style is also well suited to the principles of theoretical sampling. Theoretical sampling, common to all grounded theory methods (discussed

further below), directs the researcher not just toward new participants who match emerging criteria of interest, but also informs the line of questioning and topics indicated for discussion with those participants. The “intensive interview” (Charmaz, 2006, p. 28) achieves this second aim through intra-interview, dialogical exploration, as well as through inter-interview sampling, and as a consequence has the potential to deliver a richer and more theoretically valuable output quicker, by exploiting the full potential of each interview.

It is notable and perhaps predictable that whilst the more pluralist constructivists are accepting of the evolution of multiple variants of grounded theory, Glaser has consistently voiced strong rejection of both Strauss and Corbin (see Glaser, 1992), and of Charmaz’ constructivist approach (Glaser, 2002). This position at least is consistent with a unitarist, positivist philosophy which has been critically portrayed as pursuing the “one true church of GTM” (A. Bryant, 2003, p. 6). Notwithstanding Glaser’s affirmed position, many contemporary authors, including Corbin the co-author of the objectivist classified Strauss & Corbin handbook, now take a constructivist perspective, and the contemporary relevance of the objectivist position has been brought into question: “today, these ideas seem outdated” (Corbin, 2009, p. 37); “objectivity has no place in qualitative research” (Stern, 2009, p. 57). Ultimately it may be the pragmatic implications of data gathering and other contested areas such as prior knowledge which have influenced many researchers to advocate changes to the original method.

### **3.3.3.1 *Tabula Rasa***

A further source of epistemologically founded controversy is the question of whether grounded theory requires researchers to enter the field ignorant of prevailing theory, lest their insights be clouded by pre-conception. It is important for a study to establish its position on this issue for both practical and theoretical reasons. The credibility for instance, of study which claims to have started with a *tabula rasa* (clean slate), would be compromised where researchers had significant prior knowledge. Suddaby (2006), suggests that assertions that a *tabula rasa* is a precondition to a grounded theory study are myth, and based on a misinterpretation of original texts. Suddaby specifically identifies prior literature reviews as a particularly problematic source of this myth, but Glaser on the other hand does continue to assert unequivocally that there “is a need not to review any literature in the substantive area under study” (Glaser, 1992, p. 31).

Discussion about the ‘tabula rasa’ therefore, needs to consider its practicality or desirability, and its derivation in Glaserian dicta, rather than simply dismissing it. The purpose of this dictum was to ensure that researchers should enter a research field with as few preconceptions as possible, if they are to identify new theory. Existing literature is only consulted when categories start to emerge and as theory is developed. The ‘tabula rasa’ approach is however clearly impractical for either academics, or practitioners experienced in the field under research. As well as being impractical, the desirability of asking researchers to suppress their knowledge and experience has also been questioned (Fendt & Sachs, 2008). A researcher, knowledgeable in the subject context, may be able to establish a much deeper and more insightful level of conversation where he/she is able to demonstrate familiarity with technical terms and acronyms, and show a basic knowledge of process or prevailing standards. Such knowledge may be a necessary precursor to an exploration of people’s reactions, feelings and behaviours in that environment. It may also be crucial to the establishment of rapport between researcher and participants (Dundon & Ryan, 2010).

The focus in this discussion, it seems, should be on averting threats to theoretical insight arising from prior knowledge, rather than eschewing the knowledge itself. The concern is that prior experience may constrain or compromise the inductive process and limit new insight, so it becomes important that the researcher reflects on his/her prior knowledge, conceptions and prejudices to help to ensure open thinking, grounded in the data. The acceptance and management of preconceptions helps to ensure a transparency and clarity of approach, whereas claims that prior knowledge may be discarded or disregarded raise considerable credibility questions. In a critical analysis of one study which claimed that existing knowledge had been avoided, the reviewer questioned: “How they managed this feat of cognitive evasion is not clear” (A. Bryant, 2003, p. 3). In another extended discussion of the *tabula rasa*, Schreiber (2001, p. 59) also suggests that it is “not likely to be realistic or feasible” to avoid prior knowledge, for reasons both of pragmatism when seeking research funding, but also from the perspective of research efficacy. Taking a similar line to Fendt and Sachs (2009), Schreiber suggests that prior knowledge may be an asset, and challenges the received view even further by suggesting that the relevant literature should actively be engaged earlier to heighten the researcher’s *theoretical sensitivity*; a universally accepted cornerstone of grounded theory development. Schreiber emphasises that a

researcher cannot unlearn what is already known, and therefore suggests that the researcher should make an early reflexive assessment of his/her prior views, to help to reduce the likelihood of undue influence. Reflection on preconceptions is suggested to be one of the three main uses for memos in grounded theory (Schreiber, 2001). Memos may be cross-checked and analysed to the same extent as any data source. Memos act as both an audit trail and a source of additional data where the potential constraints of preconceptions can be repeatedly revisited.

The *tabula rasa* discussion is a recurrent theme in grounded theory discussions. In this sub-section a variety of sources have been examined that cast doubt on the need to interpret too literally Glaser's views on prior knowledge. Care must also be taken to recognise that the associated risk is a threat to creativity, not the research validity. Doubts about the *tabula rasa* are raised in the context of grounded theory methods in general. The maxim becomes of even less relevance to constructivists where preconceptions are recognised from the start and actively reviewed during the analysis and conceptualisation processes.

### **3.3.4 Method misuse in extant research**

One of the biggest challenges facing grounded theory practitioners is the possibility that the methodology is undermined not just by controversy arising from the previously discussed epistemologically based arguments, but more by their apparently widespread misapplication, or their superficial application. Goulding (2005), identifies management studies that confused grounded theory approaches with phenomenology or ethnographic studies, as well as studies which selected only limited aspects of the method whilst claiming still to be grounded theory studies. This poorly explicated, patchy or inaccurate application of grounded theory in management studies has been strongly criticised (Binder & Edwards, 2010; Gephart, 2004; Goulding, 2005; Suddaby, 2006; Wagner et al., 2010). Over a ten-year period up to November 2008, Binder and Edwards (2010) analysed management studies which included the keyword terms "grounded theory" with at least one of the terms: "operations management", "operations strategy", "supply chain management", "production management", or "logistics". Of 134 papers identified, they considered that only 28 represented an "explicit and rigorous attempt" to use grounded theory (Binder & Edwards, 2010, p. 233). Over half of the studies merely made reference to grounded theory, a finding

which resonates with earlier observations that the method is used to ‘legitimate’ studies (Charmaz, 2003), and that “grounded theory is often used as a ‘rhetorical sleight of hand’ by authors who know little about the method” (Suddaby, 2006, p. 633). Gephart (2004) also notes a large number of submissions to the Academy of Management Journal (AMJ) in which the use of grounded theory is claimed, but relatively few of which explained how results were derived, or discussed how the important elements of the method were employed. Binder and Edwards (2010) in their study discuss methodological slurring and cite examples where grounded theory is claimed in concert with a case study approach, with attendant concerns about how effective theoretical sampling could be possible. This same issue is exemplified in a recent publication which presents a grounded theory study “informed by three in-depth case studies”, in which sampling appears to be pre-determined within the pre-selected organisations (He & Balmer, 2013, p. 409). This same “methodological slurring” is also highlighted by Binder and Edwards (2010, p. 234) when reviewing the Kiridena et al (2009) “grounded theory – case study approach”. The study by He and Balmer is also notable for a lack of detail on the analysis process. Phrases such as “in broad terms” (p.404) and “following the general protocol” (p.412) suggested that the method had been rather superficially followed, and that subsequent claims of credibility established through precision are inevitably left open to question. The claim in particular that theoretical saturation occurred after one specific interview is highly questionable. Theoretical saturation is a concept known for its subjective judgement, and difficulty of interpretation and becomes apparent over a number of interviews, through a pattern of diminishing returns. A single interview may simply have constituted an unfruitful or ineffective interview experience.

Other studies claiming allegiance to grounded theory have been noted, in which researchers have stopped their analysis after initial coding and a construction of “elementary categories” (Charmaz, 2006, p. 139). Theory construction is one of the distinguishing features of a grounded theory study compared with other qualitative methods (Goulding, 1998). The effectiveness of different approaches in creating theory however is the main thrust of Glaser’s criticism of Strauss and Corbin on the one hand (Glaser, 1992), and Charmaz on the other (Glaser, 2002). Studies which stop short of any consideration of these debates, and attendant explication of the path

adopted, are unlikely to transcend the ‘descriptive’ level, or therefore realise a genuinely grounded, theoretical product.

### 3.3.5 Theorising

There is a further danger that an undue focus on the tabula rasa debate may imply that grounded theory is a wholly inductive process, which if followed carefully will give rise to theory. The theory generating process is however cyclic rather than linear and involves deduction and often abduction as progressively more abstract categories are developed. In the discussion below the nature of the grounded theory generation phase is considered, and especially the creative contribution which abductive thinking can make.

Grounded theory is described as “the process of iteratively and inductively constructing theory ...” (Gephart, 2004, p. 459). The process in its most simplistic form is one of theory generation through inferences and insights induced from qualitative research data. However, the iterative and progressive nature of grounded theory development means that the process is in reality much more complex, and involves a “modicum of deduction”, at each point where emerging concepts are reviewed against extant theory (Bryman, 2012, p. 26). Bryman also observes that not all inductive studies result in recognisable theory, and many include substantial deductive elements. Such considerations have led to questions being raised as to whether induction ever truly occurs in isolation from deduction (Shepherd & Sutcliffe, 2011). Induction in its purest form has accordingly been described as “largely discredited” (A. Bryant, 2003). The initial stages of a grounded theory study may also be considered to include more than the modicum of deduction to which Bryman refers. The definition of research scope; the associated unavoidable element of literature review which is required to justify the study, and the initial sample selection are all deductively derived. It has also been recognised that any form of hypothesis generation constitutes a deductive step because of the interpretation needed (Strauss & Corbin, 1998a, p. 22). Interpretation is the key to reflection, abstraction of concepts, and to revealing insights from analysis. Pure induction is passive, devoid of interpretation and therefore is likely to be constrained to generating descriptive research products. An element of deduction is therefore an essential element of theory generation as long as its use is postponed until the secondary analytical stages. This

postponement will help to address Glaser's concern that pre-conceptions would result in premature closure of enquiry and constrain the theory generation process.

For a grounded theory study to be at its most effective therefore, the research process must endeavour to derive insights from data inductively, before then contextualising these insights against existing knowledge deductively, and then iteratively exploring selected concepts with further induction from data. In grounded theory, deduction thus supports a predominantly inductive approach.

### **3.3.6 Induction vs abduction**

Strauss & Corbin's version of grounded theory is positioned within a post-positivist paradigm (Guba & Lincoln, 1994). In the second version of their handbook however, they discuss not just the 'systematic gathering and analysis' of data, which may be easily aligned with this paradigm, but also discuss terms such as flexibility and creativity, which do not. Flexibility is suggested when selecting appropriate analysis tools (Strauss & Corbin, 1998a, p. 4), and the creativity is particularly emphasised in theory generation, where the creativity of researchers is identified as an essential ingredient (p.12). The reference to the theorisation process as both a science and an art (p.13), apparently aligns the former with their analytical methods, and their use of phrases such as "standardisation and rigor" and "systematic", whilst the latter is used inter-changeably with the term "creativity". This apparent duality may be the reason that Strauss and Corbin have been criticised for paradigmatic inconsistency (Mills et al., 2006), but the approach is closely conceptually aligned with principles of abduction, which have been more recently detailed in a grounded theory context (Locke, 2007). This alignment is neither surprising nor co-incidental when it is considered that Charles Peirce, to whom the concept of abduction is attributed, is described as an "intellectual uncle" to Chicago School pragmatism and symbolic interactionism (Locke, 2007, p. 567); the foundations of Anselm Strauss' philosophy (Strauss & Corbin, 1998a, p. 9).

Locke explores the duality of abduction, which she characterises as 'rational control' on the one hand, and 'irrational free-play' on the other. The former is considered to provide structure, control and reference to the latter, which is presented as the real engine of innovative, imaginative theory. Drawing on Peirce's work, Locke emphasises the focus on the creative and inventive dimension of theorising in which

some acceptance of ambiguity and uncertainty is needed in order to generate imaginative theory. Abductive theorising generates possible explanations, rather than certainties (Locke, 2007); possibilities from which the most plausible explanations are selected for further examination through theoretical sampling (Charmaz, 2006).

In this study, it is suggested that methodological consistency with the epistemological position has been achieved, and in a manner which is appropriate to the research context. This study adopts a constructivist research paradigm founded on relativist assumptions of multiple social realities; an approach which “celebrates first-hand knowledge of empirical worlds” (Charmaz, 2003). This position enables prior knowledge to be used interactively and constructively during interview sessions to explore insights much more deeply than would otherwise be the case. The threat from pre-conceptions is managed in the first instance by maintaining a purely inductive approach to initial (open) data coding, and subsequently through reflective analysis (discussed further later). The paradigm adopted allows a high level of theoretical sensitivity to be established early, and further developed during the analysis. The adoption of progressively more abductive reasoning as the analysis proceeds helps to enhance the range of potentially insightful categories that are abstracted during later stages of analysis, and which therefore, are likely to have the greatest theoretical potential.

### 3.3.7 Extending researcher performance

The discussion so far has considered the benefits of an epistemological position which enables researcher subject expertise to be harnessed in the co-creation of knowledge products. Reference to learning models may also identify a constructivist paradigm as being more conducive to the exploitation of methodological expertise.

Detailed studies of human learning indicate that people over time may acquire higher-level skills (Flyvbjerg, 2001). It has been proposed that at least five levels may be identified (Dreyfus & Dreyfus, 1986). The lowest is the *novice*, who simply learns and follows rules for action. Rules are clear and objective, and are followed without situational adjustment. A more *advanced beginner* however will draw on situational experience and learn when to bend or break the rules. Personal experience becomes valued above rules conformance, and actions become context dependent. At the third level, the *competent performer* is able to recognise many situational elements and



prioritise actions in a rationalised, goal oriented manner. The *proficient performer* is able to achieve these outcomes rather more intuitively and continuously by recognising patterns which correspond with previous extensive experience. Finally, at the highest level, the talented few become *expert*; a level of virtuosity in which goal oriented decisions are reached holistically and synchronously without conscious planning.

The Strauss and Corbin handbook was produced to help guide the novice researcher (Corbin, 2009), which coupled with related criticisms of its overly mechanistic procedures, align it closely with rules based learning. Glaser, heavily concerned with preconditioned thinking, has advocated the benefits of novice researchers in grounded theory studies (Gibson et al, 2005). From different motivational axioms, both the originators may have promoted overly simplistic application of the method. For a method which is inherently adaptive and flexible in its line of enquiry, and conceptually creative in its theory building, it seems inconceivable that the most effective output could result from the rigid rules based application of the novice, above performer and expert levels. A constructivist research paradigm however, which recognises and advocates contextual adaptation, is much better positioned to provide competent and proficient performer level researchers with the flexibility needed to deliver more insightful theory. In the context of business relationship research, the proposed approach ensures that the widest possible spectrum of expertise is exploited in the pursuit of widened insights into complex and socially grounded phenomena.

### **3.4 Data generation, analysis and conceptualisation steps**

The third major section of this chapter is devoted to a detailed explanation of the steps taken in applying the grounded theory method. The section is organised into subsections covering data gathering, coding and analysis, theory presentation and followed by sections covering quality assurance and ethics. In the data gathering subsection the use of semi-structured interviews is covered along with a description of how grounded theory theoretical sampling was approached. The second and largest subsection discusses how the three levels of grounded theory coding were utilised and illustrates how GT memos were used to help elevate coding to higher levels of abstraction. The use of specific analytical tools that aided this abstraction process is also detailed at this stage, especially the use made of situational analysis (Clarke, 2005). In the third sub-section the nature of constructive grounded theory is discussed. This discussion establishes the format of theoretical presentation that is then used in the findings and discussion chapters.

#### **3.4.1 Data gathering**

The main source of primary data in the study was through semi-structured interviews with experienced managers from a broad range of different organisations. Semi-structured interviews have been described as representing “the gold standard of qualitative research” for many (Silverman, 2005, p. 239). In the context of a grounded theory study they allow an open discussion which may be adapted as needed to explore potentially important avenues of discussion, whilst also providing some enquiry focus consistent with the theoretical sampling objectives for the interview. Jankowicz (2000, p. 237), suggests that semi-structured interviews can produce “large amounts of rich, fertile but disorganised data”. The relevance and richness of this data needs to be assured by maintaining a focus on the interview objectives, and the pre-identified discussion topics, to avoid relevant data being subsumed by large amounts of rich but irrelevant data. Additional data in the form of documents, brochures and website publications were also gathered where available and relevant.

Interviews were 45-90 minutes long, typically around 60 minutes. A series of pre-interview prompts were used by the interviewer to stimulate further discussion when natural pauses arose, but otherwise the sessions could be characterised as a managed

dialogue. In contrast with the formality that may arise in a structured interview, the relaxed atmosphere established in these informal interviews helped in the establishment of rapport, and trust.

After seeking permission, which was granted in all cases, interviews were audio recorded for subsequent professional transcription. Recordings were made on a mobile phone, which had been shown to provide high quality recordings in earlier research. The phone is also advantageous in being an unobtrusive and common device and was not considered to hinder the discussion flow. Interviewees were in most cases interviewed at their own business premises which helped to ensure that a relaxed atmosphere could be established from the outset. Three interviews were established at independent locations for logistical reasons, but the locations selected were familiar to the interviewee and helped to ensure a relaxed conversation.

Topics were introduced through broad open-ended questions to promote dialogue rather than soliciting specific but short closed responses. In the early stages of an interview the respondent was encouraged to talk freely, but once a rapport had been established, the interviewer then explored emerging points in progressively more depth, following the principles of intensive interviews (Charmaz, 2006). The gradual introduction of an intensive interviewing style helped to ensure that interviews were intense only in the sense that conversations were deep, directed and productive, without ever becoming interrogative.

A set of interviewer prompts was used at each interview (see Appendix A - Interviews guidance prompts) to ensure that a new line of enquiry could be readily established as soon as earlier lines of conversation reached a natural conclusion. This helped to ensure that a good pace was maintained to discussions, but also acted as an aide-memoire to the interviewer to ensure that planned topics were all covered. The prompts used at interviews were modified at three stages of the data gathering process to reflect thematic priorities as these emerged from data analysis. This evolution is shown in the appendix and is a feature of the GT theoretical sampling process.

<b>Job Title</b>	<b>Sector</b>	<b>Org. Size</b>	<b>M/F</b>	<b>Exp Code *</b>
Finance Director	Steel Fabrication	Small	F	2
Managing Director	Automotive	Small	M	2
Managing Director	Steel Fabrication	Small	M	3
Director	Consultancy	Large	F	2
Managing Director	Automotive	Small	M	3
Programme Manager	Transport Infrastructure	Large	M	2
Account Manager	Global outsourcer	Global	M	3
Purchasing Director	Aerospace	Large	M	3
Project Manager	Automotive	Medium	M	1
Works Manager	Fabrication	Small	M	2
Managing Director	Specialist coatings	Small	M	3
Managing Director	Construction fabrications	Small	M	2
Consultant	Aerospace consultancy	Small	M	3
Programme Manager	Health	Large	F	2
Managing Director	Specialist automotive	Medium	M	3
Chief Executive	Health Alliance	[Alliance]	F	3
Category Manager	Engineering	Global	M	2
Senior Category Manager	Engineering	Global	M	2
Chief Executive	Automotive	[Alliance]	F	3
Senior Purchasing Officer	Health	Large	M	3
Managing Director	Manufacturing	Small	F	2
Chief Executive	Raw Materials	Medium	M	3
Technical Director	Facilities	Medium	M	3
Managing Director	Advertising	Medium	F	3
Managing Director	Retail Distribution	Medium	M	3
Sales Manager	ICT	Medium	M	3
Purchasing Manager	Specialist Engineering	Medium	M	1
Programme Manager	Hi-Technology	[Programme]	M	2
Chief Executive	Social Change Charity	Medium	F	3

**Table 1 - Anonymised list of interviewees**

\* Key: Exp Code = Experience code: 1 – 0 to 10 years; 2 – 10 – 25 years; 3 – over 25 years

### 3.4.2 Theoretical Sampling

Theoretical sampling is an important element of any grounded theory study. A theoretically derived sample emerges during the study, with new cases identified during the process of analysing previous data. Initial contacts are deductively identified, but subsequent interview subjects are targeted purposively to help to elaborate emerging categories and themes.

In this study, the initial contacts were selected from a regional list of SME manufacturers that were believed to have collaborative supply-chain relationships. Theoretical sampling is a process through which the study focus is narrowed. Firstly, the line of enquiry is focused on the emergent core categories to help elaborate their full properties. Secondly, participants are selected that are most likely to be appropriate to the focused enquiry. Participants were engaged firstly from a variety of different company sizes to ensure that the full diversity of collaborative processes was exposed. As the relevance of third party collaboration brokers emerged in the study, additional examples of different types of brokering organisations were engaged. Finally, female heads of both brokering organisations and SMEs were interviewed to establish whether any gender related patterns were discernible.

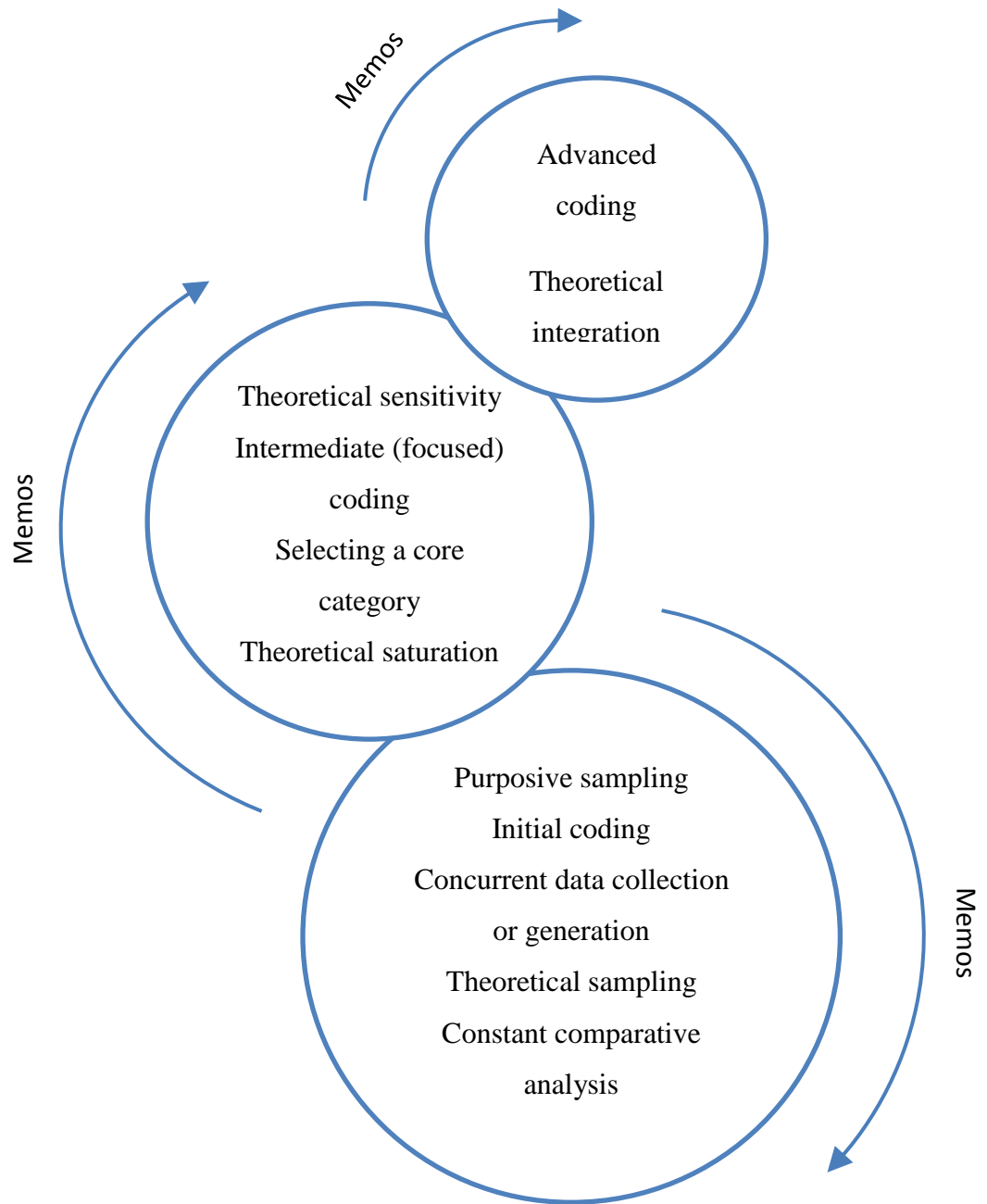
One issue with the theoretical sampling process is identifying the point at which no further data gathering is required. This stage is known as theoretical saturation and is reached when the core category/categories are considered to be fully elaborated, and further interviews are considered unlikely to provide further insight. There are “no clear cut rules of thumb” for when theoretical saturation will be achieved (Goulding, 2002, p. 70), the point is subjectively judged and becomes apparent over a period of time, rather than being objectively determined after any one particular interview. Although claims have been made that this stage was reached after a specific interview (e.g. He & Balmer, 2013) in practice it is more likely to be an emergent judgement, crystalizing over a period that encompasses several data gathering episodes. In this study, the final phase of data gathering was considered to have been entered once the central category and its properties and dimension appeared to be complete, but a small number of further interviews were considered to be warranted to explore interesting related side-issues. At the point when theoretical saturation was considered to have occurred, 29 people had been interviewed, in 28 sessions and representing 27 different

organisations. The sample total is comparable to other GT studies in the field (e.g. Carter & Dresner, 2001; Flint et al., 2002; He & Balmer, 2013). The list of anonymised participants is given in Table 1 and indicates the size of organisation, its sector, and the status and experience of the interviewee.

### 3.4.3 Coding and analysis

Grounded theory variants utilise different names for different coding stages, but three phases, with similar objectives, are discernible in each of the main versions (Birks & Mills, 2015). In this study the terms initial coding, focused coding and theoretical coding are adopted from Charmaz (2006), reflecting the constructivist epistemology. These are similar to the open coding, axial coding and theoretical coding of Strauss and Corbin (1998a), though with less rigid formality attached to the intermediate phase in the constructivist version (Birks and Mills, 2015). The existence of three levels of grounded theory coding, creates a risk that they may be taken to suggest that coding follows a linear process. In practice, coding and analysis occur in parallel, in a highly iterative process that results in the gradual emergence and elaboration of the central category, which becomes the locus around which theory is developed (Charmaz, 2006). The iterative nature of the process in which the study becomes progressively more focused on the line of enquiry and that becomes progressively more theoretically engaged, is illustrated in **Error! Reference source not found.**Figure 5, below.

In first-phase coding, the process is wholly inductive, with codes derived from raw data as part of a de-composition and labelling process. As coding progresses through focused coding and into theorisation it becomes progressively more interpretative and abstract as more powerful meta-categories are selected and elaborated (Birks & Mills, 2015). These phases are reviewed in detail in the following sections after which the form and content of theoretical outputs are covered.



**Figure 5 - Generating Grounded Theory (adapted from Birks & Mills, 2015)**

#### ***3.4.3.1 Initial coding***

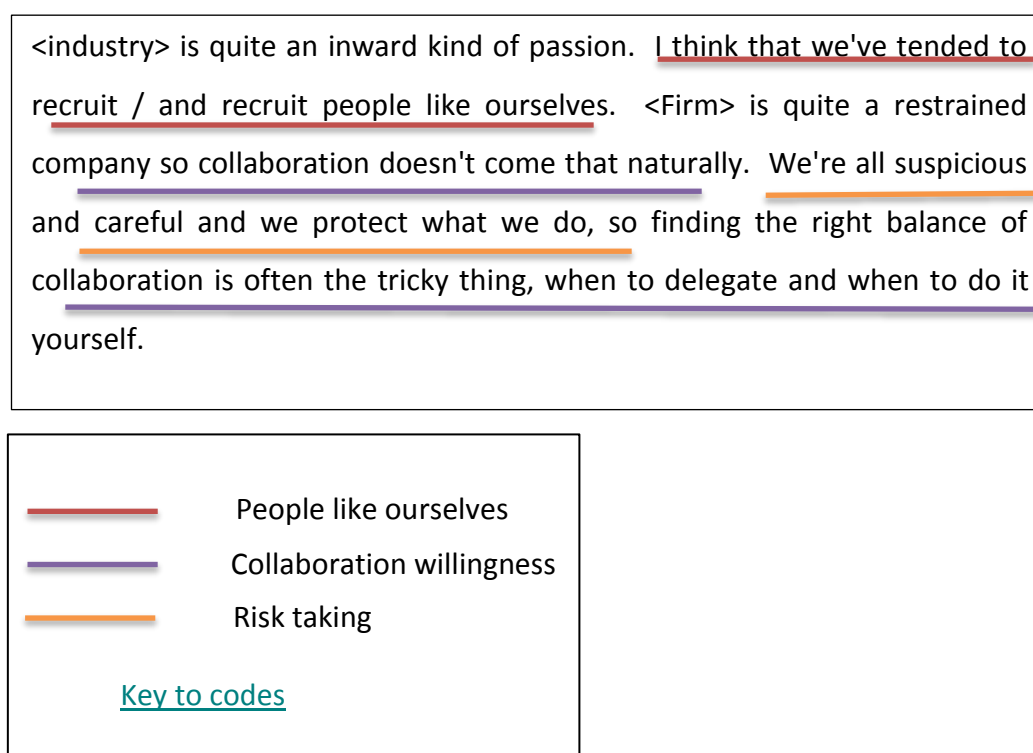
Unlike qualitative methods that use pre-established tables of codes to ensure consistency (Miles and Huberman, 1994), in all variants of GT, the first coding phase uses entirely emergent, inductively derived codes. For each new interview, many fragments are coded against previously established codes, but many require additional

codes to be generated. Initial coding is a process for breaking down data into identifiable, manageable fragments. Fragments are labelled to allow them to be grouped and related. In this study, interviews were transcribed in full and coded in two stages. Transcripts were printed in the first instance, and manually coded whilst referring to the latest list of codes. This process helped as far as possible, to ensure that the creation of redundant new codes was minimised, and also helped to ensure that relationships with previous data were clearly established. Transcripts were then imported as Microsoft Word documents, into NVivo10. All new codes required were created, with their descriptions, before transcripts were formally coded. As the number of coded transcripts grew through the project, so the number of newly created codes reduced to a point where only a few codes were created for the last few interviews. There is a pragmatic balance to be maintained between maintaining too parsimonious a code-set, and an excessively detailed set that results in a problem of “code proliferation” (Saldana, 2016, p. 78). Where coding is too detailed, then there is a risk that relationships between coded fragments are not recognised, and potential patterns are not recognised. The coding set was continuously revised as new codes were identified, and as coding of new data led to amendments of the existing code structure. A total of 178 initial codes were created, which was considered to represent a reasonable balance between parsimony and proliferation. This set represented the study’s “evolving repertoire of established codes” (Saldana, 2016, p. 79).

In common with “most qualitative studies”, coding was undertaken by a single coder (Saldana, 2016, p. 36). Coding is a highly subjective process, and therefore attempts to apply rigour to the coding outcome (rather than the process) are problematic even for studies using prescribed coding schemas. In qualitative studies where multiple coders are a necessity, possibly due to the project size or location, then inter-rater checks of coding can help to ensure consistency in analysis. However, the use of multiple coders and inter-rater checks on other projects as quality measures is of questionable utility, because of the interpretive nature of qualitative studies (Saldana, 2016). Inter-rater validation is predicated on a positivist mentality that suggests that a ‘correct’ coding outcome is achievable. Even for Barney Glaser, the most positivist of grounded theory authors (Guba & Lincoln, 1994), this concern with veracity in coding is misplaced (Glaser, 1978). The objective in initial coding is not verification,



but enabling the subsequent retrieval, comparison and relating of data during the conceptualisation phase.



**Figure 6 - First example of initial coding of transcripts**

Interviews were analysed line by line, but the density of coding, and the granularity varied across transcripts. Codes were applied to fragments as small as a clause, or as large as a paragraph. The same fragment was, in many cases, coded to more than one code where relevant. This may, for instance, occur where a fragment is coded against both a process code and a situational code. In accordance with recommendations that “only the most essential parts of your data corpus” should be coded (Saldana, 2016, p. 79), passages considered to be irrelevant to the research question, or out-of-scope of the study were not coded, but were still retained.

**And how does that process unfold?**

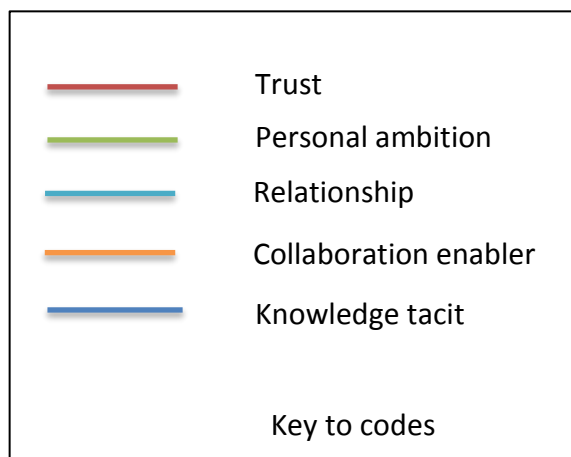
I think it depends probably on how / on probably the relationship prior to what we might count as the collaboration. A lot of it is built on past trust and relationship. But I guess the key thing, whether you've known each other a long time, or there's a large partnership, or even a small, it's communication, I think it's communicating and making sure that everyone in the collaboration is aware what your role is, what your responsibility is and what you're hopefully going to get out of it. I think then you get hopefully something that's more clear and concise when you come to the output.

**Right.**

So, it's about recognizing people's ambitions within the collaboration.

**So, in terms of the formality of structure around the collaboration, what is and isn't a collaboration for you?**

I think really, I mean, when two people, or a minimum of two people, two organisations, start working towards a common theme or common goal, or something like that, or working on a particular area that they can both input either something different or / I wouldn't say mutually exclusive, but you know some complementary kind of skill set or expertise that go forward. That to me is a collaboration.



**Figure 7 - Second illustration of initial coding of transcripts**

The example in Figure 6 illustrates the coding process, using a short segment of data and codes (but using a different presentation to Nvivo for simplicity). In this example three short non-overlapping segments of text are coded to three different initial codes. In other instances, coding, legitimately will overlap. In the second coding example in Figure 7 there are two instances where passages coded to trust and to tacit knowledge, respectively are also coded to collaboration enabler. Through this process trust and tacit knowledge have been identified as potential enablers of collaboration.

### 3.4.3.2 Focused coding

In the second coding cycle, focused coding, the relationships between initial codes were examined to establish similarities, overlaps and potential relationships. Codes were organised into hierarchies around key emergent categories (Saldana, 2016). Categories were either selected from the existing pool of codes, or were created anew, where an abstraction was required in order to name a category. In this process, redundant codes were combined, and complex codes were sub-divided. Inevitably, the larger the number of codes becomes, the more likely it becomes that the coder misses the presence of an existing code and creates a new redundant code. This is particularly the case where *in vivo* coding leads to the same underlying concept being identified by different words or phrases used by different respondents. Codes are also sometimes created to make distinctions that are later considered to be unimportant. In each of these cases, codes were first aggregated into a composite group for closer inspection and then either merged, or hierarchically structured as appropriate.

The outcome of this process is the progressive distillation of a category structure. Categories were explored for their relationships to other categories, and to establish their properties and dimensions.

<b>SCAT Motivational</b>
Collaboration reluctance
Collaboration responsiveness
Collaboration willingness
Commitment
Falling over backwards
Innovative mindset
Leadership
Personal ambitions
Pride

This combinational process is illustrated by the sub-category “SCAT Motivational” listed above. The initial code: “collaboration willingness”, an example of which is shown in Figure 6, has been grouped with the code “personal ambitions”, an example of which is shown in Figure 7. These two codes, along with seven others, are considered to be related to people’s motivation. This sub-category in turn was later related to a group of others under the category “CAT behavioural” through which a variety of human behavioural factors were grouped, and examined for their effect on collaboration. As each category starts to form, initially with a smaller set of codes, all text fragments and memos associated with the category are examined together to enable the category to be described and its properties identified. As categories are developed in this way they become more conceptual and can be explored also against the literature.

Through the categorisation process, the code “People like ourselves”, identified in Figure 6, was grouped with the code “Like-minded people” in a sub-category called “SCAT Identity” within the category “CAT Actors”. The data in this case indicated that when considering collaboration, people sought out individuals with whom they had something in common, and therefore did not just consider organisational suitability. The concept was explored in the literature and the existing body of identity theory helped to confirm and explain the noted behaviour.

Through this process of hierarchical organisation and revision, the study progressively focused on the six core categories reported in the findings. The largest and most important of these core categories is the category describing collaborative social processes.

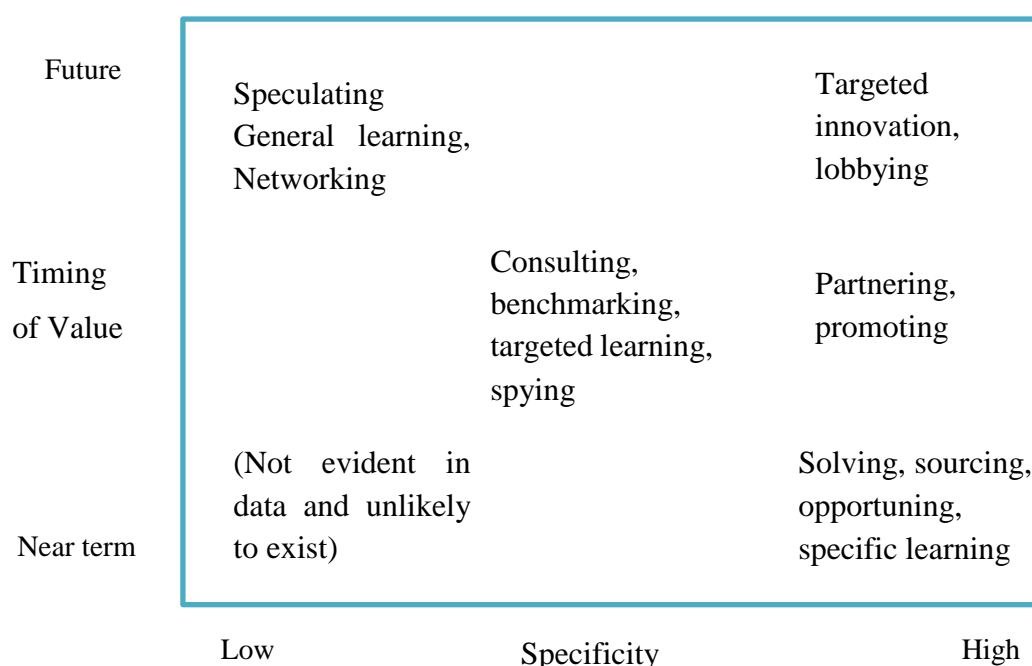
#### 3.4.3.2.1 Categorisation of social processes

Through the same categorisation principles described above, process-related initial codes were compared and hierarchically organised. A set of 42 initial codes were identified (typically words or phrases ending with “ing” or “ation”) and analysed progressively. Redundant and duplicate codes were removed, and then related codes were hierarchically organised. Three open codes were identified as composites of other basic codes and therefore resisted easy classification into the emerging categories. The data coded at these nodes were re-coded using simple codes only and the composites excluded from the typology.

Initial (open) codes	Focused Coding groupings	Final process sub-categories
Allying Anonymising Anticipating Arbitrating Arguing Benchmarking Brokering Collaboration initiation Consulting Contributing Delivering Diversifying Donating Evaluating Exploring new ground Facilitating Influencing Innovating Innovation commercialisation Interacting Justifying Learning actively Liaising Lobbying Market making Networking Opportunising Orchestrating Partnering Persuading Presenting Promoting Prospecting Referring Reflecting Relationship building Socialising Solutioning Sourcing Spying Value monitoring	<div>Contributing Donating Presenting</div> <div>Benchmarking Consulting Learning actively Spying</div> <div>Influencing Lobbying Persuading Promoting</div> <div>Delivering Sourcing  Solutioning Innovating Arguing</div> <div>Innovation commercial'n Value monitoring</div> <div>Socialising Networking</div> <div>Allying Partnering</div> <div>Brokering Facilitating Orchestrating Arbitrating Referring</div>	<div>→ SCAT Contributing</div> <div>→ SCAT Learning</div> <div>→ SCAT Influencing</div> <div>→ SCAT Problem Solving</div> <div>→ SCAT Exploiting</div> <div>→ SCAT Socialising</div> <div>→ SCAT Allying</div> <div>→ SCAT Brokering</div>

**Figure 8 - Derivation of process categories**

The intention of the sub-categorisation process was to group codes into process sub-categories as far as possible without forcing distinctly different codes together and creating an un-cohesive group. This process is subjective and highly iterative. The final grouping emerged over several months (see Figure 8). The properties of the sub-categories were established initially from the open codes grouped in the category and then elaborated further during subsequent analysis of further data.



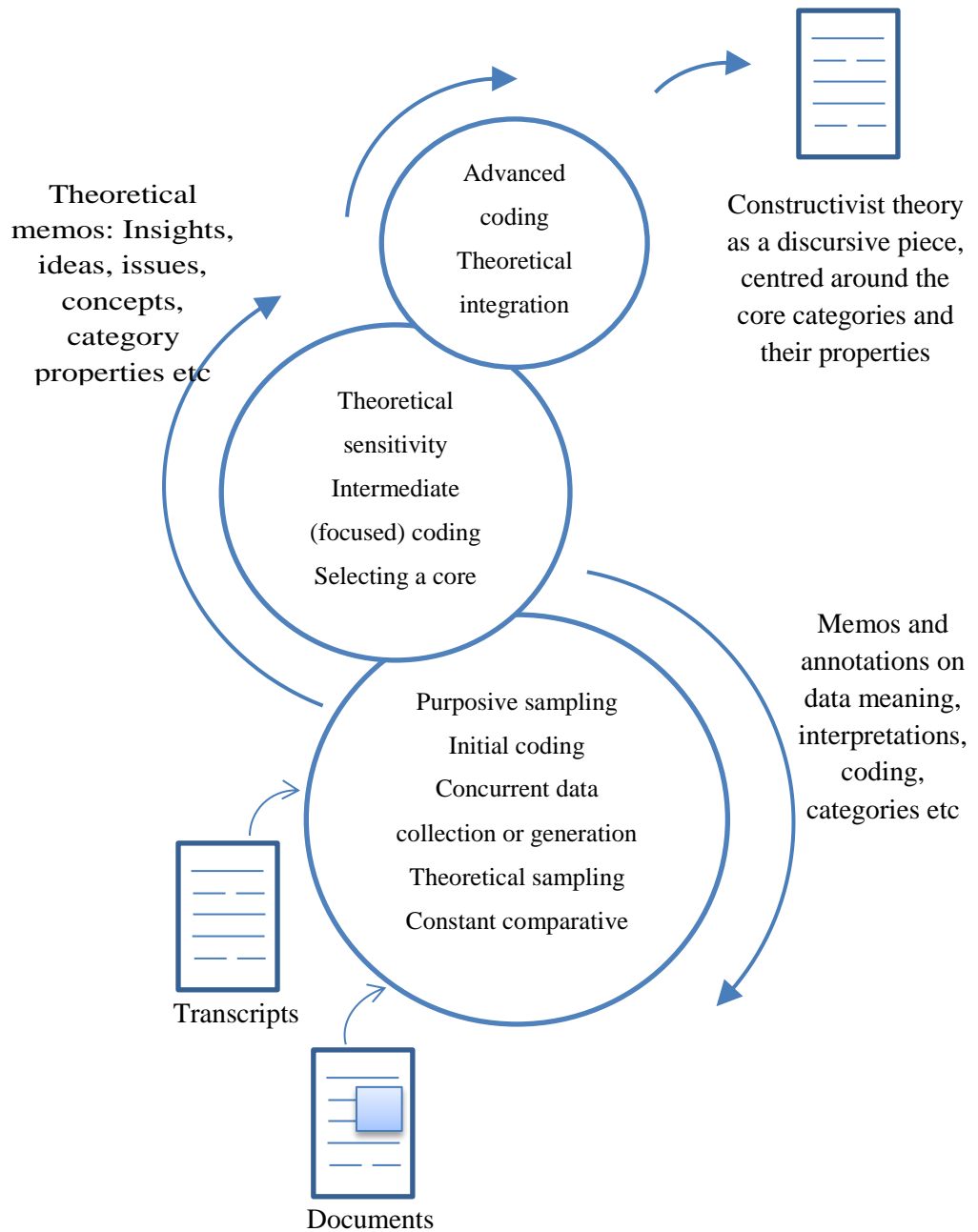
**Figure 9 - Analysis of process codes for value timing**

Emerging process codes were also analysed in terms of specificity and temporality. This analysis, enabled processes to be characterised as near-term with specific expectations, or long-term and specific, or long-term and non-specific. A further group was placed in between these three extremities. This model added further analytic utility to the categorisation process that gave rise to the typology. In this example, for instance, the codes: *solving, sourcing, opportunizing, and specific learning*, exhibited similar properties in yielding highly specific short-term value. This added support to the decision to group these codes under the *problem solving* abstract category in the typology. These and other analytical insights, contributed to the development of the typology presented in section 4.4.

#### ***3.4.3.3 Theoretical coding***

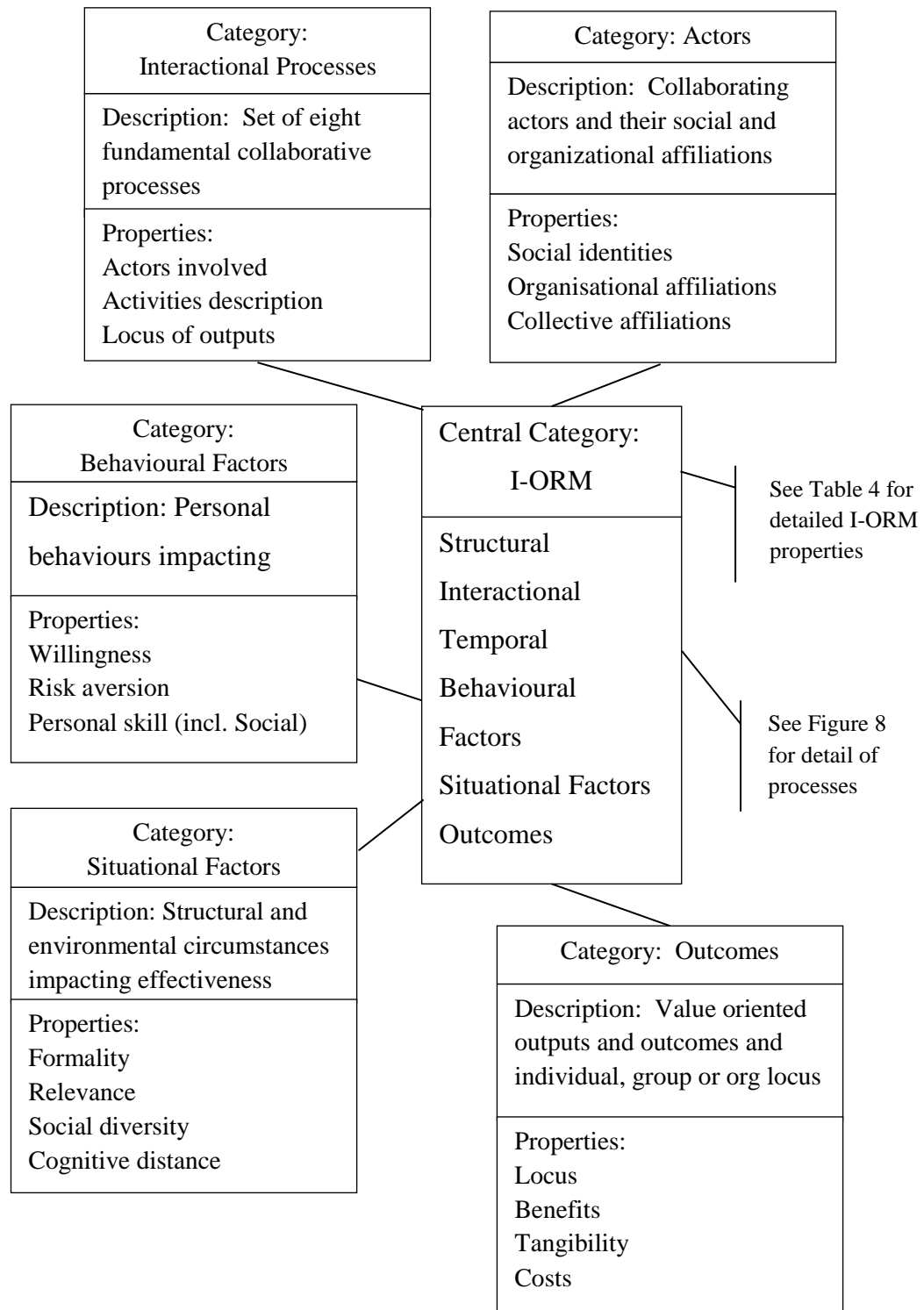
The initial coding and categorisation processes, although subjective, are largely mechanical and inductive. In the initial coding phase data were fragmented into short passages that were allocated to coding nodes, such that related clips in different sources were associated. Related codes were then associated by grouping them in categories. In focused coding, the data within the categories was studied to help describe the category and define its properties. Further data were collected to help this elaboration process. In the third stage, theoretical coding is a process of integration in which substantive codes and categories recognised during focused coding are woven back together (Charmaz, 2006) as part of a process that leads to the creation of an abstract central category, around which theory is constructed. The conceptualisation process draws on ideas and insights captured in theoretical memos created throughout the analysis process (Figure 10) and developing concepts are explored at this stage against extant literature. This phase of theory elaboration, requires deduction or even abduction (Locke, 2007). The format of theory presentation is discussed in section 3.4.7 below.

In order to derive a composite theoretical output, the core (most important or substantial) categories need to be related to each other. Their properties and dimensions and their relationships to other categories need to be established. This process typically leads to the formation of a central category, that itself, may be an abstraction. The figure below illustrates the process through which a central category was derived, in this study, by relating the core categories and deriving an abstract central category through which the resulting theory could be discussed. The lines show the mapping between core categories and the properties defined for the central category. It is these properties and their dimensions that are then described in detail in the findings along with associated theoretical insights.



**Figure 10 - Relationship between data sources and coding stages**





**Figure 11 Derivation of Central Category**

### 3.4.4 Situational Analysis

In this study, the importance of context became apparent early-on, as a variety of different collaboration structures and forums emerged. How people collaborated was influenced by where and when they collaborated and with whom. Analysis of prevailing conditions in which social processes are undertaken, has long been advocated by (Strauss & Corbin, 1998a) but is an area of further methodological controversy.

Grounded theory analyses are heavily focused on process, through the identification of Basic Social Processes (Glaser & Strauss, 1967; Glaser, 1978). Glaser in particular emphasises the importance of process analysis and expresses concerns that diverting focus onto context will reduce the generalizability of GT to a point where it becomes merely descriptive rather than genuinely theoretical (Glaser, 2002). Strauss on the other hand, considered initial context, and the consequences of social process to be of primary importance (Strauss & Corbin, 1998). Analytical tools such as the conditional/consequential matrix described by Strauss and Corbin (1998) are however very limited. With their derivation in symbolic interaction ecosystem maps, these tools mainly address structural conditions (Clarke, 2005) and encourage a PESTLE style environmental evaluation. It was in order to address these perceived limitations that Clarke's book "Situational analysis: Grounded theory after the postmodern turn" was produced. Situation Analysis (Clarke, 2005) is an evolution of grounded theory and its techniques supplement the traditional coding phases with additional analytical tools, rather than replace them. Situational analysis encourages the analyst to make a much broader assessment of actors, actants<sup>1</sup>, social factors, socially constructed preconceptions in addition to environmental factors, enabling contextually oriented patterns in behaviour also to become apparent.

This study on collaboration is situated in a complex and varied environment, as a consequence of which, a significant proportion of accumulated data describes settings and conditions, rather than describing processes. The impact of these context variations on subsequent behaviour was recognised to be important early in the study, and attempts to generalise processes to too wide a set of contexts would be inappropriate. Situational analysis was employed to enable differentiation between

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<sup>1</sup> Those actors affected by actions

actors, situations, events and process, discursive constructions and outcomes. This in turn allowed the initial codes to be structured more logically, and enabled generic processes to be identified. The resultant process typology is presented in the findings chapter.

Situational analysis (Clarke, 2005) uses three main tools: situational maps; social world maps, and positional maps.

#### ***3.4.4.1 Situational Maps***

Situational maps are a form of systems analysis that encourage an identification of all human and non-human actors, situational factors and discursive constructions. Situational maps are drawn in three stages: the first messy stage is a brainstorm map of unordered elements. These elements are structured in the second stage into pre-defined categories, and then relationships between elements are considered, element by element, in the third relationship-mapping phase. In this study, situational maps were found to be beneficial in identifying the variety of actor types relevant to the study, which in turn helped to direct theoretical sampling. Situational maps also encourage the analyst to reflect on missing or silent actors (Clarke, 2005). This feature encourages analysts to consider what might be missing from existing data, rather than being driven solely by codes emerging from existing data. This perspective ensures that impacted stakeholders as well as important sub-groups are also considered. In this study where missing gender representatives were identified, the theoretical sampling was adjusted to include purposively selected female representatives.

#### ***3.4.4.2 Social World/Arenas Maps***

Maps of social worlds or social arenas constitute a form of domain analysis in which the overlaps between different social worlds are identified. Social world maps help the analyst to delimit the study scope as well as providing a pictorial representation of significant groups and organisations. The relative size and importance of each group is also indicated by the size and positioning of sub-domains.

#### **3.4.4.3 Positional maps**

Positional maps provide a 2-dimensional analysis of “positions in discourses” (Clarke, 2005, p. 126). These maps specifically contrast differing discursive positions expressed by interviewees, and contrast stances people adopt on important issues. Mapping potential factors in this way can be helpful not just for helping to identify varying positions that have been expressed in the research, but also for alerting analysts to potential positions that have not been expressed, enabling reflection on why that combination is absent. Positional maps are not intended to be publishable artefacts (Clarke, 2005), but do in some circumstances constitute a useful additional analytical tool. Positional maps were used to explore potential relationships between those codes identifying potential moderating factors of collaboration processes.

#### **3.4.5 Use of Memos**

In all variants of grounded theory methods, the importance of memos is highlighted. Memo writing has been described as being the “the pivotal intermediate step between data collection and writing” (Charmaz, 2006, p. 72), whilst theoretical memos have been called “the bedrock of theory generation” (Glaser, 1978, p. 83). Memos are used at all stages in the process, but it is probably the use of memos during conceptualisation that is most important in elevating a GT study from the descriptive plains to the heights of abstract theory. Memos provide a vehicle for recording thoughts and insights immediately after interviews, for recording personal reflection on potential threats to quality from pre-conceptions, and for recording ideas and insights which may later be developed to form higher-order categories and theory. Memos may be recorded at any time including: post-interview, during data analysis, during literature review, or at any time when ideas spring to mind.

Memos in grounded theory should be spontaneous and not mechanical, and are expected to be written in “informal, unofficial language for personal use” (Charmaz, 2006, p. 80), and are therefore an intermediate product in the production of outputs, rather than themselves constituting part of any published output. Memoing encourages thought and reflection and a form of personal conversation that “helps you to increase the level of abstraction of your ideas” (Charmaz, 2006, p. 72). Memos are therefore highly personal artefacts of GT processes. Memos also feature in Situational Analysis

where they are used to record, and to encourage reflections on the production of the SA maps (Clarke, 2005). Memos here may be used to act as “analytical placeholders” (Clarke, 2005, p. 103), to record concepts or ideas for further exploration, or may record emerging insights to be integrated into emerging categories.

Memos were held in a mixture of hard copy and digital forms. Hard copy notes were made in the first instance in journals. The more useful memos were also formally transcribed into digital form in the NVivo tool. The Nvivo tool provides facilities to record notes either in formal memos, or as annotations to transcripts or other documents. Both methods were employed in this study. NVivo memos were used to record longer and more general reflection, whilst annotations were considered to be more appropriate for shorter notes, especially those which were associated with a single data fragment. An example category memo is included in the figure below

**Memo** on sub-category risk inclination, contained within category behavioural factors

**Risk Inclination**

Indicated by codes:

- Collaboration openness
- Open mindedness
- Risk taking
- Opportunism
- Trust

**Properties:** Risk inclination (and related concept of trust) are in several cases linked to past negative experience - opportunism is linked here because of its impact in destroying trust, and then for many reducing their risk inclination.

For others though, notably including some of the more successful collaborators they continue to be willing to take risks in order to benefit from collaboration. For these people collaboration is a necessity. Risk is an occupational hazard that they manage

**Figure 12 - Example Memo**

#### **3.4.5.1 Annotations**

The following short memo was attached to the transcript of an interview with the CEO of funded organisation whose purpose is to facilitate innovative collaboration in the health sector. The annotation captured an insight into the way the facilitating organisation may regard its purpose.

“Kind of a suggestion here that mission is accomplished if a collaborative group is established - i.e. collaboration is the means and the objective, but the organisations’ own targets will moderate this”

This short note records several thoughts relating to one passage of conversation. Firstly, that the mere creation of a collaborative group may be being regarded as a successful outcome in its own right, rather than success being related only to the achievements of the group. Secondly, there is a brief reference to a collaborative activity that exists in order to create a collaborative partnership, and thirdly a moderating clause that raises a question of alignment between the objectives of the collaboration building organisation, and the collaborative objectives of each separate organisation.

#### **3.4.6 Use of Computer Assisted Software Tools**

The QSR NVivo10® software package was used as the main data analysis and repository tool. Computer Assisted Qualitative Data Analysis Software (CAQDAS) typically provides a set of tools which ameliorate much of the labour intensive clerical and text processing chores in qualitative research. Unlike the use of computer tools in quantitative research, their use in qualitative research is still not universally accepted. Reservations about CAQDAS use typically centre on concerns that code and retrieval software can result in fragmentation, and a loss of original context (Bryman, 2012, pp. 590-609). Bryman acknowledges that many of these concerns were expressed pre-2000, since when both the sophistication and adoption of CAQDAS tools may be expected to have changed considerably. With respect to Grounded Theory, Charmaz has also expressed reservations (Charmaz, 2003) that tool-use may help to legitimate poor research, and lead to more mechanistic analysis in fields where human

interpretation and conceptualisation are needed. Charmaz also echoes concerns about data fragmentation.

The position taken in this study is that the expressed reservations constitute cautionary advice on how to use CAQDAS tools, rather than identifying any fundamental argument which may preclude their use. Tools help to store, organise and retrieve extensive passages of data efficiently. The quality of research output however depends on the quality of the researcher's interpretation, conceptual abstraction and theorising prowess.

NVivo was used to store all data transcripts, annotations and significant memos. All literature was also imported in PDF form for coding. Primary data and academic papers were coded separately, using separate coding hierarchies. This separation helped to ensure that codes associated with academic literature did not impact the inductive nature of primary data coding. The coding of academic literature helped to increase theoretical sensitivity and meant that concepts emerging in primary data could be readily explored in the extant literature. The tool's query facilities were used predominately to aid the constant comparison process to ensure that as new codes emerged later in the study, they were investigated for potential appearance in earlier transcripts.

### **3.4.7 Presentation of theory / nature of theory**

The objectives of a grounded theory study and the form that the theoretical outputs take, vary according to the epistemological stance adopted. This section describes the approach taken for this constructivist study, and outlines differences compared with objectivist versions. In particular, the section discusses whether theoretical propositions are desirable, or whether a more interpretive theoretical product is advantageous in complex social studies.

Grounded theory, especially in its contemporary constructive guises, provides an explanatory scheme that includes a "set of concepts related together through logical patterns of connectivity" (Birks & Mills, 2015, p. 108). Crucially, Birks and Mills (and other constructivists) specifically exclude a predictive element from their definition of theoretical products. According to its original authors however, grounded

theory may be presented “either as a well codified set of propositions or in a running theoretical discussion, using conceptual categories and their properties” (Glaser & Strauss, 1967, p. 31). The option for presenting theory as a codified set of propositions is congruent with the original authors more positivist inclination, but even they acknowledge that a theoretical discussion is preferable because the resulting much richer output can provide a platform for further development and enhancement. In this sense Glaser and Strauss envisage theoretical writing as a living entity that constitutes a staging point for further conceptual development, or for subsequent verification studies. In contrast, research presented as set of propositions renders the output “less complex, dense and rich and more laborious to read” (Skilton, 2011, p. 32). Skilton (2011) argues that studies in which the primary objective is to generate and present theory are conceptual, rather than empirical, in nature, and that theory should be presented as a set of abstract concepts and relationships, devoid of measurement models and construct operationalisation (Skilton, 2011). This description aligns closely with the aforementioned Birks and Mills (2015) definition. Skilton’s argument against formal propositions is one of premature closure of enquiry. Propositions move the research agenda away from conceptual elaboration toward testing and verification, for which purposes theory development is frozen. Skilton therefore suggests that “authors of conceptual articles should resist the temptation to offer detailed systems of formal propositions as much as they can” (Skilton, 2011, p. 27). Charmaz (2006), goes further still in emphasising this point of avoiding propositions and prefers the term understanding above explanation, because of the potential association between explanation and prediction. The purpose of the distinction however is the same in highlighting the abstract and interpretive nature of theory that “allow for indeterminacy rather than seek causality” (Charmaz, 2006, p. 126). In this study the term explanation is still retained, but its use is limited to representing an explanatory scheme of elaborated concepts, rather than generalised theoretical propositions.

A GT theoretical presentation must also take into account the contextual scope of theory. Grounded theories are either presented as substantive theory, when constrained to a specific context or as formal theory, where they are generalizable across a wide range of contexts. Whilst formal theory enjoys wider applicability, it is substantive theory that is able to provide the greater depth of understanding in complex theoretical and practical environments, and is the objective in this study. The greater



specificity and detail in substantive theory however can also lead to an over-complication, and it is crucial that substantive theory is “understandable to the people working in the substantive area” (Glaser & Strauss, 1967, p. 239). It is in this context of clarity of understanding that Skilton proposes three categories of action in order to develop influential conceptual writing (Skilton, 2011). In the first, clarification and conceptual appeal must be considered to ensure that in the process of developing theoretical language, conceptual clarity and parsimony are pursued to help to maintain theoretical appeal. Secondly, differentiation is required to ensure that theory challenges and extends existing theory. In the third category, a balance must be sought when illustrating concepts to ensure that theory is not defined in terms of its illustrations and exists independently. Illustration helps provide connection to the real-world for readers, but must also not erode the abstractive value of the concepts it describes.

In accordance with the principles outlined above, theory in this study is presented in the form of a central category that embodies a set of formalised concepts. The properties and dimensions of concepts and the relationships between them are discussed. The output is substantive, in that it is limited to inter-organisational relationships in line with its objectives. Formal theory is not a study objective, but the output is explanatory and capable of interpretation in related inter-organisational contexts.

### **3.5 Research quality assurance**

Whichever variant of grounded theory is adopted, it is important to establish from the start, the tools and processes that will be used to ensure the study’s credibility and trustworthiness. The quality assurance approach must be congruent with the research paradigm and appropriate to the methods employed. In this section the criteria proposed by Lincoln and Guba (1985), for use in interpretative studies, are reviewed for their suitability in grounded theory studies. The practical steps implemented are then described.

### **3.5.1 Ensuring validity of GT studies**

Glaser has consistently highlighted the need for canons of validity which are relevant to theory generation, rather than theory testing (Glaser & Strauss, 1967, p. viii). In a recurrent theme Glaser emphasises that “the goal is not clever verification” (Glaser, 1978, p. 93). In a later text he devotes considerable space to criticism of Strauss & Corbin (1990), for even attempting to discuss verification of theoretical outputs. Glaser stresses that quality in a grounded theory study is established by rigorous processes, in which the validity of theoretical outputs is demonstrated through links to the original data (Glaser, 1992). Quality assurance concentrates on process rather than outputs because different interpretations of the same data may be made validly. It should also be noted that consequences of quality failure are less severe in a theory generating study. Quality issues with a grounded theory study may impinge on the tentativeness (Binder & Edwards, 2010) or completeness of resulting theory, whereas quality issues in a theory testing study may compromise the veracity and validity of the entire study. The traditional versions of grounded theory have been characterised as fitting a post-positivist paradigm (Guba & Lincoln, 1994) and therefore may be expected to have the greatest potential fit with positivist quality criteria, so Glaser’s rejection of their suitability suggests that these quality criteria are likely to have even less suitability for the constructivist oriented versions of grounded theory. The relevance of the traditional quality criteria of reliability and validity are examined below along with proposed alternatives.

### **3.5.2 Appropriate quality criteria for qualitative research**

The concepts of reliability and validity have been considered to be the preeminent criteria relevant to the assessment and establishment of research quality in quantitative study, but their relevance to qualitative research is questionable (Bryman, 2012, p. 389). In particular, the connotation of validity with measurement systems, limits both its practicality and its potential efficacy in the context of social systems, imbued with subjectively assessed and socially constructed concepts. Attempts to convert assessments or interpretations of human behaviour and social interaction into inappropriate quantified scales, run the risk of distorting the very research processes they are intended to assure, by encouraging the conversion of rich qualitative interpretation into lower quality, more inappropriate numeric scales. External reliability, as an assessment of the extent to which the results may be replicated, is also

of limited utility in assuring the quality of research undertaken in an environment of continuous flux, in which the research intent is limited to the establishment of patterns in similar or related contexts, rather than certainties in replicated contexts. Internal reliability is an assessment of the extent to which multiple researchers reach the same results. These inter-rater assessments are of particular utility where subjective data are being enumerated, and an element of judgement variation may exist between researchers. In the context of grounded theory development however, where it is acknowledged that different researchers may quite validly derive different interpretations from the same data, this measure of research quality has little relevance. The limitations of reliability and validity as a means for assessing the quality of qualitative research is fundamentally rooted in the ontological differences between the positivist belief in a single tangible reality, which can be predicted and controlled, and the naturalist belief of multiple divergent uncontrollable realities (Lincoln & Guba, 1985, p. 37). These issues with reliability and validity assessments which renders them “often irrelevant” to qualitative research (Gummesson, 2005), do not however carry any suggestion of a lessening of the importance of the need to establish the quality of interpretivist research. If anything the extent of critical scrutiny to which qualitative studies are often subjected, only increases this importance (Lincoln & Guba, 1985, p. 294). In an attempt to establish generic criteria more suited to qualitative research, Lincoln and Guba proposed that trust and authenticity should replace validity and reliability. Trust is considered to comprise four components: credibility; transferability; dependability, and confirmability. These criteria are themselves not without problems in a qualitative context however, probably as the result of the attempt to maintain a level of equivalence with quantitative quality criteria. In the following sections the relevance and limitations of the Lincoln and Guba criteria are considered with respect to inductive, qualitative research. The discussion then proceeds by outlining those features of grounded theory methods which may be deployed for quality assurance purposes, followed by the discussion of how these features have been utilised within this study.

### **3.5.3 The four criteria of trustworthiness**

*Credibility*, the first of Lincoln and Guba’s trust criteria, is established through techniques such as respondent validation and triangulation, which are themselves controversial as qualitative concepts. Respondent validity has relevance where its

purpose is limited to ensuring data gathering accuracy; for example in ensuring that field notes of an interview constitute an accurate summary of a respondent's views. Where respondent validity is extended however to include validation of the outputs of analysis, including interpretations and abstracted concepts, then the approach becomes "highly questionable" (Bryman, 2012, p. 391). Participants may lack understanding of abstract concepts, or may lack awareness of how their behaviour fits a wider pattern (such as covert power manipulation), but this should not invalidate the analyst's interpretation of data. Triangulation is an inherently quantitative technique that is a "flawed" method in a qualitative research context (Silverman, 2000, p. 177). At best the term has utility in a qualitative context only where it is loosely interpreted as an indication of multiple data sources, or varied analytical perspectives.

The *transferability* of findings criterion, is proposed as a qualitative equivalent to the positivist concept of generalizability, something which Lincoln and Guba (1985, p. 316) recognise to be in a "strict sense impossible". Lincoln and Guba instead propose that researchers should include thick descriptions of the context and time of the research environment, such that others are able to make their own judgements of the transferability. In the case of a grounded theory, particularly *substantive* rather than *formal* theory (Glaser & Strauss, 1967, p. 33) where the central category is associated with a constrained context, then the accurate delineation of this context is relevant and a natural outcome of the method.

The third criterion as presented is arguably not a criterion at all but a process. *Dependability* is described by Lincoln and Guba (1985) in terms of a series of checks they suggest could be made and therefore constitutes a form of process, rather than a criterion that may be assessed or measured. Practical problems have also been noted in relation to the dependability processes with large data sets. Coupled with difficulties in its instrumentation, this may explain why the dependability criterion has been described as being neither popular nor prevalent (Bryman, 2012, p. 392).

Of the four trust criteria, *Confirmability* is the least quantitatively coupled, and may be used to demonstrate good faith in the way results were derived from data, and to show that results are uncontaminated by personal values.

Finally, the Lincoln and Guba *authenticity* criterion, is heavily associated with action research and intervention in social situations, rather than in theory generation and is

therefore of limited utility outside action research, which has led to it being characterised as controversial, but not influential (Bryman, 2012, p. 393).

### **3.5.4 The relevance of verification**

The discussion above, on alternative criteria through which the quality of qualitative research may be assured, indicates a number of suitability issues that remain, even with these revised criteria. Inherent within grounded theory however, there are a number of quality oriented features that help to ensure research quality, but these should not be considered to be verification measures. The term *verification* is controversial in a grounded theory context (discussed further in the section on credibility), and lies at the heart of debates amongst the authors of the methods. The phrase ‘quality assurance’ is considered to be more apposite in this study. Unlike post-analytical verification checks in theory testing studies that check the accuracy of the results, quality assurance in grounded theory studies is an on-going activity that seeks to ensure the consistency and credibility of the research process. The process of category saturation, for instance, in which consistency and relevance of the concepts is progressively established through theoretical sampling to further elaborate the category, is a built-in process which has been described as striving toward verification (Goulding, 1998; Strauss & Corbin, 1998b), but is predominantly a heuristic for ensuring conceptual completeness. The process of constant comparison through which new data and emerging concepts are checked against previous instances is another in-built process which helps to ensure credibility and confirmability by ensuring that supporting and disconfirming data receive equal treatment. The use of memos to record preconceptions, as well as emerging insights, provides both an audit trail during theory development as well as a vehicle through which reflexivity is continuously encouraged. The most pragmatic and effective route to quality assurance therefore, should be one of utilisation of the quality oriented tools to cover as broad a range of quality criteria as reasonably possible, but without unduly compromising the progress or efficacy of the research itself. This ensures reasonable trustworthiness, rather than indisputable verification.

### 3.5.5 The application of trustworthiness criteria in this CGT study

Having discussed issues with traditional quality assurance criteria in a qualitative research approach, and outlined the relevance of an alternative proposition, this subsection describes how the Lincoln and Guba (1985) trustworthiness criteria have been interpreted and applied in this GT study.

*Credibility*, in a grounded theory context, is taken to mean the accurate representation of interviewees' data and assurance of the provenance of other non-interview data (e.g. company documents, e-mails, minutes). Data accuracy is provided here by digitally recording all interviews and transcribing them in full, to ensure no loss of fidelity. Both sources were retained throughout the study. Although the full transcription of digital recording produces considerably longer transcripts than would occur with researcher field notes, the risks of inaccurate recording or early researcher interpretation of an interaction are avoided. Other data collected including documents and brochures were obtained directly from, or through, the interviewee to ensure their validity. For the reasons established earlier, the study rejects suggestions that researcher *interpretations* or theoretical concepts should be validated with participants (Goulding, 1998). The credibility of interpretations is best ensured by transparency in the process, and maintaining separation and traceability between the original data, and interpretations and concepts derived from it (Gephart, 2004). As Glaser has repeatedly noted, different researchers validly may "see a different concept in the same datum" (Glaser, 1978, p. 43) and therefore there is no such thing as an accurate interpretation (Glaser, 2002), merely accurate records of which datum led a researcher to a particular insight. Interpretation is part of the academic theorisation process, and not part of the data verification process. The concern, for instance, with Goulding's use of the word *interpretations* in the context of originator verification, is that emerging theory may be constrained to situational descriptions with which participants can identify, rather than leading to higher abstractions. It is this potential to move from the descriptive to the conceptual which Goulding herself identifies as the most important differentiator between ground theory and phenomenology (Goulding, 2005). In summary, it is important in a GT study that the validity of data sources is ensured with participants, but not interpretations.

*Transferability* is indicated through the dimensioning and attribution of the core categories, which is a central feature of a grounded theory study. The objectives of this study are to generate substantive theory, which Glaser and Strauss define as context bound theory, rather than formal (widely generalizable) theory (Glaser & Strauss, 1967). Theory is presented in this study through a conceptual discussion revolving around the central category and its properties. The conceptual discussion and the theoretical implications indicate the extent of envisaged transferability, through description of the actual research contexts, and potential wider generalisability indicated in the management implications. The use of Situational Analysis (Clarke, 2005) ensures that a much richer contextual analysis is available in this study compared with traditional GT studies.

The study establishes *dependability* by ensuring that all data and analysis products are recorded and maintained. The six Halpern categories of auditable product cited by Lincoln and Guba (1985, p. 319) are addressed in this study as shown in Table 2 below. The separate maintenance of all raw data and intermediate analytical products ensures that full traceability of outputs back to raw data is possible, and that there is maximum transparency in the route through which the outputs were derived. This approach ensures that despite Bryman's concerns about dependability as a criterion, it is still addressed rather than dismissed.

<b>Halpern audit trail category</b>	<b>Auditable project elements</b>
Raw data	Digitised interview recordings in raw and transcribed forms; meeting notes; other collected data sources
Data reduction and analysis products	NVivo coded data fragments. All original transcript codes and coding retained throughout
Data reconstructions	Concepts, abstractions and categories in NVivo supplemented by analytical memos. Central category with description and

	theoretical memos linking back to the core categories.
Process notes	Methods notes; analysis process memos stored in Nvivo
Materials relating to intentions and dispositions	Reflexive memos on prior knowledge and conceptions
Instrument development	Interview prompts. Theoretical sampling notes and memos

**Table 2 - Project audit trail**

*Confirmability* was ensured by ensuring throughout the interviewing and analysis process that both positive and negative cases were considered. The value lens itself encouraged interview discussions about unsuccessful as well as successful collaboration episodes. In the analysis phase examples were also sought of positive and negative instances of collaborative behaviour. Data coding covered collaboration enablers and disablers, risk willingness and aversion, value creation and destruction, and behaviours such as collaboration willingness and reluctance. This coding of a spectrum of positive and negative examples meant that emerging theory could be readily assessed against both confirming and potentially disconfirming data. The initial reflexive memos provide a further mechanism designed to minimise the constraining impact that researcher preconceptions can have on theory development.

These measures are summarised in Table 3 below, and collectively help to ensure the overall trustworthiness and credibility of the study.

<b>Quality assurance criterion</b>	<b>Summary of assurance measures</b>
Credibility	Interviews digitally recorded and transcribed in full to ensure accuracy and retention of contextual detail.



	Supplementary materials sourced directly from interviewee.
Transferability	Conceptual discussion, revolved around the central category, contains context detail to enable judgements in new contexts to be made. Situational analysis increases the depth of context detail compared with traditional GT.
Dependability	Halpern's six categories of auditable data used to ensure fully auditable trail of intermediate analysis elements was maintained.
Confirmability	Interview prompts sought both positive and negative sides of collaboration. Coding captured positive and negative aspects of relevant codes, enabling theoretical analysis to search for confirming and disconfirming examples. Preconceptions managed through reflexive memos.

**Table 3: Summary of quality assurance measures**

### 3.6 Ethics

The arguments surrounding different ethical stances have been described recently as having changed little since the 1960's (Bryman, 2012, p. 133). Arguably what has changed in the recent past is the effectiveness of governance committees in controlling research ethics with the result that only the first of the stances Bryman identifies, that of universalism, is possible in controlled research. Universalism ensures that the highest ethical standards are universally applied, and no infractions are permissible. Research described in this chapter has adhered tightly to its ethical commitments to ensure that no harm, distress or reputational dangers were posed to individuals, and that no reputational or commercial risks were posed to businesses engaged in the study.

No engagement was undertaken with the field until a full approval from the University's ethical committee had been received. In accordance with the mandate,

all interviewees were provided with a copy of the research description (Appendix B – Participant information form) and each interviewee was asked to sign an acceptance form (Appendix C – Research consent form), to indicate that they were willing to take part in the research, and understood their rights to withdraw at any stage should they so choose.

In the presentation of data all individuals and all company names were anonymised, as were any companies or people identified by participants during dialogue. All interviews were recorded to ensure that views and opinions were not misrepresented.

The issue of reciprocity has also been raised in relation to research ethics. Reciprocity in this context considers mutuality in the research process and the extent to which the participants also gain something from the interaction (Creswell, 2013). Participants in this study were offered copies of research outputs, but typically did not seek any tangible output in exchange for their time. Participants seemed to gain personal gratification from act of engaging in research and this was their primary motivation. Although participants did not seek any other form of return, several commented that the session had been beneficial to them, unexpectedly. The act of reflecting on and discussing their collaboration activities led to these participants considering changes to their practices. From an ethical standpoint this was considered to represent an element of reciprocity and was not considered to constitute any form of research site disturbance.

All interviews were arranged, and rearranged when necessary, at a time convenient to the interviewee to ensure that disturbance to their organisation was minimised. Potential contacts were not coerced or pressured into participation. In a few instances, where contacts that had been approached had initially responded positively, but then failed to respond to interview requests, one reminder only was sent. Failure to respond to the reminder was assumed to be an implicit rejection of the request.

Finally, the participation invitations also outlined the interviewees' rights to subsequently withdraw an element of their contribution. No such requests were received.

### 3.7 Summary

This chapter has firstly, reviewed the background to the method choice and its relevance to the research objectives; secondly, reviewed the epistemologically grounded debates about the relative merits of different versions of grounded theory, and thirdly, discussed in detail how the chosen method was applied in practice.

The initial section discussed the approach to managing researcher preconceptions and then considered the chosen research approach against four other genres of qualitative study and the reasons that they had been considered to be less suitable.

In the second major section the epistemological differences between the main variants of grounded theory were explored and a case was put forward for more use of the contemporary constructivist version when studying business relationship management phenomena. The constructivist perspective is now receiving considerable support amongst grounded theory researchers in other disciplines and is considered to be the most relevant in this case. Constructivism provides particular advantages when studying complex management phenomena where prior subject area knowledge and close interactive dialogue between researcher and participants are considered to be pre-requisites for achieving deep and rich insights. Long standing controversies relating to grounded theory were also considered and it was proposed that these issues do not pertain to the constructivist version with its radically different approach to the researcher's engagement with the field.

The third major section of the chapter presented details of how the method was used in practice in this study, including the use made of NVivo software. In response to a number of review papers produced in the last 10 years detailing issues with the way many studies have utilised grounded theory, an extended discussion on research quality was included in this third section. Qualitative research in general is not well suited to the traditional quality canons of reliability and validity. The suitability of a well-established alternative set of criteria was considered at length and the benefits of intrinsic features of grounded theory were discussed. Collectively the quality assurance approach established the credibility and trustworthiness of the research. The discussion in this chapter has also sought to establish methodological credibility by considering each of the main tenets of grounded theory, common to all versions, to define how they are covered in this study. The section as a whole therefore addresses

in detail the concerns expressed with many grounded theory studies (Suddaby, 2006; Bindert & Edwards, 2010) and establishes this research as a fully conformant implementation of grounded theory.

# Chapter 4. Findings

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## 4.1 Introduction

The study establishes a broad diversity in collaborative and pre-collaborative behaviour and practices through which companies get to know each other, and ultimately do business. The benefits identified from these interactions ranged from new long-term multi-party collaborative consortia being established at one extreme, through to simple improvements in entrepreneurial skill and confidence at the other.

In a grounded theory study the main themes of the research are collated into a central abstract category. Strauss and Corbin (1998a, p. 146) summarise the purpose of the central category as condensing all the products of analysis into a few words that explain what “this research is all about”. Accordingly the chapter is organised around the central category and its properties and dimensions.

The social foundations for collaborative interaction are complex and are represented here through a central category entitled inter-organisational relationship mining that incorporates six key properties. The first is the scene-setting property in which the actors and important discursive entities relating to collaboration are described. In the second, the interactive properties of collaboration are described through eight generic processes, presented as a typology of basic social processes through which collaborative relationships are formed and developed. Through the third property the concept of collaboration phases is proposed to illustrate how the use of the eight basic processes varies over time, and in response to events. In the fourth property, social and personal behavioural factors are identified that act to enable or disable the social processes, and that impact the ultimate efficacy of a collaborative relationship. In the fifth property, situational factors are considered that impact process effectiveness. The suitability of different interactional contexts is considered to be particularly important at the formative stages of collaborative relationships. Finally, the locus and timing of intangible social and human products are considered. These products constitute an intermediate source of collaborative value that is often overlooked. The perishability of these intermediate products has implications for how organisations plan and manage collaborative interaction.

Accordingly, the rest of this chapter is structured, firstly, to introduce the characteristics of the central phenomenon and, secondly, to detail each of the properties that comprise it, along with illustrative extracts drawn from the empirical data. Examples of successful and unsuccessful collaboration episodes are provided to illustrate the overall effect of different situational combinations on the collaboration processes. These passages help to introduce material that is then further explored in the discussion chapter. The pervading theme running across these findings is the distinctive importance of social capital and social context to both the effectiveness of processes and for its implications of the ultimate generation of organisational value. In the third section additional details are provided on the brokering organisations engaged in the study. These organisations are repeatedly referenced throughout the earlier sections and play an important role in promoting collaborative activity.

## 4.2 Central category: Inter-Organisation Relationship Mining

The central phenomenon of social interaction through which valued business outcomes ultimately may be realised is denoted here as Inter-Organisational Relationship Mining (I-ORM). I-ORM encompasses a distinguishable set of processes through which commercial value ultimately may be created. Its situational and structural properties define the process interaction context. Collectively, this concept helps to describe the context and processes through which collaboration is initiated and pursued, and helps to identify where resultant value is located and when it is created.

Through analogy with the mining metaphor, three stages in the development of collaborative relationships are identified: prospecting, extracting and leveraging through which relationships eventually lead to valued output. The properties and dimensions comprise:

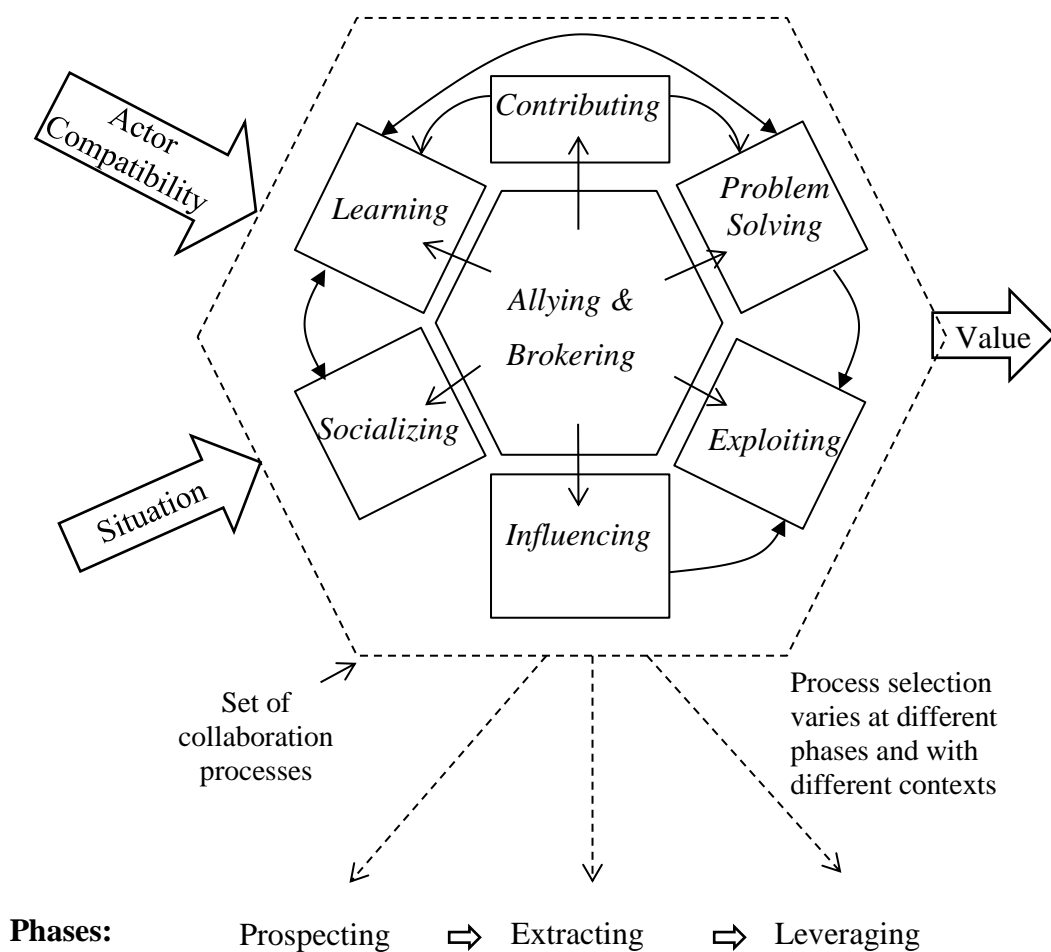
Description		
Inter-Organisational Relationship Mining (I-ORM) is an abstraction through which any commercial, collaborative relationship can be described in terms of its settings, processes, moderating factors and outcomes. The mining metaphor is used to distinguish between activities through which prospective new relationships are identified, and activities in which relationships are built and then exploited for mutual commercial benefit.		
Property	Description	Dimensions
Structural	Describes stakeholders involved in a collaborative episode and their group and organisational affiliations. The situational analysis maps reveal the diversity of stakeholder groups. An individual in a commercial context will typically be representing an organisation, but may have affiliations with professional institutions that are relevant to the context.  The role clarifies whether the stakeholder is a collaborating principal who stands to benefit from the outcome, or a third-party facilitator. A silent stakeholder is not directly involved, but is potentially impacted indirectly.	<ul style="list-style-type: none"><li>• Primary organisational affiliation</li><li>• Secondary organisational affiliations</li><li>• Social identities</li><li>• Role (principal, 3<sup>rd</sup> party or silent)</li></ul>

Interactional	A set of basic collaborative processes formed by reductive categorisation. These eight processes are considered to be sufficiently distinguished by their outputs, the nature of the process or the actors involved that they resisted further hierarchical organisation. Each of the eight processes are defined by a description and the dimensions indicated (right).	<ul style="list-style-type: none"> <li>• Sub-processes</li> <li>• Value to individuals</li> <li>• Value to organisations</li> <li>• Issues</li> </ul>
Temporal	Collaborative relationships pass through a minimum of three phases within which the interactional processes used are expected to vary. Connection processes are more evident in the formative stages, with commercial exploitation and problem solving processes most in evidence in the leveraging phase	Prospecting, Extracting and Leveraging
Behavioural Factors	Personal and inter-personal factors that impact the effectiveness of the interactional processes. Low levels of any of these factors could negatively impact a collaborative episode. Factors include Risk aversion; Willingness / motivation; Personal skills including social skills	Skills, Willingness and motivation all range High ← → Low
Situational Factors	Environmental and structural conditions in which a collaboration episode is situated. The physical setting and the number and social mixture of people grouped in a collaborative setting affect the ease with which interaction will be established, and its productivity. In large group settings, such as networking events, the formal organisation of the event may affect an individual's opportunity for interaction with preferred contacts.	<ul style="list-style-type: none"> <li>• Social diversity</li> <li>• Formality</li> <li>• Relevance</li> <li>• Cognitive proximity</li> </ul>
Outcomes	Value oriented outputs and outcomes from interaction. Many of these benefits were noted to accrue to individuals in the first instance rather than organisations. Social and human capital require further transformation before they become of direct value to organisations. Costs include tangible financial costs, but also other negative consequences such as lock-in.	<ul style="list-style-type: none"> <li>• Locus (Individual or organisation)</li> <li>• Benefits</li> <li>• Tangibility</li> <li>• Costs</li> </ul>

**Table 4 Central Category: Inter-Organisational Relationship Mining**



The temporal dimension relates to the timing of value realised from collaboration. Benefits may be realised over an extended period or a narrow period of time, and may be near-term or long-term, and may be continuous or episodic. Value crucially may also exist in an intermediate, as yet unrealised state, where it represents only an improved probability or potentially larger scale of otherwise as yet unrealisable value.



**Figure 13 - Inter-Organisational Relationship Mining (I-ORM)**

Respondents indicated a wide range of differing reasons for collaborating. In some instances, partners were sought to address a specific need, but in many cases vague networking activity was being pursued speculatively. Whilst the declared intent, even in extremis, is for organisational value to result, it is notable that much of the value generated through formative collaboration activity is located at the level of individuals

and their social relationships, rather than at an organisational actor level. These forms of value are also noted to be intermediate, in the sense that they are precursors to more tangible forms of organisational value, and are intangible, non-tradeable in nature.

### 4.3 Structural entities

→	<b>I-ORM Property</b>
	Structural entities
	Interactional processes
	Temporal phases
	Behavioural factors
	Situational factors
	Outcomes

In this first section detailing the central category properties, the outputs from the situational analysis are presented to describe the structural properties of inter-organisational collaboration. In the first part of the section, a social worlds map and associated set of descriptions is provided to reveal the actors. In the second part an ordered situational map is presented to reveal the additional conceptual entities implicated in collaboration. It is the analysis of interaction and relationships between these entities that helps to provide additional insight to the traditional grounded theory analysis processes.

### 4.3.1 Social worlds and arenas maps

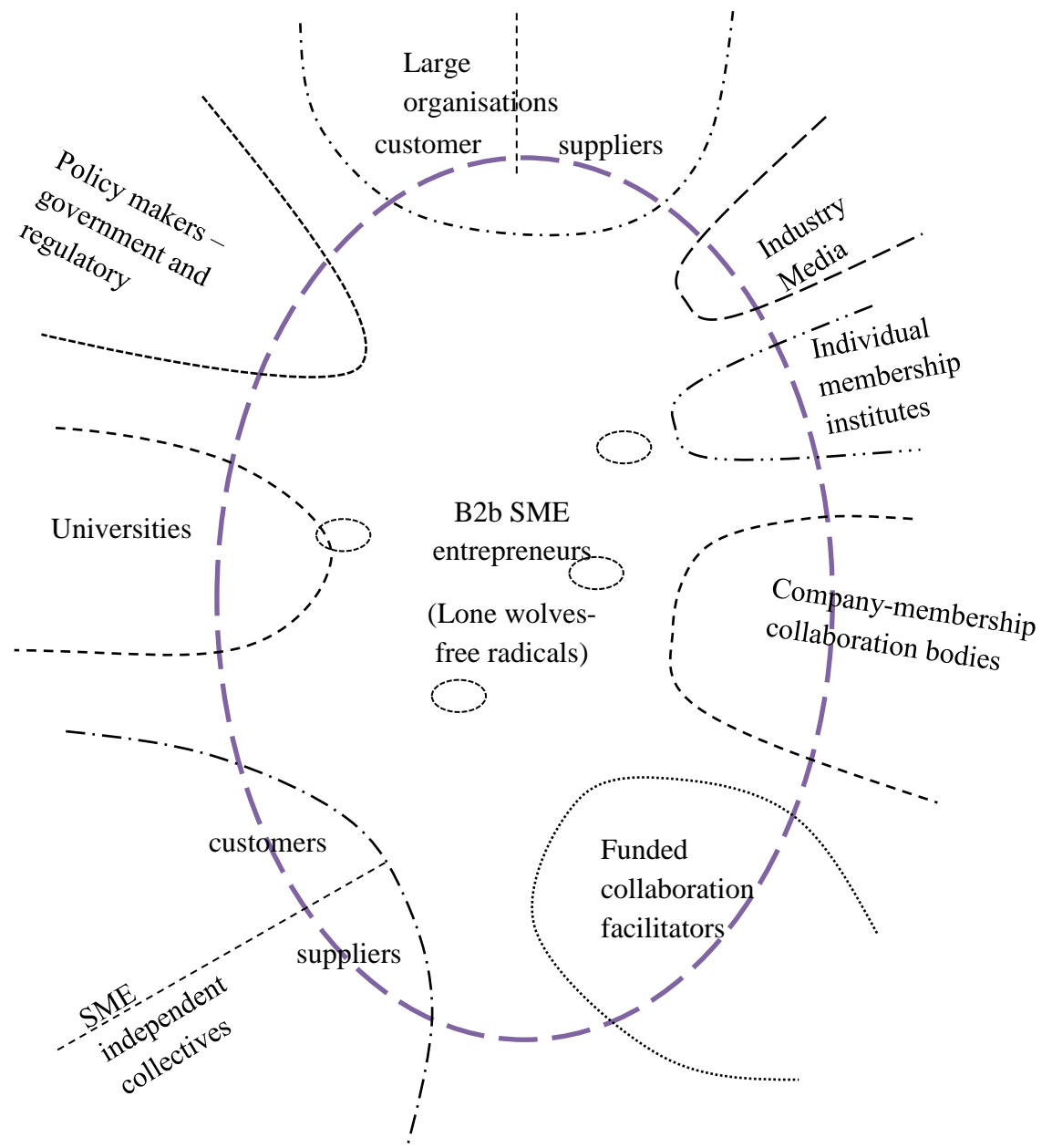


Figure 14 - Collaboration actors' social world map

### **4.3.2 Social world/arena map for B2B collaboration**

The social arenas map illustrates the main actors identified during the study. The analysis was progressively revised throughout the project as new actors were identified. The analysis was particularly insightful in helping to distinguish different types of organisations that facilitate collaboration. These organisation types have different drivers and different modes of operation and may be expected to prioritise the generic collaboration processes differently, and to exhibit different behaviour.

#### ***4.3.2.1 Company-membership collaboration bodies***

These bodies are typically commercial organisations with company (or other organisational types) level membership. Trade-associations are the most common example. The bodies defined here specifically actively help to facilitate collaboration and not all trade associations therefore belong in this group. Collaboration is facilitated between members, and between their members and other non-member bodies including public and educational sectors. These organisations also tend to be strong influencers with policy makers. Collaboration is only one of many functions undertaken by these bodies.

#### ***4.3.2.2 Funded collaboration facilitators***

These bodies are distinguished from company-membership collaboration bodies because of structural and funding differences. These organisations may operate as nascent trade-associations but typically and importantly, are funded externally to the group, typically by the public sector. These bodies may also derive some revenue from members or clients as a source of match funding. Funded collaboration organisations exist as projects and their objectives and reporting structure is determined by one or more public authorities. The bubble shape indicates that most of their reason for existing relates to collaboration.

#### ***4.3.2.3 Individual membership institutes***

Individual membership institutes are organisations to which individual members subscribe (rather than their employers). Collaboration and networking is undertaken at an individual level to promote knowledge exchange and help to establish sector specific best practice. In the case of institutes this is underpinned by a formal qualifications regime. Sector specific institutions with a dedicated membership

constitute a collective in which a normalised set of values and knowledge becomes established.

#### ***4.3.2.4 Lone wolves***

Lone wolves are specifically identified because they collaborate independently of any collective to which they may also belong. Typically they may be SME entrepreneurs but may also include larger company employees who network and/or collaborate as individuals outside of their company and therefore may have specific and personal value objectives.

#### ***4.3.2.5 Universities***

In a collaboration context, universities engage with businesses in knowledge exchange (KE) projects, often with the support of public funding. Structurally, these projects vary considerably from small, short-term dyadic relationships to multi-year programmes in which the university also adopts the role of funded collaboration facilitator. Programmes interacting with over 100 organisations were encountered.

#### ***4.3.2.6 Large-organisation collaborators***

Most large organisations have a substantial supply base and large mature organisations may also be expected to have mature supplier management processes. In the context of this study however, this group represents those organisations encountered that led an extra-ordinary collaboration initiative. Public sector and private sector examples were encountered. Extra-ordinary collaboration initiatives move beyond operational supply-chain practices by involving both existing and potential suppliers, and by promoting interaction between companies. Innovation was the driver in the cases examined.

#### ***4.3.2.7 SME collectives***

Collaborative groups of SMEs. Typically, horizontal peer-to-peer collaborative groups, often formed under the direction of a third party group such as the funded collaboration facilitators or company-membership collaboration organisations.

#### ***4.3.2.8 Policy makers, regulators and funders***

A broad mixture was encountered of super-national, national, regional, and local bodies that have responsibilities for implementing collaboration policy. These bodies typically also have responsibility for setting or implementing policy within their

domain. Public policy makers may also be the source of funding of collaboration initiatives. The European Union, the UK government and local councils have direct impacts in the UK, whilst Local Enterprise Partnerships (LEPs), regional alliances such as the Mersey/Dee Alliance (MDA), and major infrastructure programmes such as HS2 and CrossRail.

### 4.3.3 Situational map (ordered)

<b>Individual Human Elements /Actors</b> Influential heads; Lone wolves	<b>Non-Human elements, actors / actants</b> Technology developments
<b>Collective Human Elements / Actors</b> SMEs; Big customers; Big Suppliers; Regional trade-member organisations; Individual member institutes; Universities; training organisations; EU; UK-Gov, UKTI, BI&S (now BEIS); Local Government LEPs; Chambers; Development Orgs	<b>Implicated Silent Actors/Actants</b> Company colleagues; Missing gender/racial representatives; Dependent regional economy; Missing companies especially blue-collar owned
<b>Discursive Constructions or Individual and/or collective human actors</b> The entrepreneurial dream; Networking event; Perceived value of collaboration; Individuality; The growth imperative; High-tec prominence Collaborating group	<b>Discursive Constructions of non-human actants</b> The Law on Patents/IP/Copyright; Concepts of networking & collaboration; Measures of economic improvement
<b>Political / Economic Elements</b> Regional funding priorities/allocations; cities vs rural economy;	<b>Socio-cultural / symbolic elements</b> Educational divide; Social identities: Engineers; ITers; Managers; Workers; Entrepreneurs; Scientists; Sociability; Symbols: Membership plaques & Logos
<b>Temporal Elements</b> Transient funding; Perishability of innovative ideas; Shifting economic sands	<b>Spatial Elements</b> Local and regional tendency;
<b>Major Issues / Debates</b> Risk of IP leakage especially from SMEs into larger organisations What happens after funded initiatives end	<b>Related Discourses</b>
<b>Other Elements</b>	

**Table 5 - Collaboration situational map**

## 4.4 Collaboration processes and phases

	<b>I-ORM Property</b>
→	Structural entities
→	Interactional processes
	Temporal phases
	Behavioural factors
	Situational factors
	Outcomes

The properties of I-ORM are highly inter-related and the second and third, in particular, need to be discussed in tandem. In this first short sub-section the eight processes and the three phases are introduced and the inter-relation between them is outlined. In the following sub-section each of the processes is described in detail. These descriptions, illustrated with data fragments, help to indicate the phases in which each process is like to be most apparent.

Through the abductive analytical processes (Locke, 2007) in which the central category is conceptually developed, three phases of collaboration are proposed to give a sense of temporality to the explanation of variation in processes of collaboration. These phases are entitled: prospecting, extracting and leveraging (see Figure 13).

Propecting covers formative interaction in which actors speculatively seek new ideas, contacts or other resources that may lead to more substantial subsequent interaction. This phase encompasses any activity which may lead to the development of new interactive relationships. In this phase, networking activities predominate and the accumulation of bridging type social capital is a notable feature. Third party organisations play an important role in establishing suitable events, with appropriate groups of attendees to ensure that interaction among attendees is productive. The activities through which these third parties interact with other organisations is collaborative in itself, and acts as a catalyst in the formation of new relationships between attendees that may also be collaborative.

The extracting phase represents the key technical set-up phase of a collaboration in which a relationship is established and an underpinning capability is established. In this phase the collaborators may develop a product or service or just develop a synergistic capability by combining and enhancing their existing knowledge and resources. The development of the bonding form of social capital, and the development of knowledge are predominant themes in this phase.



In the third leveraging phase, the commercial exploitation of an established opportunity becomes the primary focus. Although largely about maximising potential in established collaborations, this phase can also see the expansion of collaborative consortia. Collaborative consortia that have hitherto concentrated on resolving technical developmental challenges may need to access additional resources and new knowledge to meet legal, marketing and funding challenges.

In Figure 13, collaboration processes are depicted as a set, from which different combinations may be utilised in different phases, according to the situational needs. Whilst several of the processes are likely to be in evidence throughout a collaboration, it may be expected that socialising, allying and brokering would be most in evidence during the prospecting phase; learning and problem solving in the extracting phase, and influencing and exploiting during the leveraging phase. These processes are highly interrelated. Learning, for instance, provides the basis for problem solving and new opportunity identification when considered in a product and service context, but is also the basis for allying decisions when considered in a business environment context. The arrows shown on the figure therefore, illustrate significant interrelationships between processes only.

#### **4.4.1 Collaboration process typology**

In this section eight basic collaborative processes are presented to describe the main social processes recognised during the study. This set of processes has been distilled from a wide set of processes identified during the open coding phases through a reductive process seeking to identify a minimal set of generic processes. In an iterative process, commonalities and differences in inputs, outputs, and actors involved were considered along with the transformation effected. Processes were combined and hierarchically ordered into process sub-categories as far as possible. In refining the resultant groupings it became clear also that some process codes were composites of more than one basic code and were therefore not included in the typology. The abstraction process is subjective however, so the classification presented in this chapter is just one possible interpretation of the data and is proposed as a typology rather than as a taxonomy. This typology is summarised above in Figure 8, and each of the eight processes are described in detail in the following sections.

#### 4.4.2 Contributing

Related codes	Presenting, Coaching, Advising
Description	Unique among the collaboration processes as it seemingly represents altruistic behaviour with no expectation of gain. Benefits accrue mainly to the recipient therefore. Donor may gain some increased reference value and increased social capital, but motivation mainly seems to be repayment of a perceived social debt. Group affiliation may also increase an individual's feeling of indebtedness. Form can be broadcast (presentations) or interactive providing help and advice but was observed in networking settings. Motivation to the donor organisation in supporting individual appears to be indirect reputational value
Value to Individuals	Increased reference value. Social capital increased through bonding with known contacts, whilst event presentations also provide an opportunity to extend weak-tie networks. Personal satisfaction
Value to Organisations	Organisations support these donor activities but gain only indirect reference value. Potentially an investment in social capital, but located at the individual rather than absorbed into the organisation.
Issues	For organisations, this represents a highly speculative investment

*Contributing* appears to represent a mature, long-term collaboration process in which the donor actor seems to be content to make a contribution independent of any reciprocation. In two instances this behaviour followed earlier benefits that the individuals had received from the forum and therefore their willingness to help others may represent the repayment of a perceived social debt. In the first case the SME CEO

had gained useful knowledge in the early days of membership of a niche trade-association and was happy for his organisation now to be a net contributor.

1. QR “Oh definitely, yes, so there's a source of knowledge there, certainly in the earlier days, but now, of course, as this company has grown, I'm employing the engineers, better engineers, and they're contributing back in to the organisation” [SME MD]

In a second case, the case the manager in a global manufacturer and engineering-services corporation was asked what he and his colleagues gain from continuing to contribute to an international knowledge sharing forum even though they now learn little new

2. UR “I give myself a pat on the back ... First time I went it was great for me. It was fantastic. It allowed me to develop a network that really helped me. 18 months later we were the ones presenting ... it was a way of putting something back, you know, we'd taken something out of it, it was now time for us to put something back” [GlobalCo Manager]

One case was even encountered where a company ‘gave’ a commercially valuable idea to a potential supplier for free, seemingly to the surprise of the other company. The only motivation apparently to the donating company was the general prosperity of their industry and the possibility of establishing some reference value with supplier, but they passed up any opportunity for short-term commercial return.

3. SC “The people were like, so you want this exclusively, we're like, no, we just think it's a good idea. We think that you should do this, it should sell well, and they're like, yes, but, you want 1,000 for free, but no, just / just sell them. It'll help the industry ... We thought it would be a good way to start a relationship” [SME MD]

Contributing behaviour could be interpreted as pure altruism, social debt repayment, or a low-cost investment in longer-term, high-value potential. In each of these cases the interviewee did envisage that their actions could reap benefits in the future, and were not considered therefore to be altruistic. The first two cases differ from the third in that in the first two cases the interviewees considered themselves to have benefited already, and these ‘winnings’ may have been offset against further ‘plays’ in that

collaboration forum. There was also a sense however that their justification went beyond financial value considerations and that affective benefits were also being considered; the respondents *felt* good about being able to contribute. However, individuals are motivated to contribute, their actions are well received. In the clip below the contribution of a very high net-worth individual was highly valued by one brokering organisation, but the contribution was also respected and kept private to the original forum:

4. NN “now [HNW individual] came to do a master class and ultimately of course we could have put that out on to Twitter and we could have put it out to everyone and their mother really” [Broker CEO]

The third case also seemed to include affective value, but the target was a wider social collective (“the industry”), rather an individual or group. In this third case the individual’s motives seem similar to those of three other interviewees who gave their time to establish or to support the running of trade-associations.

5. UK “... I mean / any effective network or association can't just rely on taking out can it, so there has to be putting in ...” [SME TD]

This contribution of industrialists that are also full-time owners or managers of businesses is a considerable commitment compared with the full-time executives or managers employed directly by associations.

#### 4.4.3 Learning

Related codes	Benchmarking, Consulting, Learning actively, and Spying
Description	Collaborating with the purpose of acquiring new information, or new knowledge. Examples noted covered: Technical: knowledge of new technology, techniques or new application, acting as a source of innovation; Market: information about competitor proposition, competitive environment; Relational: contacts, access points and opportunities. Learning is both pursued actively and purposively and occurs passively as a by-product of other collaborative activities. Asynchronous learning through product information is also included in this category because cases were noted in which such interaction led directly to subsequent deeper stages of collaboration.
Value to Individuals	Human capital is the predominant immediate outcome and possibly unique to each individual. The extent to which this is translated into new opportunities of value to the organisation (e.g. product innovation), depends on individual characteristics such as curiosity, motivation, imagination and prior knowledge.
Value to Organisations	Value to organisations is mainly indirect, but higher and more direct where the individual is also the entrepreneurial head of the organisation. Benchmarking and marketing type information and some technical

information may be readily absorbed and used by the organisation.

Issues	Absorption into the organisation, and early utilisation. Much of the knowledge in this context is time-critical.
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The *learning* process is the most complex and diverse of those presented here, in part due to the wide interpretation of collaborative behaviours. Information in the first instance is gathered by individuals as tacit experience, or as explicit knowledge, or in the form of useful social contacts. Explicit knowledge becomes particularly valuable where it is contextually adapted to create valuable innovative products. Although the engineering SME manager refers to “stealing with pride”, this tongue-in-cheek reference is to exploitation of existing ideas in a new context (March, 1991).

6. MS “We do people watching. In the industry it's called stealing with pride ... so we'll look at something and think, hey, that's a good idea, we'll look at introducing something like that in our line”. [SME Work Manager]

This behaviour was somewhat whimsically coded as *spying*. A similar sub-process labelled *learning actively* was identified to cover a pre-collaborative process of asynchronous interaction through which individuals gather information, including published brochures, which they then interpret in the context of their own experience and business knowledge. This process led to the innovation of a very profitable new product line in one case, and an entirely new company being formed in a second case. The innovative interpretation in which a commercial vision is established is the enabler for the subsequent collaborative relationship being established. The difference between these sub-processes is that the first case covered a new product resulting as a side-effect of an existing relationship from which the partner did not benefit, whereas in the second case (learning actively) the process is a scouting and interpretation process that leads to the formation of a new collaboration.

7. KG “the suppliers themselves, they'll send you out a brochure of all the new things on the market and that, umm, you tend to ... oh, another brochure, throw it away, but no, it doesn't always work like that. There is useful information”  
[SME Owner]

8. QB “I read quite a lot of trade magazines. It was an American magazine that I had subscribed to when I lived in America, so they carried on sending it, and it was purely a little paragraph that caught my eye. As I say having lived in America you always treat their claims with a lot of scepticism, so I asked for product, a trial product, which they sent. I actually applied it ... and seeing it do the job confirmed that there was potential. But, at that time, nobody in the automotive industry was particularly interested ...” [SME MD]

The sub-process *benchmarking* is again a similar learning process but was distinguished from the spying and learning actively codes because the process was voluntary and fully interactive. The third party brokering organisations often orchestrate such learning activities as part of their reason d’être, typically enabling smaller organisations to learn from larger supply chain heads.

9. DG “so the benefit of going to them is that they're actually doing best practice experience because they're going around and seeing what that company does and you can never / you never know what you're going to pick up from when you walk around a company, as another person ... So you get best practice sharing ... it will happen, because you're going and looking at that particular location and seeing things that may spark off ideas for you”. [Broker CEO]

Collaborative sharing also varies between individuals, some of whom are naturally more resistant than others.

10. TA “That sort of sharing ... you've always got that ... supporting collaboration on some areas, but then some people will always be protective on other aspects as well”. [UKGov Prog. Manager]

Finally, the code consulting was used to cover a form of active learning when organisations canvassed the views of supply chain stakeholders, typically on the customer side, but also including examples of supply-side opinion canvassing.

All the variants of learning process had the potential to stimulate new ideas and generate product or processes innovations, but through subtly different routes compared with standard benchmarking. The route to organisational value in most of these cases however was not straightforward as both the learning and its subsequent exploitation were often located in individuals. Even in larger organisations the

learning was located in small groups. The creation of organisational value required this human capital (personal knowledge) to be translated into an alternative form of capital, such as design or prototype, before the knowledge could be considered to constitute an organisational asset, and a potential source of organisational value. The issue of absorption was well illustrated by an SME distributor who undertook a process benchmarking exercise with a non-competing firm:

11. SC “we've got a partnership [with LOCO] ... where our warehouse manager did a shadowing with their warehouse manager and vice versa. We spent time at their contact centre, they spent time with us ... people tend to find that beneficial.

... then the warehouse manager, who did that shadowing, will turn to me and say, yes, that's what they do in [LocalCo], and part of me wants to say, why didn't you tell me that, after you'd been to [LocalCo]!” [SME MD]

Collaborative learning is therefore derived from a wide array of different situations, involving different actors. The willingness of individuals to see and exploit the learning potential in a situation is the most important first step in value creation.



#### 4.4.4 Influencing

Related codes	Lobbying, Persuading, Promoting
Description	Lobbying is a collaborative activity specifically designed to affect the macro-economic business environment for the benefit of the collaborators. Changes in tax, regulation, investment policy are examples. It is characterised as an aggregation activity through which a composite distinguishable body, such as a trade association, is formed. The group only has power to influence, but not to guarantee change. Persuading is the code used to distinguish collective collaborative effort designed to affect the micro-economic environment, such as through agreeing industry standards. Here influence is exerted on peers and the group potentially has power to effect change.
Value to Individuals	To the vanguards, considerable increases in social capital, reference, power and human capital may all be expected. Some smaller benefits to followers, but little personal value to those on the side-lines.
Value to Organisations	Considerable value where action succeeds. Early returns in reduced costs, increased market activity may be expected. Benefits must be balanced against the costs which are higher for activists.
Issues	Association members may realise benefits sooner than non-members, but there is potential issue with freeloading where non-member organisations reap benefits without investing in the influencing action.

Organisations can also collaborate to influence various aspects of their trading environment. Collaboration may enable a group of organisations to increase their

power beyond that of even the largest of its individual members, and draw on that power to influence policy makers. Three levels of influence are distinguished. In the first collaborators use increased power to influence changes in the macro-economic environment, typically through a process of lobbying statutory or regulatory decision making bodies to effect changes that will benefit all in the group, or all in the industry. These same collaborative structures can be used also to effect change within an industry to the mutual benefit of all. The establishment of technical standards for instance may reduce wastage and improve the efficiency of all companies in an industry. The third form of influence recognises attempts by individual organisations to affect the decision processes either of existing or potential collaborative partners through promotions or other persuasion techniques.

Examples were encountered in this study where lobbying was successfully employed to effect changes in government construction policy to promote an increase in the use of alternative materials, in the automotive industry to ensure that regulations did not unduly compromise vehicle disability adaptations, to effect changes in port taxation to help maritime businesses, and to ensure that women are adequately recognised by entrepreneur support initiatives.

In the construction industry example a niche trade-association provided the platform for further aggregation to form an organisation with nearly 400 members. The combined association is continuing to link with related organisations and is now managing to influence significant policy decisions to the mutual benefit of all in the sector.

12. QA “and the Chief Exec that we’ve appointed ... we’ve kind of honed him in and targeted him to things like opening links with Government and ... lobbying activists and things like this ... There’s something been set up called NASBA and we’ve got a foot in that camp now. They’ve got reciprocal membership of us and we’re helping them. They’re pushing Government and they’ve been quite successful. I think they’ve just announced another £100M worth of funding over the next three years to help self-build get going”. [SME MD]

In the automotive industry many of the vehicle regulations originate at a European rather than national level so the nascent, niche trade association has already expanded into Europe both in membership and political engagement.

13. QR "... we established the Trade Association because we've all got this common problem, with legislation, all Motability Operations, all the ISO Standards, and that's where we kind of ... recognised that we are better working together, even though we're competitors, we're better working together to deal with common issues" ... "we are negotiating more and more with Brussels, at a European level, rather than our own Department of Transport at a UK level ... we needed a European identity, so I was tasked, within the association, of setting up a European association" [SME MD]

Lobbying efforts become particularly complex however where the lobbying activity has to operate across multiple jurisdictions. For a global commodities association it is often forced to react after governments have already effected policy changes that negatively impact free-trade, though increasingly it is attempting to be more proactive by improving its knowledge of impending change. In all of these

14. LG "it's called the Committee for the Cooperation between Cotton Associations and there are 18 Cotton Associations from around the world. Imagine it as the United Nations of Cotton Associations. I'm the Secretary and we run that here in this office and our role is to lobby Governments when things go wrong". [Broker CEO]

15. LG "we have agreed with the World Trade Organisation that when these issues are discussed at the World Trade Organisation, at governmental level, that we should be involved in that / in those discussions, which is a significant advance, because it's Minister to Minister at the WTO. ... An import/export ban ... I would say we generally have been successful, those bans have been lifted quite quickly after we've complained". [Broker CEO]

#### 4.4.5 Problem Solving

Related codes	Innovating, Solutioning, Sourcing, Fixing
Description	Traditional collaboration associated with activities such as restoration of a failed system to a desired state, or envisaging, designing and prototyping activities for the creation of a new system state that previously did not exist, but is of potential value to the collaborators. Some of the motivation and drive is inherent in individuals and a desire to innovate, adapt and repair. The mind-set of creative engineers was a recurrent theme in several interviews.
Value to Individuals	Collaborative problem solving contributes to human capital and to social cohesion (bonding capital) of the collaborating group.
Value to Organisations	Organisations were noted to realise significant and long-term value streams from successful interactions. Primary process for the creation of Intellectual Property (IP) or intellectual capital. Timing of value release is variable. Immediate benefit is derived in the cases of fixing activities that stem value destruction which otherwise would result.
Issues	Risk to organisations perceived from engineers and technologists where their primary focus is solving a technical challenge above considerations of commercial benefit. Timely absorption of new ideas into the organisation is needed before perishable value is lost. Until problems reach a full exploitable conclusion, value exists mainly in the form of human capital inherent in the individuals involved and only partially accessible to the organisation.

Much of the day-to-day collaborative interaction is directed toward problem solving. **This process occurs independently of the collaborative structure**, and occurs therefore in both long-term contractually based relationships (where it is expected), but also in episodic and even new relationships, where it occurs in response to a need or an opportunity. In this sense innovating and fixing are considered to be the same form of collaborative process through which new ideas are formulated, evaluated and implemented, but in response to different motivations. The client services manager of medium sized technology company for instance, describes how one of their (larger) suppliers involves them and their peers, in technology improvement forums where both new ideas and existing issues are addressed.

16. KN “So he will be invited to sit on technical forums, look at ways they can improve their product, give feedback from our customers' experiences of deploying the [technology], our own experiences of deploying it within our clients and then supporting it” [SME Sales Manager]

The results included many examples of innovations. The focus of attention for this study is improving understanding of the behavioural and social processes through which innovation led to value enhancement through collaboration. In the cases of two very large organisations two different approaches were being taken, with different results. In the first case, the NHS in England, a £100Bn p.a. organisation (NHS, 2015) takes a cyclic approach to problem solving and innovation with its supply partners. The NHS is sharing some of its highest priority challenges with the market to stimulate problem solving interaction with promising suppliers.

17. TA “there must be some new technologies that would help us with that, so we would then go out to the market to say this is a challenge, we're looking to help support you with product development, to come up with ideas, so what would happen, in that scenario, that's what they call a Small Business Research Initiative, you would have companies that would come along and say I've got the potential for this idea, those would all be assessed, and then you would then award collaborative contracts with those companies, whereby you would actually pay those companies to develop that product to a particular stage, so the first stage”. [UKGov Prog. Manager]

In a contrasting example, one of the world's top 6 IT services companies has struggled to meet customer expectations on innovation because neither side has managed to bridge a large cognitive gap between the customer's vague expectations, and emerging technology potential. The services company is competent at solving explicit problems, but has not established a tacit understanding of its client's business priority, and is probably guilty of trying to find applications for emerging technology, rather than trying to understand and solve its client's challenges.

18. TR “you know, if you talk to clients around innovation, they all have different ideas of what it means, and you could say you're an innovative company, but what does it really mean? ... We hear it a lot internally, that we're marked down on things, because we haven't shown innovation, and it's really what does the customer mean by innovation? As an organisation we're always trying to promote what we're doing on innovation, generally ... and, again, if I use here as an example, they're continually talking about you know the customer experience, how do we bring innovation in to that area ... perhaps sometimes we're not seen right at the top in terms of innovation ... It's difficult to know how the client thinks really because, as an organisation, we believe we've got loads of innovation, yes, I mean, there's stacks of it coming out of [headquarters], but it's actually having the right things to talk to the individual client about”. [GlobalCo Account Manager]

In smaller engineering companies, individuals in several cases seemed to be attracted to problem solving opportunities purely for the challenge they posed. One admitted to solving technical problems for other companies even where no commercial benefit was apparent. This behaviour will have increased the individual's human and social capital, and potentially enhanced the company's reputation but the motivation seems to have been related more to personal satisfaction.

19. QB “We've done that. We've solved some of our customers' problems which is good, end up with things that we don't make or [are] not involved with yet. This goes back to having an interest in a lot of things, whether they're to do with the business or not. Solving problems is an interesting challenge. That's maybe why I do crosswords and Sudoku and all that sort of stuff.” [SME MD]

In the final example in this section, an SME was able to recognise and address a problem outside its main area of expertise that ultimately led to a new product line and a significant additional revenue stream for the SME. In this case it used supply chain contacts to resolve problems it saw one of its main customers was experiencing with a new composite material.

20. KG and then you go into it in depth then ... you start making enquiries yourselves ... it's just a learning curve isn't it for everybody really. ... People were buying it in from China and didn't really know what they were buying, but then when we got into it [our supplier] was instrumental in making the standards for the Chinese to follow ... and then he starts importing the real McCoy ... it's up to us now to then convince [customer] that that's your better value for money. [SME Owner]

#### 4.4.6 Exploiting

##### Related codes

Description	Collaborative exploitation of an opportunity for its commercial value. Organisation benefits and revenue streams are the primary focus. Reaching and successfully executing this stage is the key organisational objective. Once the collaborative commercial vehicle is established, the interaction may persist for an extended period in its 'run' state. It is this state that much existing literature limits its attention to.
Value to Individuals	Some increase in bonding social capital especially in long-term relationships. Some increase in human capital.
Value to Organisations	Value mostly accrues to collaborating organisations at this stage

##### Issues

Exploitation is used in the sense of commercial exploitation of ideas and potential to ensure that mutual value results, and not in any pejorative sense. The code opportuning was therefore excluded from this sub-category and from the typology as an example of anti-collaborative behaviour.

The *process* of exploiting has been identified separately from the *phase* of leveraging (the third phase identified in the phases of inter-organisational relationship mining). The phase of leveraging involves many of the processes in the typology. The process of exploiting may potentially be observed in any phase, but is most likely to be observed in the leveraging phase as people look toward commercial returns. This activity may spark renewed activity in establishing contacts as existing collaborators' thoughts turn toward commercial rather than technical matters. Bridging social capital becomes important once again in identifying additional potential partners. An



experienced head of an engineering SME who has several previous experiences of establishing new ventures has established this as a personal competence.

21. QB “Well, once you've ... like with the coatings, once you think that there's something there, you then have to start collaborating with people to make it happen. You have to find people who can give you help from all sorts of quarters and that's what I do. I mean with the coatings now, I'm going to be more and more involved, when we manufacture, with the North West chemical industry, I shall start attending their functions, and talking to people there.”  
[SME MD]

The role of brokering organisations may be particularly important in supporting this process. This may be in providing access to additional financial or technical resources, or additional skills and knowledge, such as commercial and legal skills. Different types of brokering organisations may be able to work with collaborative consortia in different ways.

The well-connected head of an engineering trade association was able to deploy personal bridging capital in meeting member needs for new collaborative partners at the commercial stage, as well as having helped to establish the initial technical collaboration at an earlier point.

22. DG “Yes, because it is all about commercialisation. So suddenly the challenge is, as an industry we've got the money and ... the challenge is ... do you get others involved, how do we ensure that we're getting that sort of money in to companies locally, you know” [Broker CEO]

In the case where the head of a large supply chain was undertaking the brokering function, the brokering organisation is also the market for any new products and or services. In this case the supply chain head collaborating with existing and potentially new suppliers to encourage collaboration between those companies to meet its needs. This brokering function may be undertaken passively by supplying information and advice, or as in the case below, more actively by monitoring and steering collaborative activity and providing additional resources to help collaborations progress.

23. TA “You would then work with them, link in, so that they could speak to relevant people in the <sector> to help inform that development, so you're not

sending them away in a darkened room to just come up with that idea, and then they would take that to a particular point and then they would come back and say this is what we ... this is what we have achieved. We have agreed to achieve. What we now need to do with this next stage, but we would need some additional funding, some other input in to that, so what you might end up, from there, is you might have 10 that had the first phase, and then you might then sort of give a greater degree of funding to sort of maybe four out of those 10 to then take it to the next stage, but that's very much sort of identifying a need and then working with the companies to develop those products.”  
[UKGov Prog. Manager]

In the example below the respondent refers to an automotive industry facility, established in the UK with government funding, that enables low-carbon technologies to be proved at volumes of 10-20,000 units per annum [secondary data source].

24. QZ “ the Proving Factory's been set up by people with connections and ideas ... who have seen this big opportunity in the market ... my first impression is it's going to be so successful. It's going to make an absolute fortune. It's going to turn into a ... a money generator for the people who've set it up, you know, they're sort of like a broker between Government and big OEM's, you know, small companies, SME's have put themselves right in the middle so they can access funding. They can get private investment. They can get all the people in with the ideas.

... you have your first prototype. I think they write ... they do business investigation around it, what its potential is, and then ... which you have to pay for, and then you look at going to a stage where you might do 10 prototypes and put them out. I think they then engage potential manufacturers or potential end users and then they'll make maybe five or 10 prototypes that go out to ... for evaluation, and then they'll look at ... 50 prototypes to test the market”  
[SME MD]

The example helps to illustrate the important contribution that individuals with high bridging social capital (connections) can make. It also illustrate the role of brokering organisations (below) in orchestrating productive collaborations.

#### 4.4.7 Socialising

Related codes	Networking
Description	<p>In a business context socialising and networking are similar activities. The distinction made here is that networking is a purposeful activity with the specific aim of developing new business contacts, and most often undertaken as part of wider industry events. The aim therefore is the establishment of social capital through diverse set of weak-ties.</p> <p>Socialising by contrast is a more general social interaction between business contacts in any setting, including private social settings. New contacts established at private events increase weak-tie social capital, but the dominant outcome is likely to be increased bonding social capital where existing relationships are deepened.</p>
Value to Individuals	Value from social collaboration is centred predominantly on individuals rather than their employers. Bridging social capital is increased by networking, and bonding social capital and trust are developed in existing relationships
Value to Organisations	Only indirect value to organisations where social capital subsequently leads to a commercial opportunity
Issues	Difficult or impossible to absorb certain elements of the social capital into the organisation. Contacts can be shared through technology but most often are not. Bonding capital may only be absorbed by committing additional resources. The motivation and skill of individuals is key to the effectiveness of this process, irrespective of organisational commitment

Individuals may establish new business contacts in a business environment through specialised networking events, but may also establish new contacts in a social context that yield business value at some point. One SME owner established a 20 year relationship with a large utilities company through a social contact.

25. KG “I met a chap that I used to play football with years ago. We were talking and one thing and another and I was telling him what we were doing and he says, well, I work for [Utilities company], I can put a lot of work your way, and that's how it [a long term relationship] started”. [SME Owner]

Specialised networking events are typically organised by 3rd party brokering organisations. These events are primarily concerned with increasing the bridging form of social capital by connecting previously unconnected individuals, but may also help to increase bonding between already connected individuals. The events are successful in increasing social capital however only when they succeed in disturbing natural tendencies to aggregate with colleagues or existing contacts.

26. BV “if I go to a networking event, my biggest bugbear is when I see three people from the same organisation go to a networking event, and then sit in the corner having a coffee together, it makes no sense whatsoever to me, but they're comfortable with one another”. [Broker Prog. Manager]

Some of the more proactive brokering organisations were noted to employ social mixing techniques to help promote wider social mixing. One trade association encourages members to share stories on social themes (such as holiday experiences, through newsletters), to help members get to know each socially first, before then exploring the potential compatibility of their respective businesses later.

27. DG “we do an article ... which isn't about your professional life, it's more about you as a person” [Broker CEO]

Other brokering organisations also use informal social events such as dinner events as a way of encouraging attendees to widen their contacts. These events can be even more beneficial to the organisers. These already well connected individuals are able

to arrange seating plans or event agendas to provide them with access to targeted individuals. The head of a regional collaborative programme commented:

28. ML “... making those personal links, so you will be talking about work, because that's why you're there, but then you'll also be talking about your kids, you start to make those links, and meet people you wouldn't normally meet actually, so a lot of the Chairmen go to this, the Chairman of the LEP was at one before Christmas ... and I got 40 minutes with him ... I'd have struggled to get that in his diary”

“... national figures, I've been able to chat to them, when they're a bit more relaxed actually”. [Broker CEO]

The most obvious benefits from socialising accrue directly to individuals, rather than the organisations they represent, in the form of social capital and knowledge acquisition. There are other benefits however reported by several interviewees that may be summarised as personal reassurance. The heads of small and medium sized organisations appear to value networking contacts in similar sized businesses as a support network from which advice and reassurance may be sought. One SME head who regularly attended a local networking group described the support:

29. LE “Yes, I go to ... different networking. I've tried different ones ... whilst I don't get loads of work from it, I do find it really beneficial. ... most people face the same challenges and problems ... and I just find it a supportive environment really ... and it's difficult to quantify the support really, but we all look out for each other” [SME MD]

#### 4.4.8 Brokering

Related codes	Arbitrating, Referring, Orchestrating
Description	<p>Purposeful, active facilitation of networking and collaboration activities by a third party organisation. Examples encountered included: trade associations working on behalf of their members; government or industry sponsored programmes promoting economic activity on behalf of the whole industry; very large organisations promoting inclusion and innovation into their supply chains. These different contexts affect the breadth and depth of activity undertaken. In a light-touch, potential collaborators may be introduced to each other based on an opportunity or a perception of common interests. In more intensive cases, the orchestrator may lead a collaboration programme, actively recruiting members according to need.</p>
Value to Individuals	Similar to lobbying, with high levels of social capital accruing to individual brokers.
Value to Organisations	Leadership from the brokering organisation may drive commercial value streams for other organisations that would not otherwise occur
Issues	<p>The partner matching 'blind-date' approach is based on the broker's perception of commonality, and therefore may reduce the likelihood of radical innovation by only introducing people with similar existing knowledge, rather than radically different experience.</p> <p>There is a risk that the involvement of an orchestrator may deflect collaborating organisations from due diligence when assessing the commercial potential of a collaboration (groupthink dysfunction).</p>

Brokering includes any purposeful action by a third party that is designed to instigate or facilitate collaborative activity. A variety of different types of brokering organisation were identified through the situational analysis, and as the importance of these bodies emerged during the study, additional examples were sought through the theoretical sampling process in order to elaborate this category fully. These activities include facilitating introductions; building collaborative consortia to meet a recognised need or opportunity; facilitating knowledge exchange, networking and social interaction; lobbying; referring, and even arbitrating. Each brokering body has a different emphasis and may perform many of these functions or concentrate only on one or two. These profiles are summarised below in the section entitled ‘organisational impact’.

Brokers may also vary in how they perform a function and vary in the depth of their engagement. The basic process of brokering introductions, for instance, may be undertaken purely passively by through the provision of networking events, or may be purposefully pursued by others who actively broker introductions when they perceive there to be a common interest. These introductions are typically in person, but can also be via e-mail.

30. ML “It's more brokering I think actually, so some might be intuitive, because sometimes I've sort of linked people by e-mail and thought, oh gosh, they'll really get on, so I'm linking you because you've got this work stream but actually I think you'll really get on and have a productive relationship ... there's some people you'll know, but it is more sort of planning and positioning”  
[Broker CEO]

The references in the extract above to intuition and positioning illustrate that the brokering process is highly subjective and dependent on the knowledge and skill of the broker in effecting productive introductions. The “planning and positioning” phrase also indicates an element of covert activity through which events are organised to help to ensure that prospective collaborators are present at the same event.

These brokered introductions are speculative, based on “intuition” that productive collaboration may result, but brokering also occurs in a more active sense when an explicit collaboration opportunity is identified. For one trade association consortium building is considered to be its primary function, particularly where the potential

consortium involves several of its members. The association is able to alert its members to the opportunity and then helps to provide them with access to additional knowledge and financial resources by actively brokering engagement with further potential consortium members.

31. DG “ because of our contacts, and because we have a good understanding of what each of our member companies are doing, we have the ability to build consortia for whatever type of opportunity ... engaging internationally or nationally ... we needed to bring others in to the consortia ... through some of the contacts we had ...

This is helping members access funding but by ... helping them pull the consortia together, if ‘a’ company's got a bright idea, then it helps take it to a further stage. [describes in detail a recent consortium] ... so we became part of it and then, from the first three core companies ... we needed to bring others in to the consortia and of course that was then through some of the contacts we had, that we brought other companies in ...” [Broker CEO]

The role performed by the broker needs to be adjusted to suit its membership or client base. The engineering trade association, referred to above, has a membership of predominantly well established companies, but for another, the social enterprise brokering organisation, its client base is predominantly new companies. In this context the brokering function is necessarily coupled with an advisory and knowledge sharing function through which it both facilitates connections with other organisations, and advises on systems and procedures, needed by the new business, as a pre-requisite to collaboration with other organisations.

32. NN “... then your collaboration in terms of connecting those companies and connecting those businesses with either larger providers or alternatively public sector commissioners would be critical and that would happen because they would need to be tendering or becoming fit for tender purpose and they would need to have their systems and procedures in place, so we do give advice initially, so we're scoping out what the needs are and where the opportunities are, and then we do / connectivity is crucial ... they call it networking or whatever, call it collaboration, but it's merely a network of key stakeholders,



that that business needs, going forward, not only in terms of entering the market, but also being successful in the market.” [Broker CEO]

Third party brokers are well placed to be able to influence their members and associates and are even able to forge links between competitor organisations that otherwise would not recognise a mutual need. In the example below, the leader of a funded intervention project was able to advise two erstwhile competitors to put aside past prejudices and to collaborate with each other and join a technology collaboration group that would enable them to tackle bigger competitors.

33. BV [Prog Mgr] “they're both doing almost an identical thing ... If they work together maybe create some kind of joint venture. ... it was like cards on the table, you guys are doing something [very similar technically] ... You can maybe work together and we can be involved as well or you can go it alone. In the end I'm glad to say that they decided that they would work together because actually working together they became a stronger unit doing that ... because there's competition out there as well, further competition ... but in order to become more competitive themselves, they worked together against a global market” [Broker Prog. Manager]

Referring is a particular form of brokering in which two parties are joined with a view to an early commercial (but not necessarily collaborative) relationship. Referrals may be made by brokering organisations where they perceive that a member requires access to resources, as in the example below, or may be made by one member on behalf of another.

34. NN “when it comes to business banking, actually, they're interested in people as well, so yes, ... it's about referring, it's about saying, here are three business bankers, give them a call, tell them you've been here etc. etc. so it's about connecting” [Broker CEO]

Referring for most brokering organisations is a lower priority, but one for one prominent international networking organisation this is the primary reason for collaboration amongst members, to drive revenue for each other through referrals.

Finally, arbitrating has also been included in the brokering category. Like referring, arbitrating is a specialised activity and not a regular activity for most of the brokers.

It may be that brokers will arbitrate exceptionally in disputes between members, and is more likely to be observed in disputes between members and policy makers where the broker may be able lobby on behalf of a member. In one case examined however, international arbitration was a primary function of the broker organisation and is a key reason for membership. This function is particularly important in an international trade context where disputes often spanned areas of jurisdiction. In this instance the trade body also acts as the industry standardisation body.

35. LG “... so we're an arbitral body primarily. We do umm provide additional services, mainly training, umm, but / and events, networking events, but anything we do has to preserve that impartial role of being a court effectively”.  
[Broker CEO]

#### 4.4.9 Allying

##### Related codes

Description	A connecting process in which organisations form their own peer alliances. These may vary from simple dyadic partnerships up to the formation of new trade associations. Allying is a bottom-up aggregation process in contrast to the top-down brokering processes. Alliances may be short-term collaborations to improve bid prospects or longer-term associations that may then lead to subsequent lobbying and connecting activity.
Value to Individuals	Increased reference and bonding social capital for orchestrators; Also potentially some weak-tie bridging capital in larger associations
Value to Organisations	Early potential for small groups formed in response to immediate need (e.g. tender response); Longer term benefits depend on purpose and subsequent collaborative action
Issues	Control of organically formed associations may be vested in a small number of member organisations

Allying is distinguished from brokering as a collaboration process because of its peer to peer rather than hierarchical nature. Brokers represent third party organisations and may be regarded as having some independence, both personally and organisationally, from the organisations they represent. Allies however each have a direct stake in outcomes and may be expected to be regarded with more suspicion by their peers. Allying may take the form of a co-operative alliance in which a small number of organisations collaborate to form a consortium for a specified purpose (e.g. bidding consortium, or technical development alliance), or may involve a larger number of organisations for a longer-term purpose. In this study two instances were encountered where interviewees had led the formation of new trade associations in their industry.

In these cases a large number of organisations are encouraged to collaborate, for mutual benefit, in establishing an association.

36. QA\_1 “ four years ago we started the [named] association which was bringing the industry together really because we were such a small fragmented type cottage industry ... so we've pulled everyone together which was unique really because you put all of your imminent competitors around a table and genuinely we all got on together. It's a big market, occasionally you cross each other, but we found that collaborating and pulling all our experience together from a competitive point of view as well, opened a lot of doors for us all ...” [SME MD and TA board]

This nascent organisation quickly attracted 72 members and has since merged with related organisations in the construction sector to form a significant national organisation with 378 members that has successfully managed to lobby for change in government policy to the benefit of all members. In the second case a smaller niche-sector association has been established that has also been successful in lobbying government. This association has since been expanded to encompass a European scope and is now targeting its lobbying activities at an EU level.

37. QR “we established the trade association because we've all got this common problem, with legislation ... all the ISO Standards, and that's where we ... recognised that we are better working together, even though we're competitors ... so suddenly ... you become an association with a bit more influence” [SME MD and TA head].

Those involved in the building of these broad alliances have to invest considerably more time in their establishment than many of the passive members who stand to enjoy many of the benefits with little personal investment. This potential free-loading problem is counter-balanced by the additional social and human capital gained by the vanguards. These leaders experience considerable increases in bridging social capital in particular as they build extensive contact networks with both competitors and other industry stakeholders.

The benefits to organisations in the cases above are less clear. The organisations stand to gain the same benefits as their competitors from allying, but where their costs are

higher they have apparently gained less value than their competitors. These organisations may gain additional benefits by association, leading to some brand equity enhancement, or may gain some first mover advantages through earlier access to policy knowledge from operating at the centre of the alliance, but even the individuals driving these alliance moves were unable to identify tangible competitive advantages to their organisations.

## 4.5 Behavioural process moderators

→	<b>I-ORM Property</b>
	Structural entities
	Interactional processes
	Temporal phases
	Behavioural factors
	Situational factors
	Outcomes

A number of factors are identified in the data that affect the efficacy of collaborative processes. These effects are often located at either an individual actor level or at both individual and organisational levels. The importance of these behavioural impacts being observable at an individual level is the implication that different individuals within the same organisation will achieve different outcomes. Processes are affected by peoples' attitude to risk, their social skills, their willingness to collaborate, and the suitability of the context in which the collaboration is situated.

### 4.5.1 Risk aversion

Collaboration is inhibited where concerns over potential risks are considered to outweigh the potential benefits of collaboration. The variety encountered in risk attitude appeared to reflect personal rather organisational (cultural) values, but in the case of SME heads the two are intertwined.

One “naturally trusting” entrepreneur appears chastened by negative experiences and is now cautious about future collaboration. In another extreme case an engineering innovation had remained mothballed for 18 years because concerns over IP leakage were so strong that they had apparently exceeded the inventor's need to see the idea implemented.

As observed by a programme manager (in clip 10) “some people will always be protective” whereas others seemed naturally more prepared to accept the risks they foresaw in collaboration, and found their reward in practice. The driving force behind a nascent and now successful trade-association found the experience to be an “eye opener” and appeared pleasantly surprised that issues had not arisen:

38. QA “Whereas historically, you know, you go through your business degrees and whatever, they teach you about competitors and all the rest of it, but for

me it has been an eye-opener in that having these close relationships with your competitors ... this close interaction hasn't done any of us any harm really".  
[SME MD and TA board]

#### 4.5.2 Social skills

The social skill of business collaborators in forming and exploiting effective connections was raised by several interviewees. Three interviewees made unprompted statements about their own perceived socialisation ineffectiveness. These individuals were all directors or owners of their companies, all of which had a successful recent trading history. Two very different senses were identified with these individuals though. In the first two cases, the individuals were confident almost autocratic figures, both highly qualified. The first, a managing director, had been instrumental in the creation of a niche trade association whilst the second, an owner-manager, had established two successful new businesses based on personally led collaborations. When pressed further, these individuals associated sociability with friendship, and social popularity. The implication here is that communication and successful collaboration do not depend on sociability in the sense of being liked or popular. These figures were confident arms-length business communicators but preferred not to develop closer personal relationships with their contacts.

In the third instance of an interviewee claiming that they were not very sociable, a different sense was interpreted. In the researcher reflection on interviewees conducted at the company, the impression gained was that the reasons for a lack of collaborative practice were rooted in a lack of confidence and experience, and an awareness of their lack of management qualifications.

#### *Researcher reflexive memo on sociability of SME directors*

39. Two directors were interviewed at this firm on two different occasions. Directors at the firm sat in separate offices and had evolved their own roles in business generation. Even with respect to their longest standing clients, on which the business is highly dependent, there is no strategy or even tactical energy devoted to relationship building. Through clauses in its contracts, one of their two most important clients invites its suppliers to engage more closely

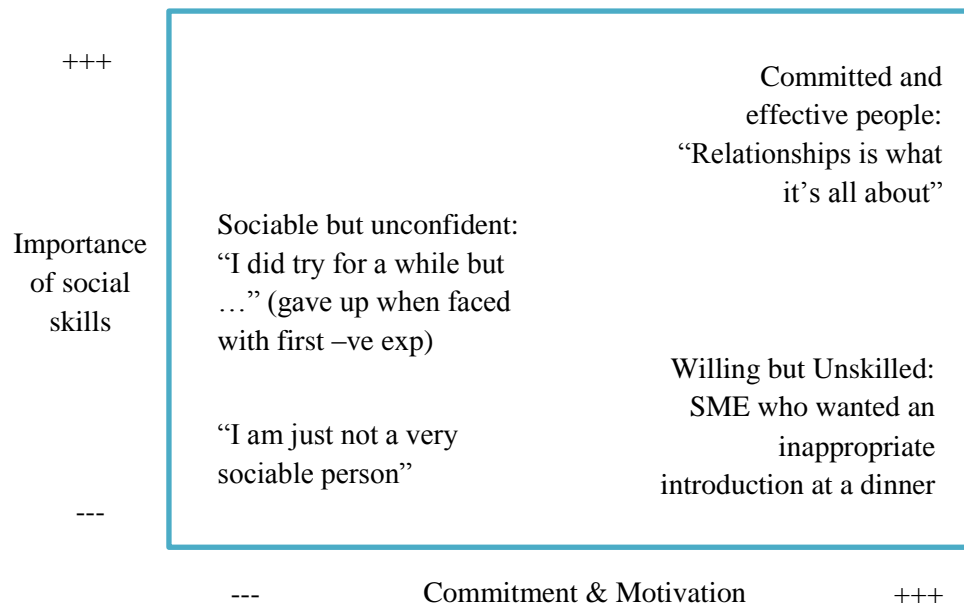
with it, but even in this case the company shies away from engagement. The company believes that it has good enough operational level contacts to learn of future strategy 'through the grapevine' but does not know how much information it is missing; how late its learning is, or how far behind its competitors it is. Directors are reluctant to go 'knocking on doors' and actively seeking information exchanges ... One of the directors did visit one of the clients and found the experience very positive and informative, but following a subsequent negative experience in which their approach was ignored, the director lost confidence and discontinued the initiative. The phrase "we are not very pushy people" was used ... The sense gained by the researcher was that the directors, both of whom had risen to their current positions on merit rather than qualification, lacked belief, confidence, and a sense of entitlement when it came to external business relationships. There was a strong reticence to attempt to develop relationships either face to face, or by phone.

Social skills were also exemplified by the heads of brokering organisations who demonstrated good knowledge of group members and their likely compatibility, as well as awareness of social situations in which new introductions could be effected. The consequence of low situational awareness was exemplified by one SME representative who sought an introduction to representatives of a larger company at an event dinner. The event organiser was able to advise the would-be collaborator that this group were not from an appropriate point in the organisation; such approaches would not be welcome at this forum, and was also unlikely to be a suitable b2b relationship.

#### ***4.5.2.1 Social skills positional map***

Positional maps should not be regarded as formal publishable results but rather as intermediate analytical products through which theoretical insights are developed (Clarke, 2005). In the example below a positional map is used to contrast respondents declared positions on the importance of social skills against an interpretation of their collaboration motivation.





**Figure 15 - Positioning social skill and collaboration motivation**

### 4.5.3 Willingness

Risk aversion and low confidence in personal social skills also act to lower the willingness of people to seek-out new collaborative opportunities. Risk averse individuals were still observed to pursue collaborative opportunities but only where they perceived this to be a commercial necessity. Individuals in established industries, particularly those with a long product development lifecycle, seemed to regard collaboration as a low priority and were particularly disinclined to invest time outside existing relationships.

40. CR “I’ve found it incredibly difficult in the last 10 years to try and get true collaboration to work in the supply chain, very difficult ... can’t get anyone interested in sharing their procurement leverage or their technology or even sharing umm ... or even ... collaborating together to win a bigger piece of work”. [LargeCo PD]

The willingness of individuals to pursue collaboration varies, but not just for financial reasons. One small company owner devotes a considerable amount of time each week to networking because of the value placed on these contacts as a support network (see clip 29). Personal enjoyment of social networking; a desire to give something back

or the enjoyment of finding and solving technical problems were all encountered. The entrepreneur quoted below (and also in clip 19) exhibits a willingness to collaborate on problem-solving first, whilst deferring discussions on commercial remuneration until later.

41. QB “[Biscuit company] was dependent on a constant supply of the product dropping from the hoppers on to the conveyor belt. They found the sticky product was not falling in a constant rain so they were not getting consistent biscuits. We coated the hoppers, problem solved, and they were ecstatic because they were held up to going in to production, until we happened to do that, so ... those are the kind of things that excite me, rather than making ten million pounds” [SME MD]

Another SME owner sought collaboration as a means of improving competitiveness whilst maintaining small company independence.

42. QZ “ ... I am far too independent but there are lots of people I know ... have loads of good ideas ... so you know it’s creating an environment where we can collaborate” [SME MD]

Willingness may also be driven by necessity. In the aerospace sector, attempts to form collaborative supply chain relationships amongst smaller suppliers had failed, yet it was noted had succeeded with similar sized organisations in the United States. Different market conditions in the US had put suppliers under greater pressure and collaboration was accepted to be an important survival factor.

43. TU “When I was in America, I saw it working well actually. For some reason, it's the same type of suppliers, same sort of size ... the same sort of offering and they had this association working together, but they've created it themselves ... and because they'd realised they needed to compete, and it was six or seven houses, got together, and started learning from each other. You see other examples where this has worked, especially in the late 80's, with the work by the Society of Motor Manufacturing Trade, with the introduction of the Industry Forum.” [LargeCo PD]

## 4.6 Situational factors impacting processes

	<b>I-ORM Property</b>
	Structural entities
	Interactional processes
	Temporal phases
	Behavioural factors
→	Situational factors
	Outcomes

Interviewees described a broad range of different experiences of collaboration. Few described any particular strategy when it came to acquiring new contacts and as a consequence many had had negative experiences. The most frequently reported negative experience was attending networking events at which very few relevant contacts were encountered either because difficulties were encountered in establishing a suitable cross-sector discussion, or because the group were perceived to be inappropriate. In first of the examples below the marketing director of an ICT company who attended many networking events in the maritime sector lamented:

44. KN “nobody was interested ... we never got a single sale out of it ... so we went along ... once a year or something, we actually got like our technical director to go in front of the podium and ... do a 20 minute presentation on say seven key things you should know about your IT ... but I would be sitting next to say like one of the operations managers from Bibby. He wasn't interested in IT. The guy who ran Liverpool Marina he wasn't interested. He'd always say, oh, I'll mention it to our guys, so you weren't comparing apples with apples”  
[SME Sales Manager]

Their services were potentially of interest to all companies, but maritime company directors had little interest in ICT and little understanding of the issues. The example illustrates that bridging social capital alone is insufficient to effect knowledge exchange between contacts, and is not guaranteed to lead to a productive collaboration even when potential synergy exists. An inappropriate or irrelevant mixture of attendees at events was a recurrent theme that clearly concerned even committed networkers. Interviewees seemed to be continuously looking to filter out small sales oriented companies in order to identify those with genuine collaboration potential.

45. SC “I don't go to any <general> networking events, because ... I'm very unlikely to meet anyone [relevant] ... I do attend [a retailer forum] ... those are a bit more positive with less people trying to force stuff at you” [SME MD]

46. QB “... found them of fairly limited value because the groups I joined seemed to be completely full of professional service providers rather than like-minded engineers and manufacturing people”. [SME MD]

Concerns about the perceived suitability of attendees at such events, encourages some networkers to seek out those with a similar identity. In the example above the SME owner, for instance, identifies himself as an “engineer” and courts “...like-minded engineers and manufacturing people” to collaborate with on new projects and products.

In these cases interviewees did not foresee potential benefits from diverse backgrounds at events. Brokering organisations, cognisant of the potential innovation benefits, need to balance the mix of attendees with care, if their members' preference for meeting compatible organisations is also to be broadened with an exposure to new ideas and experiences.

47. DG “It's a very complicated dynamic which SME's don't always realise but that's the benefit of our organisation and others ...” [Head of TA]

Brokering organisations in many cases accepted the responsibility for ensuring that a suitable mix of attendees is invited, but also recognised that in many cases insufficient thought and planning had been undertaken to ensure that a suitable mix of attendees resulted. In the clip below the head of one special interest brokering organisation used the word “shabby” in relation to such events.

48. NN “sometimes you can be invited along to business networking, and it's just shabby ... put together with the wrong people and there isn't enough thoughtfulness behind it ... you've got to be really careful about your time. I really recommend about a networking event that its purpose is absolutely clear as day, whoever's organising it, [and not] let's just have an event; let's just get people together.” [Broker CEO]

Organisations that depend on networking have either to identify other suitable situations, such as trade shows or events organised by others in the industry, or they

need to organised events themselves to increase the relevance. The CEO of another brokering organisation found most benefit in organising events themselves. These evening events are intended to have a relaxed, informal atmosphere, yet are carefully orchestrated to ensure that those with most in common are grouped together. This level of control is not felt to be possible at other organisations events

49. ML “Trade shows ... wouldn't do it for me, really. I suppose for me it's personal meetings and the networking stuff ... a lot of things that might go on that's quite formal; it's the networking for me that's more important ... so we've focused on it [bespoke events], so it's sort of formal informal. It's an informal occasion but we're being very sort of structured about how we do it, and you can't do that so much at other people's events, but you can sort of say to them, could you make me an introduction to this person ... then it has just carried on growing and growing ... [Broker CEO]

## 4.7 Outcomes: collaboration effectiveness

→	<b>I-ORM Property</b>
	Structural entities
	Interactional processes
	Temporal phases
	Behavioural factors
	Situational factors
	Outcomes

The study collected a wide range of anecdotes of successful collaborative activity, several of which are discussed in the preceding sections. In these final two sections of the findings some further positive examples of collaborative behaviour are contrasted with negative examples where collaboration either led to value destruction or was inhibited by individual behaviour. These examples also help to illustrate the contributions of social capital and social interaction skills, and conversely the negative impact of their absence.

### 4.7.1 Effective collaboration

Brokering organisations have been noted, in sections above, too organise events through which prospective collaborators may meet and subsequently organise their own collaborative interaction, but most particularly noted for the active orchestration of collaboration. This active role may vary from simply connecting potential collaborators through to organising collaborative consortia, and monitoring their future progress. In each of these cases the social capital of charismatic leaders was noted to play an important role.

The head of one particularly successful brokering organisation was described by one member as “quite exceptional” in the extract below:

50. QB “I came across the <named trade association>, which is a massive ... it's a good networking club, but goes far beyond that, and that I have found it to be one of the most useful organisations I've come across to be honest”

“I've never heard anyone say a bad word about the organisation and that says a lot for, not only the organisation, but the staff. <Named CEO> is quite exceptional. She is an exceptional person and built a good team. That's why it works so well.” [SME MD]

The head of that association, in her interview, described three different complex consortia that she had helped to establish and then continued to support.

51. DG Well the other one is ... again, small SME's [five SMEs and one University partner], actually they were on an event in India and they were talking ... and suddenly there came up [with the idea] ... why don't we do something about it? Now in the first couple of times that we worked together and tried to get bids through ... This was one that we then said, okay, let's try this from a different perspective and we got this one through and there's is a 13 quarter programme and we're in quarter nine at the moment. [Broker CEO]

This leader also related anecdotes of how several suppliers of equipment and services had developed productive business relationships as the result of the social relationships they had developed through the trade association. Although these suppliers were not part of the direct supply chain for the sector, relationships were often mutually

beneficial. A relationship with a niche financial services company, facilitated by the trade association, helped one member to improve its bidding competence:

52. DG “they won a million pound <client> contract ... it went on then because, once they'd won that contract, they were then able to go on and pick up other contracts as well”. [Broker CEO]

In each of these cases the head of the organisation was able to draw on a combination of her knowledge of the business needs of member organisations, her extensive weak-tie social contacts both within and beyond the organisation and her facilitation skills that resulted in value generating inter-organisational collaboration.

In a different example, the case below illustrates how weak social links can develop into highly valuable outcomes, but only where the validity of a social interaction is first accepted. In the example an unexpectedly productive conversation occurred at a private social function. A new marker for use in international cotton regulation was identified, and subsequently developed, following a discussion of common issues between a paper manufacturer and a cotton regulator.

53. LG “we have developed a way of tracing cotton from the field to the shirt, full traceability, which is completely new ... so that's a major innovation which is in our laboratory stage at the moment”

“It came about from a conversation with somebody who was in the paper trade and they made bank notes and they made passports and they / we were discussing what goes in a bank note and what goes in a passport to prevent it being copied. And so when I heard that technology I said, so, could you then put that in to cotton?”

“That's where we actually showed the interest in each other's business because it wasn't like I'm in insurance, yes, okay, fine, it was like oh that's interesting, you know, cotton”. [Broker CEO]

The indications in the last extract above are that the conversation arose firstly, because there was an acceptance by the participants of each other's right to enter into a conversation, and then enough of a common interest link was established through a mutual interest in cotton that enabled the conversation to proceed to a level where a

new potential application was identified for an existing idea. The reference to insurance indicated a topic that the interviewee would clearly have been less interested in discussing! The dynamics through which such chance conversations are either permitted to develop to a potentially productive stage or alternatively are inhibited at an early stage are considered further in the discussion.

In the third illustration below, an entrepreneur who already had established two successful businesses and is now collaborating with other companies to establish a further business by extending existing ideas into a new market

54. QB “You now have the challenge of introducing this new, totally new process, in to the market which we're doing by finding basically UK manufacturers of high technology products, made in aluminium, that require all the advantages of the ceramic process, ceramic anodising process and the one's we've found, up to now, have been both automotive and non-automotive. It has taken us in to pharmaceutical equipment industry, photographic equipment, sub-sea industries that are completely strange to us, but because it applies to anything made in aluminium, there are no limits to where it could be used”. [SME MD]

This entrepreneur has already established significant knowledge on how to develop a technical idea into a business and is able to draw on extensive weak-tie social capital to address new technical challenges, commercial funding barriers, and operational resourcing and organisational issues faced by a new business. The entrepreneur is also confident, skilled and experienced in rapidly developing new social capital that has enabled him to quickly and successfully engage with new sectors that are “completely strange to us”.



### 4.7.2 Ineffective collaboration

Interviews with all respondents included a discussion on the effectiveness of collaboration that explored both the costs incurred in successful collaboration and ensured that badly perceived collaboration experiences were also captured.

Most interviewees had at least one negative experience of inter-organisational collaboration and although one SME Owner who described himself as “naturally trusting” had become “more cautious” as a result, the indication was that most accepted some negative experience as inevitable in business and had otherwise not changed their attitude or approach to collaboration.

55. QA “he went under for quite a lot of money ... so that was a bit of poke in the eye” [SME MD]

56. QB “there have been, over the years, several occasions, working very closely with customers on programmes, for whatever reason, either turned sour or didn't come to fruition. One we spent quite a lot of time and money actually developing a whole new [automotive product] and developed it, it worked fine; they diddled off to China. The whole company ... upped sticks and went to China. So we'd done all that development work and got nothing for it but, luckily, the coating we developed works very well on automotive applications”.

So you still got something ... “We ended up with a new product”. [SME MD]

The effectiveness of collaboration may also be directly compromised where any one party behaves opportunistically. The interviewee in one supply-chain example encountered, had several times during the interview stated the importance of collaboration but these statements were inconsistent with the examples provided. The respondent had negative experience of close working relationships and seemed to have developed a deep distrust of genuine collaboration. The statements of the importance of collaboration seemed to represent a view the interviewee felt should be expressed, rather than one that was genuinely held. In the example below the reference to a

“proper customer supplier relationship rather than a collaboration” is particularly revealing.

57. SC “At that stage, what we could have done, rather than pursued it with them, is we could have said, right, this is a great idea, great technology, but we're going to walk / these guys now, we've already got this complicated relationship. They are expecting something from us, we are expecting something from them, have a conversation with them, bid them goodbye. As soon as we get back to the UK find a company that does exactly the same thing, don't then / and have a proper customer supplier relationship rather than a collaboration. In this case that we've talked about, it's the collaborative element that's made it go sour.” [SME MD]

Throughout the findings, examples were encountered of the collaborative benefits of *brokering* organisations. However, although ten of the eleven encountered were perceived to be moderately or extremely effective at collaborative facilitation, one large regional trade association was heavily criticised. This organisation appeared to exhibit controlling behaviour rather than leadership:

58. QI “... became patently evident from the outset they didn't have a collaborative bone in their body and that was purely down to different behaviours, they just wanted to control all the features and all the outcomes of the programmes that we were working with them on, whilst espousing collaboration as a key feature of the whole programme. Unfortunately it got to a point whereby the relationship was quite fractured with them.” [SME Consultant]

## 4.8 Third-party collaboration organisers

The impact of third-party organisations in facilitating collaboration is a re-current theme throughout the data presented thus far. In many instances these third parties: determine the situational conditions under which collaboration occurs, control the actors involved, select the processes undertaken, and seek to demonstrate leadership to affect the behaviours that impact collaboration success.

In this third major section, the findings relating to these facilitating organisations are presented. These organisations are significant actors in the inter-organisational collaboration domain, yet are not the primary beneficiaries of collaboration. The functions performed by these bodies are examined in this section along with insights gained into the importance of leaders in their formation and operational effectiveness.

In contrast to vertical supply-chain collaboration where the relationships are orchestrated by one or more of the collaborating parties, most of the peer-to-peer horizontal collaborative relationships encountered in the study were co-ordinated by a third-party organisation. The situational analysis helped to identify several different generic forms into which these third-parties could be categorised. Eleven such bodies were encountered in the study, eight of which were directly engaged at a senior level and the others indirectly through their members. These organisations are collectively referred to as *brokers*. Examples included trade associations, public-funded collaboration programmes, a social enterprise, a networking and referrals organisation, a global industry regulating body, and large supply-chain heads looking to promote innovation through collaboration.

Description	Type	Actions
Regional manufacturing, Aerospace	Membership based trade association	Connecting, knowledge exchange, lobbying
Regional manufacturing, Automotive	Membership based trade association	Connecting, knowledge exchange, lobbying. Actively facilitated at least 3 collaborative consortia
Regional health sciences	Funded Programme	Collaboration and investment facilitation, triple helix alliances.

National (UK), construction	Membership based trade association	Influencing including lobbying and standardising.
National (UK) and EU (derivative) specialist automotive	Membership based trade association	Lobbying primarily objective but also provides networking and knowledge exchange opportunities
Global raw commodity regulation	International trade association and regulator	Industry regulation, arbitration and lobbying. Networking events.
Regional business assistance	Social change lobbyist	Collaboration to effect social change and to promote business collaborations led by women. Skills enhancement and business setup and growth facilitation
National facilities management	Membership based trade association	Lobbying, networking
Regional (EU peer-to-peer programme)	Alliance	Bidding alliance formation, leadership
International, networking	Referrals facilitator	Referrals, networking
National, Health (England)	Government Dept acting as supply chain head	Networking, standardising, knowledge exchange

**Table 6 - Descriptions of brokering organisations**

The organisations encountered each had different ways of working, differing styles of leaderships and different approaches to engaging a diverse set of stakeholders. The properties of the eleven organisations encountered, are shown in Table 6. Brokers collaborate with members/clients when helping to establish new trading relationships or in the establishment of more complex collaborative consortia. Most also collaborate with a wide array of public sector, regulatory, policy making, funding and research bodies on their members' behalf. Despite the variations in structure, style and objectives between brokers, there were considerable similarities in the activities undertaken. The generic activities were classified as lobbying, networking, brokering, referring, standardisation and knowledge exchange activities. Different brokers put a different emphasis on the importance of each of these activities, with some focusing only on a subset, whilst others fulfil a much broader role. The activity profiles for these organisations is summarised below in Table 7.

Sector	Category		Primary Functions					
			Lobbying	Networking	Knowledge Exchange	Active Brokering	Standards	Referrals
Aerospace	Regional trade association	Members		X	X		X	
Automotive	Regional trade association	CEO	X	X	X	X	X	
Construction	National trade association	Founder	X	X	X		X	
Specialist automotive	Niche national trade association	CEO	X	X	X		X	
Health	Large supply chain head	Manager			X	X	X	
Health	Regional funded programme	CEO	X	X	X	X		
Facilities	National association	Member	X	X	X			
Engineering	Triple-helix, regional funded programme	Prog. Manager			X	X		
Commodities	International regulation	CEO	X	X	X		X	
General business	Social interest charity	CEO	X	X	X	X		
General	International networking organisation	Members		X				X

**Table 7 – Functions performed by brokering organisations**

The importance of these collaboration facilitation bodies is illustrated by two instances where, in the absence of a suitable existing organisation, the interviewed firms went to the trouble of establishing a new organisation. Both of these nascent trade

associations have been successful in their intention to act as lobbying organisations and to achieve government policy change. These new organisations were formed through peer level *allying* collaborative activity initially and the original founders have continued to be significantly involved as the organisation has grown. In these instances, where a company director also holds a senior influential or leading position in the trade association, then the founders may gain preferential outcomes on behalf of their companies, compared with other members, but the association is not as independent as those brokering organisations with a wholly independent governance structure.

One of organisations referred to above, established through *allying* processes, has continued to expand, and through a series of mergers with related organisations had, at time of the interview, become the Structural Timber Association with 378 members. The STA itself is now a partner organisation of a sector-wide collaboration Construction United that includes private sector and third sector organisations and trade bodies. As an organisation that represents a sector accounting for over 6% of the UK GDP, this body is likely to be able to exert strong lobbying on policy makers and government (Construction\_United, 2016).

In the second example quoted in the *allying* discussion another nascent niche trade association established in the automotive sector has achieved a high level of members within its niche, and although it aims to expand geographically within Europe, there is no intention to grow the organisation further. This trade association exists predominantly for information sharing and for influencing policy decisions. It has established informal collaborative relationships with other associations in the sector but considers that the requirements of its members to be distinct and foresees a risk that these would become diluted if it were to merge with other larger associations in the sector. There is potentially a trade-off in structural organisation of trade associations between increased size and influence, and the needs of the sub-sector's members.

Aggregation can provide additional value to members through enhanced influence and knowledge sharing. The regional funded programme referenced above recognises these benefits and is extending the brokering principle to the next level by acting as broker between a number of powerful stakeholders that have their own networks, to create a super-network.

59. ML “So we’re trying to be more powerful by networking networks” [Broker CEO].

In the example above, the broker is joining a diverse group of networks that are related by a common cause (improved health outcomes resulting from industry innovations). These cross-sector collaborations meet a specific need but represent only one objective of many for the member networks and are not suitable for further merger. Active, outwards facing broker organisations appear to recognise the benefits from wider collaboration and are to exploit relevant opportunities. The social enterprise collaboration broker has few directly comparable peer organisations with which it could merge, but collaborates with several other related networks that face similar operational challenges. In one example this broker is undertaking a pan-European technology collaboration to improve its effectiveness.

60. NN “Then we work with other practices in the field ... they'll be in a European context, so for example, our digital innovation initiative is looking at European collaboration with six other partners and we're looking at how ... to enable business advisors to become more competent around [advising clients on technology]” [Broker CEO]

In summary, brokering organisations, particularly those that are perceived to be free of any conflict of interest, are in a strong position to facilitate each of the collaborative processes and to create the structural conditions that enable these processes to be pursued. The importance of effective leaders of brokering organisations was highlighted in the earlier discussion on collaboration effectiveness, and also in this section in the context of new trade association formation. Brokering organisations increase the bonding with, and between their member organisations that helps to provide the structural conditions through which social capital may be enhanced. The degree of bonding may be determined by how actively (or passively) brokering organisations are in connecting their members. Finally, this section also illustrates that brokering organisations may also perform these connecting activities outwardly with respect to other networks, as well as inwardly to their members or associates.

## 4.9 Summary of findings

The findings presented in this chapter are organised around a central category entitled Inter-Organisational Relationship Mining (I-ORM). This abstraction describes the overall practice of collaboration through three phases in which relationships are established, then developed into productive ventures that may then commercially exploit value in their third phase. Through the properties of the central category collaboration is profiled in terms of the actors involved, the basic social processes utilised and the behavioural and situational factors that impact the effectiveness of collaborative relationships. A typology of eight basic social processes is presented in a discursive style that included extensive extracts of original data examples.

Several important themes pervaded the data. Firstly, from the descriptions of the eight basic processes, the importance of individuals' social interaction, rather than organisational interaction, is highlighted as the fundamental basis for collaboration. Secondly, the findings highlight the importance of third party brokering organisations as facilitators of collaborative activity, especially in peer-to-peer contexts. These bodies typically have different but compatible objectives to the organisations with which they interact, enabling synergistic interaction. Strong leaders with high levels of social capital are noted in several of the most effective brokering organisations. In a third recurring theme, the importance of social capital and knowledge capital is apparent in the data. These forms of value are also predominantly located in individuals rather than organisations. Finally, the elements that comprise the central category provide a framework through which any collaborative episode may be characterised in terms of the actors involved, the processes followed, the stage the relationship has reached and situational and behavioural factors that impact the effectiveness of relationship. These themes are developed further in the discussion in the next chapter, where further theoretical elaboration is undertaken as findings are discussed against extant knowledge. Following the discussion, the concluding sections outline the theoretical and practical contributions of the research, its limitations and the potential for further research.



# Chapter 5. Discussion

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## 5.1 Introduction

This grounded theory study has addressed the question of how value in collaborative relationships may be improved through a better understanding of the social processes of collaboration and the factors affecting those processes.

The study makes important contributions to the collaboration literature by addressing recent calls for more research that recognises the significance of individual rather than organisational actors (Emberston & Storey, 2006; Gligor & Autry, 2012; Schillebeeckx et al., 2016) in the formation and development of collaborative relationships.

A typology of eight categories of social process is established, through which formative and operational collaborative activity can be described. Throughout this chapter, the eight collaborative processes of: *contributing*, *learning*, *influencing*, *problem-solving*, *exploiting*, *socialising*, *allying* and *brokering*, are italicised to mark the contextual use of the word (as a sub-process of collaborating), and to distinguish it from its common language use. The eight process profiles describe several different sources of value created and the actors with which that value is associated. Behavioural and situational factors are also identified that impact process effectiveness. These core concepts, described in the findings, are integrated into a theoretical model entitled Inter-Organisational Relationship Mining (I-ORM) that can be used to explain different collaboration scenarios.

The core concepts are inter-related, as are the processes within the typology. *Socialisation* processes, for instance, on the one hand help to establish new contacts that provide enhanced *learning* opportunities and, on the other, help to deepen existing relationships, improving *problem solving* effectiveness. *Problem solving* processes in turn are a source of *learning*. The *brokering* and *allying* processes meanwhile, create powerful collectives through which political *influencing* effectiveness is enhanced. The inter-relationship between processes is also well illustrated by the third-party collaboration facilitators. These organisations directly facilitate *socialising* and *networking*, *learning* and *contributing*, and indirectly facilitate *problem solving*. To varying extents, they also undertake *brokering* and *influencing* tasks themselves.

The inter-relatedness of core concepts is illustrated by the effect of personal factors such as skills, willingness and risk attitude that can inhibit interaction process effectiveness, reducing the levels of social and human capital created. The situation factors can result either in people being grouped with others with whom they have similar interests and experiences, and who speak a common language. Alternatively, situations can join people from disparate backgrounds who can find little common ground.

In the first major discussion thread below, the concept of collaborative compatibility is developed to explain how personal, social and organisational compatibility contribute to I-ORM process effectiveness. Inter-organisational collaboration is accomplished not through interaction between inanimate organisational entities, but through people engaged in social processes. Organisations do not collaborate, people do. Accordingly, the findings emphasise the relevance to collaboration, of skill and willingness (Pettigrew & McNulty, 1995), social capital, knowledge and experience. Personal skills and competencies (Boyatzis, 1982) contribute to the efficacy of collaborative interaction but are constrained by the prevailing social circumstances (Giddens, 1993).

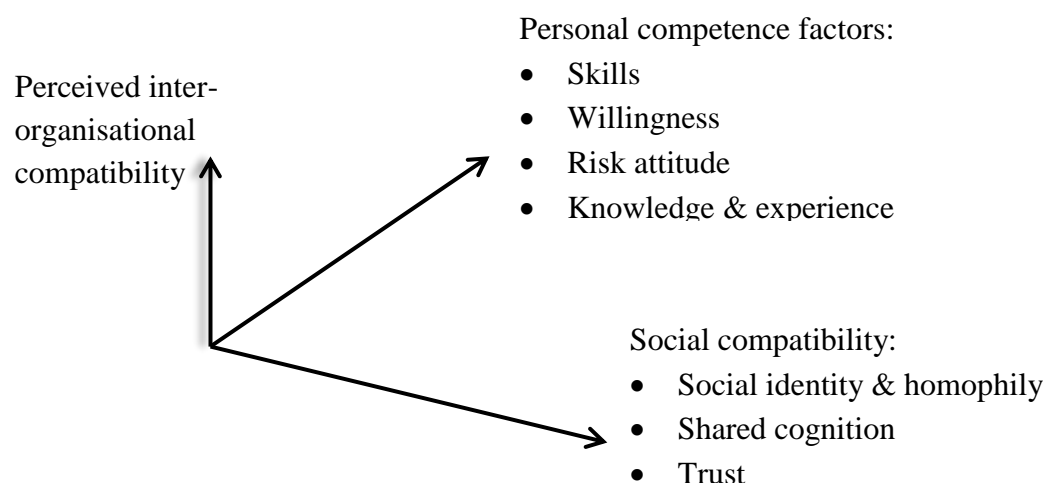
The study's analysis of social processes that forms the centre-piece of the I-ORM model, highlights the importance of human and social capital as both enablers of collaboration, and as outputs from collaborative processes. These important intermediate sources of value are located at the level of individuals and their social relationships however, rather than organisations.

In the second discussion section therefore, the importance of social relationships to the process of collaborative learning is discussed, to reveal the different actor levels at which knowledge is retained, and to consider the impact of social affinity on knowledge transfer from individuals into organisations. In the third, social capital and human capital are discussed in relation to the value concept. Collaboration products such as social capital and human capital are considered to be intermediate, in that they facilitate the production of other more tangible benefits, at a later time. These intermediate sources are often also latent value forms that remain unutilised for extended periods and may never be exploited.

In the fourth section, the recurrent role of broker organisations is discussed. Several different forms of broker organisation are identified in the situational analysis, each with their own priorities and process variations. In particular, the role of third-party brokers is contrasted with the extant concepts of orchestrators and convenors, as related to inter-organisational collaboration. The role of individual leaders of broker organisations is highlighted. The chapter concludes with a section that summarises the power of the I-ORM concept both in profiling existing relationships, and as a basis for exploring opportunities for improving their effectiveness. The following chapter presents the theoretical and practical contributions of the study, its limitations, and explores opportunities for further research.

## 5.2 The importance of collaboration compatibility as a process enabler

In this section, the factors affecting collaboration processes are discussed from three perspectives on the compatibility between collaborating actors. The first considers whether collaboration can occur unless each of the individuals involved is suitably skilled. In the second, a social perspective is taken that considers whether effective collaboration may take place unless all of the collaborators are socially compatible. Thirdly, the impact of inter-organisational compatibility, as perceived by the participants, is considered.



**Figure 16: The 3-dimensions of collaborative compatibility**

The implications that this three-dimensional model may have for third party collaboration brokers are then considered, and finally the concept of collaborative compatibility is discussed in terms of structure and agency and structuration theory.

### **5.2.1 Personal dimension of collaboration compatibility**

The findings identified a series of factors relating to individuals that impacted collaboration processes, positively or negatively. The most important factors reported were the social skills, willingness, ability and risk appetite of would-be collaborators. People varied markedly in their willingness to collaborate, with some lacking confidence or being unprepared to commit time to collaborative interaction, especially with unfamiliar groups, whilst others demonstrated both willingness and a high level of skill. These factors may be inter-related for some people, where for instance, increased willingness is derived from increased personal confidence that in turn is derived from improvements in skill. Willingness impacts the *socialising*, *learning* and *contributing* processes directly, whilst risk aversion reduces inclination toward *problem solving* and *allying* processes in particular. Risk aversion is an individual trait that is noted to inhibit collaboration in some contexts. Contrastingly, through reasoning that the benefits of collaboration exceeded the weighted risk, risk-tolerant individuals continued actively to pursue collaborative ventures. Collectively the traits, skill, knowledge and attitudes of individuals may be considered to comprise the competencies (Boyatzis, 1982) of collaboration.

### **5.2.2 Social dimension of collaboration compatibility**

In the first perspective on collaboration compatibility, above, the importance of individual skills, experience and motivation is identified. From this second perspective, the importance of social compatibility between the participants is considered for its impact on collaboration effectiveness. The concepts of sociability, social identity, socialising, and structure and agency are used to illustrate the importance of social alignment as a precursor to effective interaction. In the case of sociability, the section considers whether effective collaborators need to be likeable or just respected. In the second, the roles of social identity and homophily in the informal formation of collaboration groups are considered. Thirdly, the importance of social activities in strengthening social ties is outlined. The final section draws on the

traditional sociology concepts of agency and structure to discuss the extent to which collaboration actors have the capacity to perform, given the social environment within which they are operating.

#### **5.2.2.1 Sociability in the building of social capital**

The findings of this study indicated that being sociable is not the same as, nor even a pre-requisite to effective collaboration. The directors (Clip: 39) who considered themselves to be unsociable, were nevertheless clearly effective communicators who had demonstrated their ability to establish and orchestrate collaborative relationships. The suggestion arising from this is that business collaboration may depend more on respect, rather than likeability. In each of the examples encountered however, the individuals concerned were operational heads of their organisations. Their position of authority distanced them socially from their staff. In these cases, the directors involved had demonstrated effectiveness in establishing weak-tie and even intermediate strength relationships which could be categorised as working-tie relationships, but did not exhibit the close-bonding or group closure characteristics of strong-tie relationships.

This raises the possibility that leaders of entrepreneurial organisations, who are good communicators but who distance themselves from close social relationships, may be more effective in establishing bridging networks than in leading close productive working relationships. These leaders may need to hand over to others the longer-term operation of relationships. In smaller organisations where individuals with poor bonding skills remain involved, there are potentially negative consequences both for the formation of trust across the relationship interface, and for the absorption of knowledge into the organisation. Leaders with poor bonding skills may therefore be less effective in fulfilling *problem-solving* and *exploiting* processes, but more effective at *socialising* and the development of an extensive weak-tie network. The effectiveness in *influencing*, *allying* and *brokering*, of those who resist close social relationships is likely to be determined by the context. These individuals may be more effective in situations where an extensive weak-tie network is important, but less effective in a closer community, where for instance, effective *influencing* depends on reference established through close bonding.

#### 5.2.2.2 *The implications of social identity and homophily for social compatibility*

The more a group has in common, the more likely they are to aggregate and successfully integrate. Homophily (McPherson et al., 2001) describes the natural tendency for those with traits in common, to aggregate and work together, and the resultant groups often share a common social identity (Ashforth & Mael, 1989). The extent to which members of collaborating teams share common interests, traits and language will affect the social cohesion of the group (Coleman, 1988). Social identity and homophily are exemplified by the SME owner (Clip 46) who identifies himself as an “engineer” and courts “...like-minded” people to collaborate with on new projects and products. This social commonality helps to increase the bonding social capital and to improve further the common language and understanding between group members that is particularly important on technical collaboration, where complex knowledge transfer is known to be facilitated by rich-ties (Aalbers et al., 2014) and cognitive proximity (Enkel & Heil, 2014).

Groups with shared identities such as engineers, scientists, architects or managers can be regarded as communities of practice (van Winkelen, 2010). Members of these groups are likely to be socially compatible in that they share common interests, a common language and occupy a similar social stratum. Where individuals also have the requisite competencies, the collaborative processes such as *learning* and *problem solving*, may be successfully pursued. From an organisational perspective, there can be downsides with this scenario however: firstly, these bonded groups may prioritise the sharing of knowledge within the community above sharing within their own organisations, and secondly, there is a risk that a group becomes closed (insular), lacking the weak-tie contacts that are a vital source of innovation.

Innovation potential is recognised to be highest where individuals are exposed to new ways of thinking, and different experience (Corsaro et al., 2012). This is most likely to be found through weak-ties between contacts from dissimilar organisations, but this potential is countered by problems in accessing and transferring that information. Where the cognitive distance (Enkel & Heil, 2014) between would-be collaborators increases too far, then they become unable to establish the common language and meanings that are the basis of the cognitive dimension of social capital (Nahapiet & Ghoshal, 1998). The innovation potential may be constrained therefore by homophily

on the one hand, but on the other, homophily increases the likelihood of adequate cognitive proximity.

#### **5.2.2.3 The importance of socialising in strengthening social-ties**

*Socialising* is the informal inter-personal behaviour through which social ties are progressively strengthened, leading ultimately to bonded groups. Informal social activities play an important role in improving collaboration performance (Cousins et al., 2006). *Socialising* may further enhance existing strong-tie bonds, or help to establish new weak-ties. Either of these forms of social capital may then facilitate the operation of the other seven collaboration processes. Increased bonding of inter-organisational technical teams should improve *problem solving* as it relates to complex technical issues, whilst new weak-ties may help in the resolution of other problems, for instance, where access to new resources is required.

#### **5.2.2.4 Structure and agency**

Although personal competences are recognised to be an important enabling factor in collaboration, even the most competent individual may be powerless to influence others in an inter-organisational context, if the social and organisational conditions are not conducive. This contextual dependence impacting collaboration processes is reviewed in this section against the traditional sociology dialectic of structure and agency. The extent to which individuals are able to affect the constraints imposed by their environment is a point of major contention in this literature. To the extent that individuals are free to act to influence their social environment they are considered to have *agency*. To the extent that individuals are constrained in their actions however, by social structures, values, norms and social institutions, individual actions are determined by *structure*. Voluntarists consider that individuals are free to make rational choices of future action, whilst determinists consider the actions of individuals are conditioned by their social environment (C. G. Bryant & Jary, 2001). In a controversial contemporary perspective that sought to bridge these traditional dialectical positions, Giddens (1993) challenged the functionalists' and determinists' characterisation of individuals as largely passive actors, constrained by their social context, and suggested that actors are knowledgeable and capable agents who reflexively monitor and adjust their actions. In Giddens' structuration theory, agents both affect their social environment, and are affected by it. Three components of social systems affect agents: *signification*, the structures through which meaning is

communicated; *domination* through which power is effected, and *legitimation* as the basis for behavioural sanctions (Jones, Edwards, & Beckinsale, 2000).

In this study the actions of two directors in establishing new trade associations, built on existing relationships with a small group of peer organisations, to establish a new body, through which a new order of power was established. Those at the centre of the new trade-association experienced enhanced influence over members, non-members within the industry and over policy makers alike. The larger the associations became, the more agency the leaders established. The associations were social institutions through which new norms became established, such as an acceptance of peer cooperation, and through which the legitimacy of the leaders' actions became accepted. The *influencing* process is therefore dependent not just on social compatibility but also on the agency of the would-be influencer that establishes the legitimacy and power base of the influence attempt.

From a structuration perspective, in which organisations exist only as an example of social structure, the social and organisational dimensions discussed in this section would need to be conflated into a single description of prevailing social structures. However, in the context of inter-organisational collaboration, the separation is useful and serves to distinguish those people oriented social structures that affect agents' behaviour from organisation derived constraints on agent actions.

For substantive interaction to occur between collaborators from different organisations, social compatibility is needed between the collaborators, based on a shared language, a compatible power-regime and recognition of the legitimacy of the interaction (Giddens, 1993). This alignment is exemplified by the case in this study where a new marker for use in international cotton regulation was identified through a social contact in banking. The social contacts accepted each other's legitimacy to discuss each other's business, and to explore common issues through a common business language. The actors were competent and socially compatible, such that agency was established and a productive interaction was possible.



### 5.2.3 Organisational dimension of collaboration compatibility

In the first two dimensions of collaboration compatibility it is considered that effective collaboration depends firstly on the skills, experience and willingness of the individuals taking part, and secondly on their social compatibility. Different aspects of social compatibility are considered and the factors discussed in these two dimensions are the basis of a collaborator's agency, that is, their power to act in that context. In this third dimension, it is considered that the compatibility of the organisations that collaborating individuals represent, is also beneficial for effective collaboration to be enabled. Organisational compatibility is a further manifestation of social structure that impacts individuals' situational agency.

At networking events, many respondents wanted to meet companies with whom they could foresee at least some prospect of trading or collaborating. Sector or discipline specific events were valued much higher than general networking forums (Clips: 44,45,46). The findings showed that attendees at networking events were looking to meet either similar people to themselves, or to establish contact with other organisations that they perceived to be appropriate to their own.

The discussion earlier, on social identity and homophily, helps to explain inclinations to meet similar people, but the question of what constitutes an appropriate organisation is more complex. Firstly, for a collaborative relationship to develop, by definition, both parties must perceive there to be sufficient potential to warrant further investment of their time. Secondly, it must be considered that organisational compatibility is determined by the perceptions of organisational representatives rather than by any objective reality. If an attendee at a networking event does not see the relevance of another organisation they will not be inclined to engage in productive dialogue, and a meaningful interaction will not take place.

In the findings, clip 44 is an example where an ICT company failed to establish any business with its maritime sector targets. From an objective organisational compatibility perspective, the ICT company offered distinctive services that were of potential benefit to any of the maritime companies, few of whom were likely to have equivalent expertise in-house. Despite several presentations and attendance at many events over a two-year period, the ICT company was unable to arouse enough interest to establish any sales. In this case only one party perceived there to be any

organisational compatibility. The failure to establish mutual interest may be more related to the differences in the attendees than the differences between the companies. Managers and directors from maritime organisations did not share a common language with the ICT company representatives who did not manage to establish the relevance of technical issues to their business. There was a resultant failure to establish the legitimacy of the interaction. In this situation, the socialising process had not established the necessary social capital for a relationship to be established, and the potential organisational synergy was not exploited.

Interaction will not occur therefore, where only organisational alignment exists, but interaction may occur where competent persons are socially compatible, whether or not they perceive there to be organisational alignment. The implication is that alignment of personal and social dimensions is of greater significance than alignment of the organisational dimension.

Perceptions of organisational compatibility are also likely to be affected by perceptions of an organisation's strategic priorities and how best they are achieved. The interplay between dimensional factors is considered below through four organisational scenarios encountered in the study

- a. *Small service providers trying to sell services to larger companies at networking events.* This scenario was brought up by several respondents as a factor that put them off attending networking events. The issue here stems from a lack of potential mutuality, coupled with a poor appreciation by the smaller company representatives. In this scenario a low level of collaborative skill exhibited by the small company representatives through a failure to identify substantial benefit to the other party meant that a mutually accepted basis for interaction had not been established. As a minimum the small company representative needed to identify a mutual social basis for interaction, possibly through knowledge dissemination, in order to gain the interest of the larger company representative.
- b. *Two organisations that are unlikely ever to be trading partners but with some potential to share knowledge that may be a source of innovation.* Organisations that are from different sectors, but that share common issues or common supply chain partners, may be unlikely to establish a trading relationship, but may be

a source of ideas, information or contacts that are of value. The innovation potential of dissimilar organisations is well established (Granovetter, 1983; Hansen, 1999), but the disinclination of many respondents in this study to recognise or explore this potential suggested that personal factors and social inclinations are inhibiting innovation. Where people from different sectors are able to establish a social rapport, then valuable innovation can result (Clip 53). Where innovation potential is established, then especially for complex or technical knowledge, common language and understanding needs to be established. In these cases the cognitive dimension of social capital (Nahapiet & Ghoshal, 1998) provides the conduit for knowledge transfer, whilst through the relational dimension trust must be established to enable knowledge sharing. The establishment of this bonding social capital will be enhanced where the interacting agents share common discipline related identity (such as engineers or architects).

- c. *Organisations with supply chain relationship potential.* The earlier example of the ICT company's attempt to establish relationships in the maritime sector, illustrates the need for any potential supply-chain partners to establish common social ground. This is more likely to be an issue with secondary value-chain (Porter, 1985) relationships, such as ICT, where an ICT specialist is attempting to liaise with someone from a different specialty, and the cognitive distance is too high.
- d. *Competitors from the same sector.* Interviewees were typically keen to talk to competitors at networking events. The *learning* process includes benchmarking and monitoring behaviours through which people seek best-practice, technical and market-oriented knowledge. *Learning* is not the only motive for liaising with competitors. Where respondents are more willing to risk closer collaboration, and are willing to invest time in building relationships, then several productive peer-to-peer collaborative relationships (Ritala, 2012) were evident.

#### 5.2.4 Implications of social compatibility for brokering organisations

In the discussion so far, the three-dimensions of compatibility have been considered in relational to the social context within which individuals representing collaborating organisations interact. The situation is further complicated, however, in cases where interaction also involves individuals representing third-party collaboration brokering organisations. These bodies are of interest because they seek to establish and even orchestrate the social environment within which collaboration occurs.

*Brokering* organisations reported in this study all sought to foster direct, close working relationships between collaborating organisations that enabled social capital development. These brokers were not beneficiaries of the outputs of collaboration, and therefore had no commercial or conflicting interests that may have motivated opportunistic behaviour. They are therefore, notably different from the self-interested brokers, noted elsewhere, who attempt to maintain distance between collaborating organisations for their own benefit (Stephens, Fulk, & Monge, 2009).

One of the brokering organisations in the study purposefully groups similar organisations at its events and groups, in the hope of fostering collaboration. This grouping may be enacted through seating plans at dinners, through introductions in open-forum events, and even occasionally through limited invitation, closed events. Their approach may create communities of practice (van Winkelen, 2010) in which those sharing similar ideas, values, needs and language are as a result able to inter-communicate effectively. However, there is a danger with this approach that it may stifle innovation by missing opportunities to cross-fertilise ideas across communities. Innovation synergy is achieved currently because the sector's SMEs are poorly connected, but in the longer-term where more radical innovation is sought, then connections between dissimilar organisations need to be considered. Innovation prospects will be enhanced where compatibility is maintained at the social level and diversity is accessed through organisational variety. Social compatibility will be maintained by grouping those with common interests or similar job functions, whilst innovation diversity is accessed by grouping individuals from dissimilar sectors or organisational types. In a further example, a regional industrial association has successfully brokered and then overseen the creation of several collaborative consortia

on behalf of member organisations. This broker promotes socialisation and networking that increases bonding capital, but the homophily effects that attract like-minded engineers also risk turning this association into a closed group that may compromise future innovation. This gradual increase in tie-strength has been observed elsewhere and leads to a mutually supportive community, but also closes the group (Antcliff, Saundry, & Stuart, 2007). In the example above, the well-connected leader of the regional association forges bridging relationships with other communities and sectors. Whilst providing a valued service for its members, the association also increases its members' dependence on the association.

### 5.2.5 Conclusions on collaborative compatibility

This section has argued that for effective collaborative interaction to take place, actors need to be suitably skilled and willing at a personal level, and suitably connected at a social level, according to the collaborative process being undertaken. As different collaborative tasks require different skills and different forms of social capital, this suggests that some people may be more suited to some tasks than others. Their suitability may vary between processes and with the collaboration phase. The skills and social contacts required in the prospecting phase may be different from the commercial skills and contacts needed during the leveraging phase. In an inter-organisational context, each party involved must exhibit the personal competencies required, but for social compatibility to exist, the actors must also share a common language, be of compatible status, and share enough of a common social identity that all accept the legitimacy of their social interaction. The acceptance of common cause and legitimacy, in the context of an inter-organisational social structure, is the basis for agency; the capacity to act.

Personal and social compatibility are therefore pre-requisites to effective interaction. Perceptions by individual actors, of organisational compatibility, will enhance those actors' sense that the interaction is legitimate and may be productive, and in turn may increase their willingness to take part. However, organisational compatibility alone, in the absence of social compatibility and competent individual actors, will not result in effective interaction, reinforcing the observation that organisational relationships cannot be studied as objective entities independent of human agency (Jones et al., 2000).

Whilst the emphasis in most social capital literature is at the individual level (Korte & Lin, 2013), much of the collaboration literature by contrast is set at organisational and even network levels where the role of collaborating individuals and their social interaction is underplayed. Social compatibility needs therefore to play a prominent role in inter-organisational relationship planning.

### 5.3 Value from collaborative learning

In the first major section of this chapter, the discussion covered the need for alignment between 3-dimensions of compatibility factors that form the basis for effective collaborative interaction. Two of the most important outputs arising from collaboration interaction are social capital and human capital. Social and human capital are inter-related, with the former contributing to the development of the personal skills and knowledge that comprise human capital (Coleman, 1988). Social and human capital are important as a source of improved organisational performance (Nahapiet & Ghoshal, 1998) and as the source of other more tangible and tradeable forms of capital, such as physical and financial capital (Adler & Kwon, 2002).

In this second section, the impact of collaboration processes on the creation, application and exchange of knowledge is considered. Throughout, the different impacts on the tacit and explicit forms of knowledge (Polanyi, 1967) are discussed. The creation and exchange of knowledge constitute learning processes. In the context of this study, it is the extent to which inter-organisational actors collaborate in these processes that is of particular interest. In the first part of this section, the discussion focuses on three of the eight collaborative processes because these are of their particular relevance. In the second part, the role of social capital tie-strength is considered on knowledge creation and transfer, whilst the third covers the actor locus of collaborative knowledge to identify which actors gain most value from collaborative learning.

In the sections below, the three most relevant of the eight collaboration processes are considered for their effects on knowledge creation, transfer and application. The processes of *contributing*, *learning* and *problem solving* are fundamentally knowledge oriented processes and their relevance is summarised in Table 8. Although only three processes are considered in detail, collaboration is fundamentally a continuous social experience through which actors are constantly building their tacit, experiential knowledge and skill. Actors engaged in other collaborative processes such as *influencing* and *socialising*, for instance, are continuously improving their skills and effectiveness. The leaders of *brokering* organisations were also noted in the findings to have accumulated highly distinct levels of skill and social capital.

<b>Collaboration Processes</b>	<b>Application of Knowledge</b>	<b>Knowledge Transfer</b>	<b>Knowledge Creation</b>
<i>Contributing</i>		Mainly a transfer activity. Form is explicit but also includes an externalisation of tacit experience	Not a creation process directly, but may lead to innovation after reflection
<i>Learning</i>		Acquisition of ideas and Internalisation of perceived potential	Utilising skill and experience to apply recent knowledge to create new ideas
<i>Problem Solving</i>	Co-application of knowledge in collaborative context	Sharing of knowledge during the process of problem solving	New knowledge – solution to a context delimited problem

**Table 8: Collaboration processes knowledge implications**

*Contributing*: involves predominantly the transfer rather than application of, or creation of knowledge. In the case of presentations given in seminars, workshops or at industry events, the knowledge imparted is, by necessity, highly codified, but the purpose of such events may be more related to sharing experiences and inspiring an audience than in transferring factual information. Examples reported in this study included that of a highly successful, high net-worth individual sharing insights with a group of SME entrepreneurs (Clip 4). These sessions constituted an externalisation (Nonaka, 1994) of skill and experience accumulated over many years, with an intention of contributing to the recipients' longer-term tacit skill development, rather than providing immediately useful explicit facts. In a further example, where a blue-chip organisation, senior purchasing professional shared best-practice experience (Clip 2), the content was more highly codified than in the first example, but even in this case the anecdotes shared would be of indirect value and needed contextual interpretation before application by recipients.



*Learning*: the italicised term *learning* used in this discussion denotes the collaborative process sub-category *learning* and is thereby distinguished from the broader learning concept, of which it represents a contextually limited subset. This category includes several codes that describe collaborative activities through which individuals acquired knowledge. Collaborative *learning* episodes vary in their complexity. *Learning* may vary from a simple synchronous exchange episode that is wholly contained within one relationship, to complex asynchronous knowledge creation or exchange episodes involving multiple steps. Knowledge creation may even occur across more than one collaborative relationship, where for instance knowledge transferred in one relationship is extended where it is adapted for a new context in a second relationship. *Learning* may therefore be considered to be directly collaborative in a co-learning context where multiple actors learn together, to increase their skills and experience, or indirectly collaborative in multi-stage or even multi-context episodes. In complex learning scenarios, there are conceptual questions about the extent to which these episodes may be considered to be collaborative. This question is explored through an example reported in the findings (Clip 6), where a works manager made a whimsical reference to “stealing with pride” in reference to ideas garnered indirectly during one relationship that were adapted and applied later in a different collaborative context. This idea exploitation (March, 1991) clearly follows the traditional four stages of the learning cycle (Kolb, 1984) and its stages of acquisition, reflection, conceptualisation and trial of new ideas. The transfer of knowledge and the creation of new knowledge each occurred in collaborative contexts, but two different contexts. In this example, collaborative *learning* needs to be considered as a multi-stage process.

Even when the context is limited to a single relationship the temporal dimension raises further conceptual questions about the collaborative nature of learning. In this second example from the findings, which led to the formation of an entirely new company (Clip 8), the entrepreneur concerned had acquired information initially through marketing materials, but then after reflection conceived a new application in a hitherto unexploited area of the motor industry. This resulted in a long-term collaborative relationship between the companies, with particularly close interaction during the period of trial and error during which the new idea was developed. The question remains as to whether the initial phase of learning in which the entrepreneur acquired the knowledge, reflected on it and conceived a new idea, could be considered to be

collaborative or not? The differences between this scenario and others that may be considered to be highly interactive, were the temporal and physical spacing between the collaborators and the non-verbalised medium of the initial learning. However, these same characteristics are apparent with virtual collaboration. Where collaborative exchanges occur through e-mail for instance, the exchange may be separated by considerable gaps in time and physical proximity. As none of these criteria are inconsistent with the definition of collaboration and clearly the synergistic outcome would not have been achieved in the absence of the interaction, this asynchronous learning episode is considered to constitute collaborative *learning* still therefore. This broad conceptualisation of *learning* in a collaborative context is considered to be conceptually valuable in a world in which technology based collaborative tools are becoming more widely adopted by business.

*Problem solving*: this category embraced a number of collaborative activities in which people interacted to evaluate and resolve perceived issues, problems or opportunities, where there was considered to be potential for an improved solution. This may include the resolution of technical issues, improved designs, process improvements, cost reductions, or improvements in supply-chain efficiency. The outputs from such improvement or innovation activities are typically highly codified designs; technical specifications; prototypes; processes, or policies. The depth of interaction between members of new collaborative teams may be related to the extent of their interdependency, as indicated by the level of knowledge that is not shared, but needs to be accessed. In the automotive industry example in this study (Clip 51), in which six partner organisations collaborated, it was nearly twelve months before truly interactive exchanges were notable in the collaboration forums. It was at this stage that inter-collaborator technical issues and issues requiring multi-collaborator interaction manifested themselves. The arising need drove the interaction.

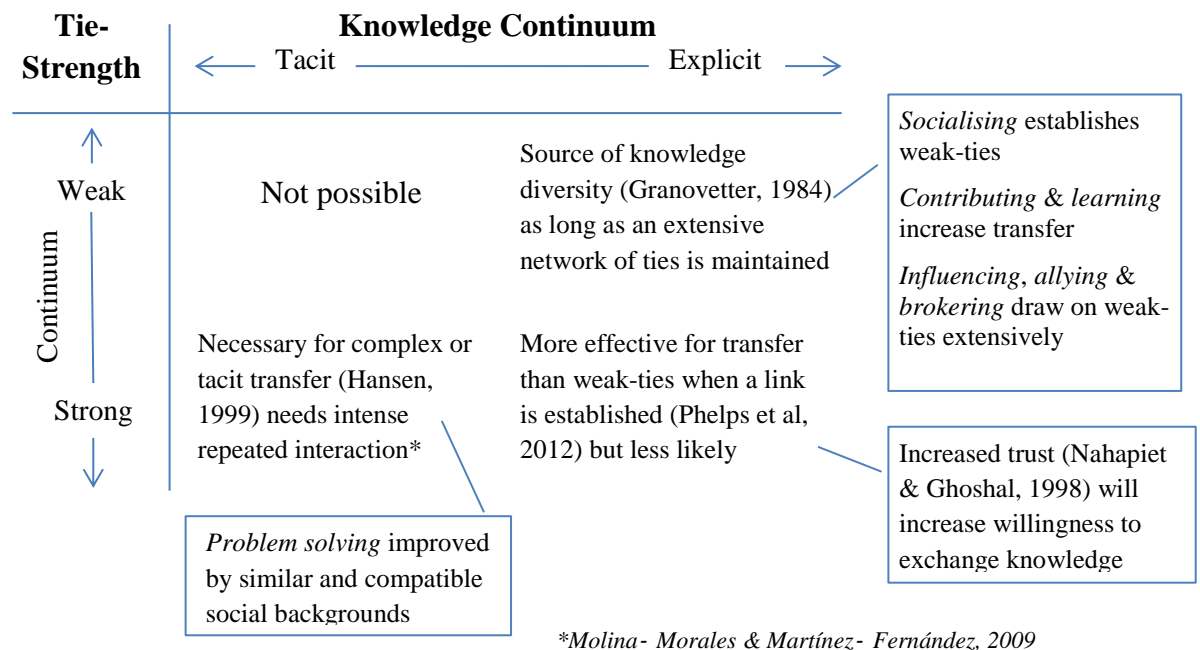
From the earlier discussion on social compatibility, it may be surmised that the most effective problem solving outcome will be realised where collaborating groups are formed of socially compatible individuals, who share a common language and understanding and that are suitably motivated and skilled. In the context of collaboration, individuals need to be both skilled in the technical subject matter, and socially skilled in collaboration. Through the combination of these factors, individual

actors establish agency, helping them to resolve issues through *influencing* processes, contributing further to *problem solving* efficacy.

### 5.3.1 The effect of tie-strength

In the discussion of knowledge thus far three of the basic collaboration processes identified by the study have been discussed for their relevance to knowledge application, transfer and creation, for both tacit and explicit knowledge forms.

In the following sub-sections firstly, the impact of social capital tie-strength is considered for its impact on each of tacit and explicit knowledge creation and exchange (Figure 17) and then the locus of knowledge is considered, again for both tacit and explicit forms (Figure 18). Knowledge locus is considered in relation to the four different actor levels of learning that have been previously considered in the literature (Beesley, 2004; Knight, 2002).



**Figure 17: The effects of tie-strength on explicit and tacit knowledge transfer**

#### 5.3.1.1 Knowledge and Strong-ties

The transfer of tacitly held knowledge between individuals has been noted to require extensive and repeated interaction (Molina-Morales & Martínez-Fernández, 2009). It

is to be expected that in this context (lower-left area in Figure 17), that only strong social ties between actors will help to facilitate this transfer (Hansen, 1999). Ties should ideally also be direct-ties. For tacit knowledge that takes an extensive period to transfer, an additional link would double the transmission time, because each actor can only be interacting with either the upstream or the downstream tie, at any one time. Interaction with both upstream and downstream ties would link those ties directly such that the actor is no longer acting as the bridge.

In an intra-organisational context a case has been made for rich or multiplex ties (Aalbers et al., 2014), but these multiple conduits would seem only to be advantageous in increasing the frequency and diversity of information flow within an organisation, rather than the depth needed for the exchange of tacit knowledge. Rich-ties may therefore only increase access to knowledge near the explicit end of the continuum.

#### ***5.3.1.2 Knowledge and weak-ties***

Knowledge is also exchanged through weak-ties. Knowledge exchanged by weak-ties that bridge structural holes (Burt, 1992) is initially passed through the individuals in the bridging conduit, but is then exchanged with the recipient's strong-tie social group. This knowledge must be relatively simple and be codified in order to pass readily through the weak-tie. Weak-ties are never as effective conduits for exchanging knowledge as strong-ties (Reagans & McEvily, 2003) but because many more may be maintained by an individual, the value of weak-ties is that they increase the chances of gaining access to valuable knowledge.

In this study an important skill was also noted in effective weak-tie networkers. Their skill in appreciating the potential future value of weak-ties represented a tacit networking skill that enabled them to maintain the most promising links above other possibilities. Their relationships within this contact network, and their skill in valuing the potential inherent in each relationship, are not readily transferred into an organisation. The value in this human capital is therefore available to the organisation only where the actor with those skills remains available to the organisation. It is important to note that a weak-tie describes a weak social relationship, and not simply the explicit contact information. It cannot therefore be readily transferred to a colleague. Any attempt so to do, would also make the relationship less attractive by increasing the number of bridges between the two nodes, over what is no longer a

structural hole. An organisational policy of maintaining redundant weak-tie links to reduce risk, would also reduce its overall exposure to diverse information. People are able only to maintain a finite number of relationships and therefore a policy of shadowing colleagues' weak-ties must come at the expense of new weak-tie relationships that could otherwise have been established by that person.

### 5.3.2 Actor locus

Existing theory identifies four actor levels at which knowledge may be located, and it has been suggested that knowledge can only pass sequentially between these levels: individual, group, organisational and inter-organisational (Beesley, 2004). At the individual level in a collaboration context, the most valuable assets are the skills and tacit knowledge that have been accumulated. These include tacit subject matter expertise and collaboration expertise. Collaboration expertise is a mixture of generalised social skills and relationship specific knowledge in which a collaborating group establishes the behavioural norms for that relationship. Explicit knowledge may be considered to be located at an individual or small group level where that knowledge has not been shared further, though for others explicit knowledge should be considered to be located at other physicalized node structures, such as repositories or archives (Nonaka, 1994).

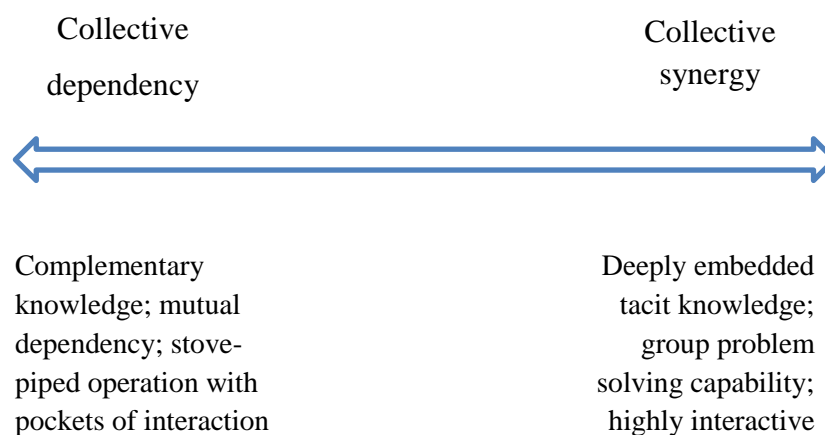
Actors	Knowledge Continuum	
	← Tacit	Explicit →
Individual	Enhanced skills and experience	Retained codified knowledge
Social group	Problem solving know-how & 'how to deal with one-another' (Ballantyne, 2004)	
Organisation	Embedded values and routines; culture	IP, patents, prototypes, designs, documents, processes & procedures
Network	Accepted industry norms and culture	Industry best practice

**Figure 18: Actor locus of collaborative knowledge**

When assessing the point at which an organisation may be considered as the locus of knowledge, difficulties arise. The situation of ownership, at least, is relatively clear with explicit knowledge such as patents, designs, prototypes and other physicalized assets to which the organisation is likely to be able to argue it has legal title. Ownership of these assets would also survive the departure of the individuals who created those assets. The situation is much less clear with the tacit skills and experience of an organisation's employees. This human capital is a valuable and productive resource for an organisation, but it is a resource that does not survive staff defections and is therefore arguably individually rather than organisationally located. A further scenario exists where a tacit capability and mind-set pervades an organisation such that the organisation continues to exhibit the same behaviours despite a change in personnel. In this case a change has been embedded in the organisation and constitutes part of the organisation's culture. Learning is considered to be organisationally centred only when its adoption is extensive and enduring within the organisation (Knight & Pye, 2005). Relatively few instances of learning derived from inter-organisational relationships may be expected to meet this definition, not just because it requires learning, centred in a single relationship, to pervade throughout the collaborating organisations, but also because it would require that learning to similarly change an extensive number of that organisation's other supply chain relationships. This seems most likely to occur when a small organisation has to change extensively to conform to the requirements of a systemic logic (e.g. total quality management or lean-manufacturing), being imposed by a larger partner organisation.

### 5.3.2.1 Knowledge located in collaborating groups

The inference arising from definitions that require learning to be extensive and enduring to be classified as organisationally centred, is that anything less than this must be classified at a smaller domain level, as either group or individual learning. The identification of group centred learning, and the location of associated knowledge, is complicated by the potentially wide variations in how groups are defined. Social group membership may vary from tightly defined groups aligned to the formal organisational structure, to loosely defined social groups, perhaps associated with one or more social identities, that may be diffused across the organisational structure. In the case of inter-organisational collaboration, group membership will also be inter-organisational.



**Figure 19 - Range of group centred knowledge**

In this section it is argued that group-centred knowledge may be characterised along a continuum (represented in Figure 19) that extends from collective dependence through to collective synergy. This continuum is discussed with reference to a collaborative automotive project engaged by the study (Clip 51). Location of knowledge must again be distinguished from legal ownership. From an ownership perspective, explicit knowledge products are likely to belong either to an individual or, in many cases, to an organisation, rather than to a social group, which has no legal status (conferring legal status would create an organisation).

In the automotive case study, there were six collaborating organisations, but with no more than three individuals from any one organisation being directly involved. For at least two years of the development project, the emerging design could not be said to constitute explicit knowledge, many elements were only partly specified and had to change in response to changes in size, shape or weight of other elements. The overall solution during this period existed partly on paper, but substantially in the combined knowledge of the engineers involved. However, as the group was comprised of non-overlapping complementary expertise, none of the engineers could have recreated the project outside the group. Furthermore, because each of the group members accumulated a tacit feel for how issues with related component areas would affect their own design, and had been involved in much technical discussion with partners, none of the individuals involved could easily be replaced. Therefore, the accumulated project knowledge should be considered to lie in the collective knowledge of the collaborating individuals, and the tacit knowledge underpinning design choices that was embedded in the group's social relationships. This knowledge exists only as far as the group exists and the group knowledge may be said to be more than just the sum of its members' knowledge. Dodgson (1993), suggests that organisational knowledge represents more than the sum of its component groups, but the principle is relevant also to the distinction between a group and its component individuals. As soon as a collection of individuals establishes a collaborative purpose they establish a collective dependency. Where a group progressively develops a problems solving capability through social interaction, then the group may be considered to have developed collective synergy.

In the automotive project example, individuals enhanced their own explicit knowledge and experience of both technology and collaborative working. The group also progressively improved its ability to work together (Ballantyne, 2004) and to solve problems collaboratively. At the start of the project, group members provided complementary knowledge. The group was little more than the sum of its parts, but the combined knowledge was only accessible to individual members through the group structure. As the project matured, embedded knowledge was developed and the group demonstrated enhanced tacit skills in both their social interaction, and their technical problem solving capability. The group here is more than the sum of its parts (Dodgson, 1993). In this example, the newly formed automotive group combined predominantly



explicit knowledge to develop the project design, but as relationships matured the group's ability to work as a *problem solving* unit also developed.

#### ***5.3.2.2 Informal boundary crossing collaboration through practice groups***

In addition to the knowledge creation through formal collaborative projects, the study also noted many instances of knowledge sharing and knowledge creation that occurred through informal collaborative interaction, particularly that facilitated by third party brokering organisations. In the findings (Table 7) all but one of these organisations were noted to facilitate knowledge sharing through a mixture of events such as expert presentations, site visits, training sessions, and meet the buyer events. Individuals attending these events learn from these events both individually as they absorb facts and observe best practice in action during site visits. Individuals also interact with peers to discuss and develop ideas and practices. Frequent attendees at these events develop closer relationships with each other, establish trust and become more willing to exchange ideas and information. Most of the events organised by brokering organisations are sector specific events and many of the attendees will therefore share similar interests, a common language and be socially compatible. The social capital established within these groups of 'like-minds' has the potential to enable new values and best-practices to be socially negotiated that are further shared within that community. The knowledge located in these practitioner groups may be less likely to be absorbed into the group members' own organisations however, especially in larger organisations comprised of many different knowledge communities.

Previous research has concluded that learning passes sequentially from individual, through group, organisational and inter-organisational actors levels and must be completed in one level before it reaches the next (Beesley, 2004). However, the examples discussed in relation to inter-organisational collaborative groups, and informal industry oriented practice groups, suggests that knowledge created by, or within, inter-organisational collaborative groups has the potential to be transferred directly from group to a network level collective, without first being absorbed into organisations. The sequential stages of the onion-ring learning model are orthogonally appealing, but the model fails to account adequately for the complex scenarios of inter-organisational collaboration. These inter-organisational collectives provide for

considerable learning opportunities for members, but also represent a risk to organisations where knowledge remains located either at an individual level, or within the social collective, but not absorbed into the organisation.

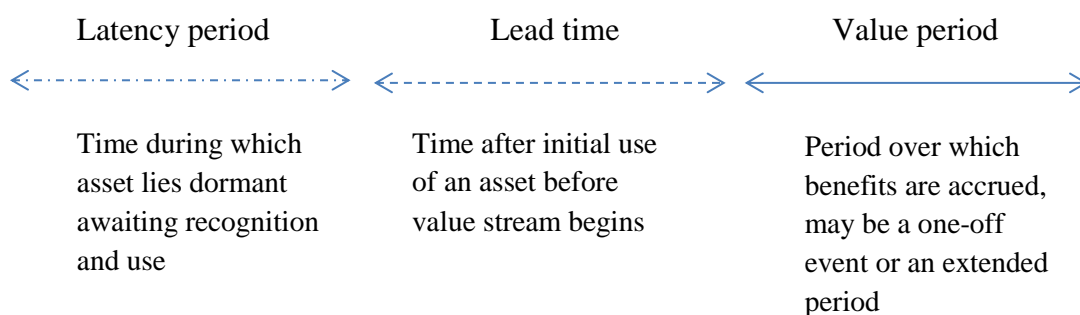
### **5.3.3 Summary of knowledge discussion**

Knowledge is a recurring underlying theme in the collaborative process descriptions, covered in the findings. Knowledge is an enabler to some processes, and a by-product of others. Much of the knowledge produced through inter-organisational collaboration however, remains located in individuals or inter-organisational groups. Even where organisations consider that they may own the explicit knowledge artefacts, the tacit knowledge embedded in group social relationships that may be the source of future value, remains an asset of the group. Social capital is an important enabler to knowledge generation. Group knowledge covers a wide spectrum in bridging the gap between individual and organisational knowledge, as well as covering a mixture of different types of group, ranging from informal social groups, to formal organisational groups.

## 5.4 Latent value vs social capital

In the discussion so far, the importance of compatibility between parties has been noted for improving collaboration effectiveness. Human and social capital are assets that facilitate collaboration processes, and are important products of processes. The role that they play in knowledge creation, transfer and organisational absorption is the basis for the second discussion theme. In this third section, social capital and knowledge are considered for their conceptual relationship to value. The temporal properties of these forms of capital are considered for their practical implications.

Organisations build assets in the form of social capital, knowledge capital and organisational relational capital that are potential sources of value. These intermediate value sources exist predominantly in an inactive, *latent* state, with the result that there may be a considerable lag between their creation and subsequent longer-term value creation. Even where intermediate value sources are utilised in the short-term, it may be some time before a valued outcome is created. The lead-time to value generation is therefore extended by any initial latency period. Created value may also be spread across an extended time period (Figure 20).



**Figure 20 - Latency period**

Knowledge gained of a more efficient production technique for instance may have an implementation lead-time for the purchase and installation of new equipment and the training of operators. There may be a considerably longer period of inactivity between knowledge first being acquired and it being actively deployed. This knowledge capital is in a latent state at this point where it exists as a potential source of value but remains unutilised. Physical and financial assets may also exist in a latent state, but the value

potential of capital assets is more visible and more readily realised, for example through rental or sale of a physical asset, or investment of financial assets. Knowledge capital may exist as a latent value source for a longer period of time, because its potential is unappreciated, or difficult to realise. The potential for knowledge capital to remain latent may depend both on its nature and its locus. The form of knowledge may vary along a continuum from explicit, readily communicated knowledge to highly embedded, tacit knowledge (Nonaka, 1994). Knowledge may also exist as human capital embedded in individuals, or may be shared by groups, organisations or even networks (Knight, 2002). Explicit knowledge located within an organisation, such as a design, prototype or patent, is evident and tangible and therefore most likely to be exploited for its value-bearing potential. Implicit knowledge, located within individuals or small teams is much less visible, and its value generating potential may be much less clear compared with IP assets. Tacit human capital is therefore more likely to remain latent.

The same issues of visibility and potential latency also apply to social capital. The nature of social capital has been much debated but it has been argued that social capital shares enough properties in common with knowledge, financial and physical capital, for it validly to be considered also as a form of capital (Adler & Kwon, 2002; Coleman, 1988). Similarly, to tacit knowledge, social capital exists in a relatively invisible form that may be largely unappreciated within an organisation. Physical assets and explicit knowledge are potentially tradable and therefore may result directly in value generation, or they may require transformation before value is generated. Tacit knowledge and social capital always need to be transformed, or they need to support transformation of other forms of capital before organisational value is created.

In this study, several examples were encountered where the bridging social capital of leaders of brokering organisations was used to the positive advantage of all stakeholders to add members to collaborative consortia. In one automotive industry example, an idea conceived at a chance meeting between two trade association members led to a 3-year development for a consortium of six collaborating organisations. The experienced head of the association has accumulated bridging capital over many years. The role of association head provides both a productive output channel for that capital and an opportunity for further accumulation, as the head moves in wider industrial and political social contexts than normal association

members. This accumulation of social capital enhances the power of the head through an increased dependence, and it increases the chances that valuable links will be formed on behalf of individual association members.

<b>Locus Asset forms</b>	<b>Individual &amp; inter-individual</b>	<b>Team</b>	<b>Organisational &amp; inter- organisational</b>
<b>Physical Assets (highly visible)</b>			Buildings and equipment
<b>Financial Assets</b>			Financial capital and revenue streams
<b>Knowledge capital</b>	Human capital. Explicit knowledge & tacit skills	Collective knowledge including shared tacit understanding	Intellectual capital: patents, designs, IP & embedded learning
<b>Social capital (lowest visibility)</b>	Individual bridging capital through weak-tie contacts	Bonding capital leading to trust and a committed sense of obligation	Relational capital of inter-org collectives. Org. reference / brand

**Table 9 - Locus of social and human capital**

#### **5.4.1 Locus:**

Different asset forms may be located at different actor levels. Bridging social capital is located in individual relationships, bonding capital located at team level (Coleman, 1988), whilst knowledge may be simultaneously located at individual, team, organisation and network levels (Beesley, 2004; Knight, 2002). Other intermediate sources of value including reference value and facilitated market access (Walter & Ritter, 2003) are located at organisational and inter-organisational levels. Relational capital as manifest through enhanced trust and commitment, is identified as a form of collective social-capital (Nahapiet & Ghoshal, 1998) and its link to relationship performance in an organisational context is well established (Morgan & Hunt, 1994).

Table 9 summarises the capital forms discussed and their potential locus. The challenge to both existing and potential collaborators is two-fold. They need both to recognise the different forms of potentially value generating capital, and their locus, in order to ensure that they are actively exploited, and transformed into a value bearing form.

### 5.4.2 Perishability:

Latency has implications for the level of value ultimately realised as costs and risk increase and potential benefits are eroded. Like physical assets, social and knowledge capital incur maintenance costs over time. Knowledge evolves continuously and existing knowledge needs to be updated to maintain its potency. An investment in ongoing socialisation is needed to maintain previously established bonding social capital. Bridging social capital may also be eroded over time through the dynamics of the labour market and through organisational structural changes. Bridging capital also may be eroded should others establish similar links, increasing network density. There are risks with both social capital and knowledge capital that their value may be superseded altogether, by the discovery of new knowledge or the engagement of a key social contact by a competitor. The potential perishability of social capital and knowledge is a property they share with other forms of capital such as physical assets but the change in value may be more sudden and less predictable. The longer social and knowledge capital remain latent, the greater their cumulative maintenance costs, whilst benefits may be eroded by changes in circumstance or lost altogether.

### 5.4.3 Levels of indirection:

Finally, a difference is proposed between *intermediate* value sources and *indirect* value. Intermediacy recognises forms of capital that through transformation lead to value creation. This is a development rather than production process. An engineering company in the study (Clip 20) developed a new solution to a customer problem after being alerted to a new composite material. The alert arose through a weak-tie, and when combined with the company's design expertise, led to new direct value generation for the company and its customer. The ease with which created value may be related to bottom line performance is its directness (or indirectness). Secondary value-chain services such as facilities management (FM), or human resource management (HRM), make an indirect contribution to the bottom line (Porter, 1985).

The directness of value contribution is to some extent also contextual. Recruitment of production-line staff by HRM, or the manufacturing site maintenance by FM have a more tangible impact than the recruitment of back-office support staff. Intermediate value sources may contribute to the creation of direct value streams, or to indirect value streams.

## 5.5 Collaborative brokering organisations

In this final theme, the discussion briefly re-examines the recurrent role of broker organisations. These organisations are noted in this study to play an important role in facilitating the formation and operation of collaborative relationships. In this section, the nature of this *brokering* role is contrasted with extant concepts of orchestrators and convenors.

*Brokering* is undertaken mostly, but not exclusively, by 3<sup>rd</sup> parties. These connecting, facilitating and monitoring processes that comprise *brokering* processes help to enhance the effectiveness of *contributing*, *learning* and *socialising* processes. The status of these *brokering* organisations provides the power base that enables them to lead *influencing* campaigns. These organisations took on different forms, and had their own sector specific objectives but otherwise exhibited very similar patterns in function and process.

A set of facilitating activities are noted in the findings (Table 7). Brokering organisations are noted to support networking and learning events, to undertake lobbying activities on behalf of members, to take on roles of actively brokering connections between potential collaborators including in some cases the building of collaborative consortia, and to encourage business referrals. In cases where *brokering* organisations also perform the more active function of creating and overseeing the operation of collaborative consortia they are also acting as group orchestrators. This scenario of orchestration, led by a third party, needs to be contrasted with the situation in which a focal firm within a peer collaborating group (Dhanaraj & Parkhe, 2006) is attempting to perform this same leadership role. Third party brokers such as trade associations and publicly funded programme bodies have different but complementary performance objectives, compared to the organisations they assist. These third-party brokers are complementary organisations as long as their performance objectives are linked to their members' success and there are no commercial conflicts of interest.

Where this is the case, brokers are not motivated to act opportunistically, social capital will be accumulated and trust will be established (Nahapiet & Ghoshal, 1998).

The role of a convenor has also previously been recognised (Gray, 1985) in the context of complex multi-stakeholder problem domains. The primary function of the convenor role in Gray's study is to orchestrate resolution of political, economic or governance inhibitors to collaboration, rather than to orchestrate the creation and operation of a group in a cooperative climate. The convenor role is therefore an example of an *influencing* rather than *brokering* process.

The context in Gray's study, was a problem domain where a set of inter-dependent, but conflict-oriented organisations needed to collaborate, but were suspicious or distrusting of their fellow collaborators. In such an environment "it is critical that all stakeholders believe the convenor has legitimate authority to organize the domain" (Gray, 1985, p. 924). This acceptance of legitimate authority is likely also to extend to a less conflict oriented domain where collaboration is inhibited by other factors, such as a lack of willingness or a low perception of the likely benefits. The agency of brokers, and their capacity to facilitate interaction is, in part, dependent on an acceptance of the legitimacy of action (Giddens, 1993).

*Brokering* organisations feature to some extent in all eight of the collaboration processes and are in a position therefore to make a wide contribution. The lack of consistency reported however, in the functions performed by these organisations, as well as the depth to which they perform certain roles, indicates that a best-practice standard is yet to emerge, whilst existing theory has also recently been observed as being underdeveloped (Rajwani, Lawton, & Phillips, 2015).

## 5.6 Discussion summary

There is a wide range of extant collaboration literature, but previous studies have either adopted a narrow process focus, such as studies focusing on knowledge transfer (e.g. Easterby-Smith, Lyles, & Tsang, 2008; Inkpen & Pien, 2006), or been confined to a narrow context, such as dyadic supply chain relationships (e.g. Aarikka-Stenroos & Jaakola, 2012; Whipple et al., 2015), or both. Studies have also been criticised for



focusing too much attention on organisations as the unit of analysis, rather than individuals (Schillebeeckx et al., 2016).

Consequently, there is no over-arching picture of collaboration that reveals the range of actors involved, the variety in the processes involved, and the factors affecting those processes; especially at the level of social relationships. The focus on organisational actors has enabled studies to establish factors that impact organisational compatibility, but not the social processes through which relationships are formed and developed. As illustrated within the study, potential organisational compatibility remains unexploited if social compatibility cannot be established between organisational representatives.

The I-ORM model, and the process model within it, help to explain how differences in individuals' capabilities and their social compatibility significantly impact collaborative processes. Much of the value created through collaborative interaction is located at the level of individuals and their social relationships in the form of social capital and human capital. These forms of capital need be utilised, or converted, to create other forms of capital before commercial value is created at an organisational actor level. The I-ORM process model identifies the processes through which different forms of soft capital are created, and the factors affecting that production. The discussion in this chapter, has emphasised the importance of recognising and exploiting social and human capital to reduce the risk of it degrading or perishing.

Collaborating individuals are noted to differ in the type of social capital they are most effective in accumulating. Effective SME heads in particular, are often skilled at building weak-tie bridging capital that gives them access to a wider set of ideas, resources and sales opportunities. The more effective these individuals are in establishing weak-tie networks, the less time they have for establishing strong-tie relationships, which led to some considering themselves to be unsociable. There is a tension here between networking effectiveness and the need to build close relationships with strategic partner organisations that may need to be pursued by different individuals.

A tension also exists between the inclination expressed by several respondents to meet people similar to themselves, and the innovation potential that lies in access to new ideas and contacts. The disinclination to mix with those from diverse backgrounds

may reflect accumulated negative experiences with salespeople at networking events, but also may be compromising innovation. Brokers need to plan events carefully to ensure that a cohesive social group of attendees are exposed to new ideas and experiences through learning activities in which the potential value is also exemplified.

The I-ORM model highlights the importance of brokering. Events hosted by brokers provide situations through which attendees can be exposed to new ideas and resources, but brokers were noted to vary considerably in how actively they pursued this role. Some act passively, providing the situation only, whilst others sought actively, to broker connections and even to manage the building of consortia where suitable opportunities arose. Active brokering such as this has the potential to remediate weaknesses in individual skills that would otherwise have compromised their ability to establish new relationships. Brokers are acting as collaboration catalysts in these cases. The variation in activities undertaken by brokering organisations, and the depth to which they are undertaken, suggests also that this catalytic potential is not being fully exploited.

In the following sections the theoretical implications and contribution of the study are discussed, after which the practical implications are considered for various stakeholders, including business managers, managers of brokering organisations, and collaboration policy makers. In the final sections the study limitations are discussed and opportunities for further research are outlined.

# Chapter 6. Concluding sections

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## 6.1 Introduction

In this final chapter, the research contributions and limitations are explored, along with opportunities suggested for further research. In the theoretical contribution, several themes are outlined through which the study is considered to have extended the collaboration literature and value literature bodies in particular. The use of extant social capital and knowledge and learning literature as a foundation for explaining observed behaviour has helped to further enhance the contributions by integrating related concepts with the value concept. Through these contributions, the study fulfils its objectives. The I-ORM process model establishes a set of processes through which value ultimately is created. This theoretical model accounts for how situational and behavioural factors can moderate processes, and thereby provides insights into how effectiveness may be enhanced.

A number of limitations in the study are discussed, some of which provide opportunities for further research. The typology proposed along with its set of enablers and disablers provide the basis for a framework that may be used either a template for reviewing and categorising existing studies, or as a basis for scoping further exploratory studies.

The study has several important implications not just for practitioners in industry, but also for public policy makers looking to stimulate collaborative innovation. The discussion on practical implications is then followed by a final section reflecting on the process and outcomes of the study.

## 6.2 Theoretical contribution

This study has contributed to knowledge in four areas. Firstly, through the detailed analysis of social processes within the I-ORM model the study establishes the importance of recognising individual and social group actors in collaboration contexts, and in so doing helps to redress the balance of research that has been overly focused on organisations as the unit of analysis. Secondly, the recognition of the importance and breadth of activities undertaken by brokering organisations, such as trade associations provides a much needed contribution to an area of research that has received “surprisingly little attention” (Rajwani et al., 2015, p. 224). In the third major contribution, the identification of intermediate and latent value concepts, as antecedents of tangible value outcomes from collaboration, contributes to a recognised shortfall in the temporal dimension of the value concept. In the final contribution, the study has added insights into how learning occurs at the level of small formal and informal groups, and has identified potential knowledge risks to organisations that are posed by inter-organisation collaboration forums. Each of the four avenues is discussed further in the sub-sections below.

Firstly, the I-ORM concept extends the collaboration literature by integrating a model of collaborative processes with situational and behavioural factors to explain how and where value, or its antecedents, are created. The model illustrates that collaboration processes are centred on individual actors, and many of the benefits derived are located also at that same level. In highlighting the importance of individuals and their social relationships, both as collaborating principals and in relation to the third-party brokering function, this study addresses recent calls for more research that recognises the significance of individual, rather than organisational actors (Schillebeeckx et al., 2016), in the formation and development of collaborative relationships. In an advantage arising from the method adopted, the study has generated additional insights into collaboration practices, particularly the formative processes. Inductive methods discourage research incrementalism and ensure that a fresh look is taken at the research area. The breadth of the study’s grounded exploration of social processes contrasts with the narrowed contextual scope typical of much of the collaboration literature. The supply chain literature in particular, restricts its focus to generic organisational actors (e.g. buyers and suppliers in Spekman & Carraway, 2006), within just the operational phase of contractually based relationships. Even where social process has

been considered, positivist research paradigms have driven a highly constrained examination. Cousins et al. (2006), for instance, test the impact of social events on performance. Their established link provides little insight into the social mechanisms through which interaction may enhance performance. The breadth of this study has revealed eight categories of collaborative social processes, which when interpreted in conjunction with the identified factors and phases, form the basis of a framework against which existing and future studies may be characterised during analysis.

In the second contribution, the orchestration of multiple collaboration processes by third parties considerably extends existing theory on collaboration *brokering* and orchestration. Existing literature on collaboration orchestration considers either how hub firms in networks organise less influential peers (Dhanaraj & Parkhe, 2006; Nambisan & Sawhney, 2011), or how intermediaries stimulate collaboration, either as a value-appropriating go-betweens (Stephens et al., 2009) or as honest brokers (Hingley et al., 2015). This study complements earlier work by recognising a variety of orchestrator organisations, identifying the different activities they fulfil and finally by recognising the additional benefits of an independent orchestrator. The study profiled several different types of brokering organisation, including trade associations and publicly funded collaboration programmes. By recognising the roles performed by these organisations and tying them to an in-depth explanation of the social processes through which collaboration is undertaken, the research helps to explain why these organisations are so important. The coordinating activities performed by organisations such as trade associations and funded collaboration programmes were collectively labelled *brokering* in the study, but this label encompasses a wide range and depth of intervention activities. Brokering activities range from a light-touch almost passive approach in which organisations are left to socialise and establish their own relationships, through to a highly interventionist approach in which organisations are actively recruited into managed collaboration consortia. The research into brokering activities helps to address recent calls for management researchers to “pay more attention to trade associations” (Rajwani et al., 2015), and helps to address criticisms that there is a “dearth of empirical research about consortia” (Eisner et al., 2009, p. 852).

Thirdly, the study makes an empirical contribution to the recognised shortfall in knowledge relating to the temporal dimension of value (Lindgreen et al., 2012). This

research makes such a contribution, in the context of collaboration, by recognising the processes through which intermediate forms of value are created. These may later lead to more tangible forms of value being created. By making this temporal connection, the research helps to emphasise the perishability of these intermediate sources of value and therefore highlights the importance of identifying and utilising their potential at the earliest opportunity. In establishing that social capital and human capital are important intermediate elements, from which tangible forms of value may be realised, the study also makes a further important contribution by linking the different forms of capital with the value concept. Although social capital receives passing interest in supply chain studies, it has not previously been specifically associated with the value concept, despite the wide range of studies addressing the concept within the supply chain literature.

Finally, the study makes an empirical contribution to the learning literature in an inter-organisational collaboration context. The study provides several insights into how individuals establish learning relationships in group settings that extend beyond their employing organisation. In the case of industry associations, institutes or societies that bring together people with similar backgrounds, knowledge and interests, the potential is created for knowledge sharing and development. The complex routes through which knowledge may be created or transferred through these bodies, more effectively than it is absorbed into individuals' own organisations, serves to challenge the simplistic learning models, such as advocated by Beesley (2004), where learning must pass sequentially through the actor levels.

## 6.3 Management implications

The findings suggest that people will vary in their effectiveness in performing the different collaboration processes, and that effectiveness will vary with the circumstances and the phase of an inter-organisational relationship. The implication therefore is that organisations should endeavour to match individuals to the collaboration circumstances. In a context where broad *socialising* is being undertaken for its potential to reveal innovation possibilities, then people need to have the confidence and skill to network widely with people who are little known or unknown to them. They also need to have the experience and skill to identify how products, processes or services they encounter may be adapted to their own organisation's needs. In a context where a team with different but complementary skills are needed to resolve technical problems, then the individuals need to have both the relevant technical skills but also must be capable of forming strong-tie social relationships quickly. These different capabilities, required in different situations, need to be recognised by managers when planning and resourcing inter-organisational interaction at all stages of the collaboration lifecycle, including its formative stage. Crucially, this planning should also consider the social compatibility between the organisation's resources and those of partner, or potential partner, organisations. Managers need to take heed of the skills, experience and interests of people likely to be encountered in a networking situation in particular, to ensure that a common enough language may be established, and that the legitimacy of any interaction is accepted. Social compatibility is a more fundamental prerequisite to establishing new relationships than perceived organisational compatibility. Social compatibility also should be considered when resourcing inter-organisational close working teams to ensure that a cohesive group may be established.

In addition to considering the personnel resourcing implications for collaboration, managers also should be alerted to the need to recognise and manage the soft capital resources created during collaboration. The research highlights the importance of social capital and human capital created as intermediate sources of value. These resources are noted however to degrade over time, and therefore incur an ongoing maintenance cost. The longer the delay between the resource creation and its use, the higher the cumulative cost will be. By recognising the importance of these forms of

capital, managers have the possibility to minimise costs by minimising the period between creation and use.

Collaboration not only costs organisations in direct staff-time expense, but also in opportunity costs relating to the other activities, including other collaboration activities, in which those individuals may otherwise have been engaged. It is important therefore that organisations assess the future and on-going value realised by collaborative practices against other opportunities. Staff resourcing, resource exploitation and cost versus benefit management should all be combined into a collaboration plan to ensure that the maximum potential is realised from an organisation's external relationships. Where organisations fail to plan their collaborative interaction, the outcomes will continue to be governed by serendipity, rather than through directed action.

Finally, this research also has wider implications for regional policy makers and heads of industry associations charged with promoting economic activity or generating member value respectively. Brokering organisations, particularly the trusted third-party organisations, fulfil several important roles that facilitate inter-organisational collaboration, especially in its formative phase. It was notable that the more actively these organisations engaged with members to encourage collaboration, the more successful they appeared in this respect. Charismatic leadership in several of the most active organisations appeared to be an important element in their effectiveness. These organisations are not just vital components in the implementation of collaboration and innovation stimulus programmes, but also are in a position to support those setting public policy. The influencing role performed by brokering organisations should not be regarded solely as power based lobbying for change, but as a source of consolidated knowledge that may inform new policy.



## 6.4 Limitations

The study adopted grounded theory as its research method. In recognition of controversies about the method, and the existence now of several varieties of the method, considerable care was taken to ensure that the constructivist version adopted was fully and consistently applied. Nonetheless all methods have limitations, and most studies are at some point faced with issues of restricted resources, restricted time or the need to make compromises when faced with conflicting options. In this section a number of limitations relating to the application of the method are discussed. The limitations discussed relate to data gathering, sampling process, and analytical processes used by the project.

### 6.4.1 Data gathering

Data was gathered primarily through face to face interviews, and was supplemented by field notes and organisational publications and documents. Although the field notes covered close engagement with seven organisations of between 6 and 12 months, the interviews in all cases were one-off events. The study data for the most part therefore, represents a cross-sectional picture of respondents' views. Interviews were historically reflective and included both interpretations of past events, and opinion. The data may therefore contain errors of fact, but these were considered acceptable in the context of this study, where current behaviour is based on people's interpretations of events, rather than an objective truth.

Interviews discussed interpersonal interaction in many different collaborative contexts but concentrated on face to face situations, rather virtual or technology based interaction. Face to face social interaction was considered to be the richest source of data, but further study may wish to examine whether a similar set of social processes is identified with more geographically dispersed collaborative groups that are more dependent on technology based interaction.

### 6.4.2 Sample limitations

In all but two cases, only one representative was interviewed for each organisation. This enabled a wide range of organisations to be included in the study, but in engaging only one representative there is a risk that additional insightful material may have been missed. Only one collaborative consortium was examined in detail, through interviews

with three of the six member organisations, plus approximately 220 hours contact time in the associated funded assistance programme. Equivalent in-depth case studies of other consortia would have provided a rich source of qualitative data on the social development of inter-organisational groups, but was considered to be beyond the scope of this broader exploratory study.

Interviewees were selected in accordance with theoretical sampling principles but were predominantly based in the North-West region of the United Kingdom. Although several organisations were experienced in international collaboration, the social process typology derived from this study is associated with a Western European culture that may not be replicated in other global regions.

### **6.4.3 Analysis procedures**

All analysis was undertaken in Nvivo and was conducted by a single researcher. The procedures through which this was undertaken are detailed in method section and were made available throughout for supervisory inspection, but the study did not attempt to utilise multiple coders.

The use in grounded theory of multiple coders, and the use of inter-rater checks to ensure consistency between them is often used as an indication of rigour in qualitative studies, including grounded theory (e.g. Gligor & Autry, 2012). Whilst this process helps to ensure that consistency is maintained in large projects that for time or resource convenience, choose to employ multiple coders, this is not a quality requirement of the method because there is no ‘right’ answer to coding choices.

### **6.4.4 Theory building**

The nature of theory is a controversial topic and has been a source of dispute between the positivists and constructivists in relation to grounded theory (see Charmaz, 2003; Glaser, 2002). Theory building in this study was undertaken in accordance with the chosen constructivist epistemology and is therefore presented in a discursive style (Charmaz, 2014) that specifically avoids generalisations and the formation of testable propositions. There is potential to develop the typology presented in particular into a series of propositions.

## 6.5 Future research

In this section, three areas of future research are proposed. In the first, the potential of technology as an enabler of remote collaboration and its effectiveness compared with face to face collaboration is discussed. Secondly, the scope for further investigation of the variety in structure and performance of brokering organisations is suggested, and finally the potential afforded by the elements comprising the central category to act as a framework in further collaboration research is considered.

Technology is becoming both an enabler of collaborative interaction through dedicated collaboration systems, but is also potentially a threat where integration systems, with automated ordering, are perceived to lessen the need for human interaction. More research is needed that considers how technology impacts the way collaborative processes are used, the depth of interaction and its effect on the building of bonding capital. Studies need to contrast technology based remote collaborations with traditional face to face. Social networking software is typically discussed in terms of well-known personal networking tools used primarily by individuals. There is however, a wide range of interaction tools aimed at closed group collaboration for businesses. These tools typically feature a mixture of microblogging, project planning, conferencing, white-boarding and file-sharing facilities through the cloud. With the increasing availability of such tools it is important that research is undertaken on the extent to which these tools enable a more frequent and richer inter-personal social experience, or the extent to which they provide a more limited experience compared with face-to-face interaction. There is a related opportunity here to explore new collaborative styles such as peer-to-peer interaction of individuals known to each only through virtual media, and the generational influences of the net generation (Tapscott & Williams, 2007).

The role of brokering organisations is an important recurrent theme in this study. This theme emerged during the study and was explored through theoretical sampling. Whilst trade associations are the most abundant examples of brokering organisations, several different types of organisations were encountered including publicly funded industry intervention programmes, an international industry regulator, a government department and a social interest body. A considerable difference in style and approach was notable between these different organisation types, and between different trade

associations. There seems to be considerable scope for further research in this area. Firstly, further qualitative study would help to reveal the full diversity of approaches taken to the active facilitation of collaboration and would help to build understanding of the reasons why some of these organisations are highly active whilst others are relatively passive. The factors revealed by qualitative study could potentially then be tested for their effect on collaboration performance through quantitative study. Such studies would help to develop theory in relation to trade associations, an area recently noted to have received very limited attention (Rajwani et al., 2015), as well as helping in the development of best-practice.

Finally, in accordance with grounded theory principles, the conceptual outputs are presented in a discursive rather than propositional form. This approach ensures that the research acts as a platform for further exploration and does not result in an early freezing of theory that is likely to occur with rigid propositions (Skilton, 2011). There is scope therefore for further investigation of the elements of the process typology and the 3-dimensional concept of collaborative compatibility. The different possible combinations of social process categories, collaboration phases and influencing factors indicate the extent of potential further scope for more detailed investigation of more narrowly constrained combinations. Longitudinal studies in particular could provide insights into the way social relationships evolve across different phases of a collaborative relationship.

## 6.6 Final reflections

The importance of collaboration between businesses is almost unquestioned in both academia and industry, yet the effectiveness of collaboration practices is not adequately researched. This study identifies a set of core collaboration and pre-collaboration processes, from which key challenges for organisations are apparent, if intermediate forms of human and social capital are to be recognised and leveraged to create tangible organisational value. Funded collaboration programmes and trade organisations are also identified in the study as highly valued third-party moderators of collaboration effectiveness. In each of these themes the importance of individuals' knowledge, attitudes, behaviour and social relationships serves to emphasise that organisations need to recognise collaboration as a primarily social activity in which many of the benefits accrue to social groups rather than organisations. Recognition and management of intermediate forms of capital will enable organisations to increase the extent of subsequent tangible value creation.

## Chapter 7. References

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## Appendix A - Interviews guidance prompts

Interview style is relaxed and informal with guidance prompts used firstly to stimulate conversation when dialogue reaches a natural pause and secondly to help maintain adherence to the main themes. The intention is to develop a natural dialogue rather than a sequence of questions and answers. Prompts below were used as reminders to the interviewer and are indicative of the sort of questions asked at different stages during an interview.

This style reflects the dialogical approach described in the method section.

### 6/8/13 Initial exploratory themes

**Perceptions:** Explore interviewees perceptions of value gained from its customer relationships and its supplier relationships.

- Develop conversation where possible to suggest how interviewee perceives value conceptually (as distinct from benefits alone);
- explore different non-financial benefits to reveal interviewees attitudes

**Collaborative networks:** Explore any other organisations or collaborative forums through which interviewee seeks or has established business.

- Explore effectiveness including negative and positive suggestions
- Understanding and perceptions of what the other party(ies) gained

**Collaborative innovation:** Explore how the interviewee's organisation sources and delivers new products/services/practices.

- Where do new product/services/practice ideas arise; explore externally sourced or inspired ideas
- How purposeful, are ideas actively sought or passively arise?
- Explore different areas of the business to establish approach to collaborative innovation

Priority: How important to your business do you see innovation being; how important is a wide collaboration; are there any problems which have arisen; if low priority indicated then explore why

## 17/6/15 Theoretical Sampling Revision

**Perceptions:** Ask first about interviewees overall perception of value *from Collaboration*. Establish if they have either a negative prejudice; are ambivalent, or believe more strongly in collaboration.

**Benefits:** explore gains interviewees have made from collaboration, or benefits they envisage.

**Expectation:** what do you expect to get out of networking and secondly closer b2b collaboration, and when do you expect to see those results

**Aspirations:** what do you hope to get out of networking / collaboration and when?

**Benefit locus:** Explore the nature of collaboration benefits and especially beneficiary: individual, group or organisation

**Cost:** Explore costs of networking and collaboration processes. Do you normally assess these?

How do you decide how much collaborative relationship building and networking you should undertake? What might be too much and how would you assess that?

**Risk:** What risks are associated with b2b collaboration? Have you experienced any issues which have put you off collaboration?

Is there anything else which limits either how much collaboration you undertake, or its effectiveness?

**Value:** Explore at this point perceptions again to see if they have changed after exploring sacrifices

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Contact establishment for new relationships: How do you go about finding new potentially beneficial partners?

**Dialogic process in networking:** (raise if not mentioned) Do you ever attend networking events – if so what form (shows, conferences, talks etc), where and how



successful? Is this easy or difficult for you – what would make them easier? Who do you decide to talk to or approach or do you wait to be approached. How do you approach a conversation; do you steer conversation and ‘pitch’ or just have a general chat?

## Appendix B – Participant information form



### PARTICIPANT INFORMATION FORM

**Title:** Value from B2B Collaboration in Engineering SMEs

**Invitation to Participate:**

You are invited to participate in a research study. Before you decide whether to participate, it is important for you to understand why the research is being undertaken and what it will involve. Please read the following information carefully and when you feel comfortable to do so, please sign the attached consent form.

Please feel free to ask any questions about the research and/or how information you provide will be handled. Please also feel free to discuss this invitation with others before agreeing to participate.

Your contribution will be gratefully appreciated should you decide to proceed, but we would like to stress that you are free to withdraw participation at any stage, including after signing the consent form.

**Purpose of the study:**

The research will explore how senior managers and/or directors of small companies think about the concept of value. The research will consider your views on 'value' you believe you provide to your customers, and the value you receive from your suppliers. The research will be looking to explore some examples in depth. Detailed discussions will help us to explore how and when perceptions of value are formed, what they are based on, how they change, and how they are rated against other sources of value.

Ultimately the research will improve our understanding of behaviours which on the one hand lead to consistent generation of additional value, to the benefit of both customer and supplier, and on the other, to our understanding of behaviours which damage value received by one or both parties in a business relationship.

## **Why have I been chosen to participate?**

In your role within your company, and/or through your commercial experience we believe that you are likely to have knowledge, opinions or anecdotes which are particularly relevant to this research.

## **The process:**

*Interviews:* The main data collection method will be through informal face to face discussions. A discussion will typically last about 1.5 hours. This will *not* be a formal interview in which you are asked a series of questions, it will instead take the form of an informal conversation in which the researcher will seek to understand your business relationship experiences, and to explore areas of particular interest.

You do not need to undertake any preparation.

With your permission we would like to digitally record our conversation. This will allow the conversation to proceed freely without distraction from note-taking, and will ensure that the process is consistent and reliable across all interviews.

*Focus Groups:* We *may* also invite you on another occasion to take part in an informal discussion with other participants. This would be a small group of approximately 5 or 6 people in which participants would be invited to share anecdotes and experiences, and to express their views on how value is enhanced or destroyed in customer and supplier relationships. The session will be led by the researcher. In the case of a group discussion we will check in advance whether there any organisations or companies with which you would NOT wish to hold such a discussion. A discussion will last approximately 1.5 hours.

You do not need to undertake any preparation.

Again, with your permission we would like to digitally record the discussion.

## **Data handling:**

All information you provide will be held confidentially, including digital recordings.

In all cases your identity and that of your company will be anonymised (coded) in the data which is processed. We will keep a record of your name and your company's name for research verification purposes only, and these will be held separately from the data itself. Any references you make to other individuals or other companies will also be anonymised. Only the research team will know therefore which participant made a particular contribution. Any extracts of the data which are quoted in academic papers will retain the same anonymity.

## **Who will benefit from the research?**

Research of this nature is intended to contribute to commercial best practices as well as contributing the academic knowledge base. Improvements to commercial practice benefit all organisations. In addition to academic publications it is intended that a short summary of practical recommendations will be produced for commercial practitioners. This guide will be made available first to participants and their organisations. Participants may also find that group discussions provide useful insights from other participants which help to improve their commercial relationships.

## **Contacts for further questions or complaints:**

If you have any concerns about any aspects of the research, either before or after participation, or would like to talk to someone other than the researcher, then please feel free to contact:

Prof. A.C. Lyons. 0151 795 3608, [a.c.lyons@liv.ac.uk](mailto:a.c.lyons@liv.ac.uk)

University of Liverpool Management School,  
Chatham Building, Chatham Street,  
Liverpool L69 7ZH

If you remain unhappy or have a complaint which you feel you cannot come to us with, then you should contact the Research Governance Officer on 0151 794 8290 ([ethics@liv.ac.uk](mailto:ethics@liv.ac.uk)). When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

## Appendix C – Research consent form



### RESEARCH CONSENT FORM

Title of Research                      Value from B2B Collaboration in Engineering  
Project:                                      SMEs

Researcher(s):                      B. Pinnington

Please  
initial box

1. I confirm that I have read and have understood the information sheet dated 21<sup>st</sup> Jan 2013 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected.
3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish.
4. I agree to take part in the above study.

☐☐☐☐

_____	_____	_____
Participant Name	Date	Signature

_____	_____	_____
Name of Person taking consent	Date	Signature

B. Pinnington	_____	_____
Researcher	Date	Signature

**The contact details of lead Researcher (Principal Investigator) are:**

Prof. A.C. Lyons. 0151 795 3608, [a.c.lyons@liv.ac.uk](mailto:a.c.lyons@liv.ac.uk)

University of Liverpool Management School,

Chatham Building, Chatham Street,

Liverpool L69 7ZH

**The contact details in the event of a complaint are:**

Research Governance Officer: 0151 794 8290 or [ethics@liv.ac.uk](mailto:ethics@liv.ac.uk)

## Appendix D – Data tables

The tables in this appendix contain the illustrative data clips that were drawn from the full primary data for each section of the findings. The analytical codes, from which each extract was drawn, are indicated in the table. The participant identifier has been encoded to ensure anonymity, but enables traceability to the originating script. The clips included in the text of the findings are a subset of the data included in these tables, which are included to allow the reader access to a widened data extract where required.

Four tables are included below. The first describes the 8 generic processes indicating the locus of value. The second provides a series of data fragments to illustrate different aspects of those processes. The third table contains data illustrations for each of the main four process moderating factors described in the findings. In the final table, additional data extracts have been recorded to illustrate further examples of both effective and ineffective collaboration in practice. These examples help to illustrate both value enhancing and value destroying interaction.

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**Table 10 - Description of Basic Collaborative Processes**

Abstracted basic processes	BSP Description	Value and its locus
1. Contributing <ul style="list-style-type: none"> <li>• Presenting</li> <li>• Coaching</li> <li>• Advising</li> </ul>	Seemingly altruistic net giving activity. Exemplified by the GlobalCo managers who got some value (mainly personal Learning) now depleted, but like to contribute now for benefit of other members. Informing purpose.	Motivation here of special interest because donor Value is at best speculative and deferred or does not exist. May be an element of Repayment of social debt “giving something back”. Increases to personal and company reference. Mainly individual locus.
2. Learning <ul style="list-style-type: none"> <li>• Benchmarking</li> <li>• Consulting</li> <li>• Learning actively, and Spying</li> </ul>	Purpose is knowledge acquisition: <ul style="list-style-type: none"> <li>• Technical</li> <li>• Commercial/market information; what individual competitors are up to, product or pricing; what companies exist and their potential as partners</li> <li>• Relational: people contacts, who knows what, who influences what as a result of power/position</li> </ul> Benchmarking data is provided through best practice observation and good ideas (DG) Monitoring is process of general observation with opportunity evaluation - ideas, relevance, and business potential. Ideas found in situ (KG & MS) or through trade literature (KG & QB) Consulting is interactive 2-way discursive process.	<b>Individual:</b> Human capital increase through all three, some social bonding may occur in the process of 1, weak-tie social capital results directly from 3. <b>Organisation:</b> Benefits indirectly where this knowledge translates into another form of capital. Some of this knowledge is explicit and can be shared within Org but risk is that it is not. Some may be tacit? Largely individually located.
3. Influencing <ul style="list-style-type: none"> <li>• Lobbying</li> <li>• Persuading</li> <li>• Promoting</li> </ul>	Purpose is collaborating to effect change, particularly in business environment: <ul style="list-style-type: none"> <li>• Government or regulatory policy changes affecting the macroeconomic environment</li> <li>• Influencing change at microeconomic level e.g. through standardisation</li> <li>• Relationship level influencing to effect change – must be collaborative and interactional rather than one-way commercial marketing activity (marketing and selling excluded from collaborative process typology)</li> </ul> Lobbying process is typically effected through aggregation of influence via an industry membership organisation, may even involve establishment of a collaborating body where none previously exists. Key point is that this is an influencing tactic via peer-to-peer collaboration. Key process to SMEs with no power otherwise. Purpose of lobbying behaviour is generally to effect environmental change. In the persuading guise the change	All three examples may exemplify co-opetition style interaction. All potentially realised mutual benefit where change goal is achieved. <b>Individual:</b> Considerable potential for social capital accumulation and learning value through the process. Social bonding effected in this process likely to be stronger and less transferable to Org than learning above. Indirect value to individuals. <b>Organisation:</b> Org actors are the primary and direct beneficiaries where goals achieved, typically through reduced costs. Largely Organisation located

	required is within the collaborating group's power to establish but in the lobbying guise it is not.	
4. Problem Solving <ul style="list-style-type: none"> <li>• Fixing</li> <li>• Exploiting</li> <li>• Running</li> </ul>	Joint working to solve perceived problem, often technical. Collaborative problem solving involves the deployment of resources from collaborating organisation for fault or issue rectification; meeting a design or innovation brief to exploit a new idea for mutual benefit; or finally to interact to maintain a steady-state in a run-time service, system or relationship, failure of which would destroy value.	<b>Individual:</b> Human capital increase through increased problem terrain knowledge <b>Organisation:</b> Benefits directly where the problem may have had immediate value destroying potential; future value potential for design/build type problems. Value from human capital may or may not be realised. Knowledge transfer may or may not be achieved (absorbed). 50/50
5. Exploiting <ul style="list-style-type: none"> <li>• Planning</li> <li>• Building</li> <li>• Running</li> </ul>	Process which leads to (and maintains) delivery of business outputs: service and/or products. Includes the delivery phase of formal relationships to which collaborative partnership literature restricts its focus.	<b>Individual:</b> Human capital increase through increased problem terrain knowledge <b>Organisation:</b> Phase in which main tangible business benefit is manifest. Additional non-tangible benefits likely in most cases.
6. Socializing <ul style="list-style-type: none"> <li>• Networking</li> </ul>	Action in which inter-personal relationships and social capital are main aim, but in a business context such that some future potential is perceived. Social links established potentially with no immediate intent or purpose, and hence represents an investment activity. Immediate value may become apparent through discourse.	<b>Individual:</b> Increased bridging social capital through new weak contacts. Some human capital increase but also some bonding capital as inter-personal friendships are deepened and trust established. <b>Organisation:</b> Value here seems to be indirect and dependent on the individual. Little explicit value that would survive loss of the individual. Exception would be where chance identification of a business opportunity occurs. Mainly Individual centred.
7. Allying	Purposeful action to aggregate organisations into some form of formal or informal alliance. A peer to peer aggregation process. May lead to bidding consortia or longer-term alliances through new trade association formation	<b>Individual:</b> Social capital increase through increased inter-personal interaction, esp. for leaders of an alliance <b>Organisation:</b> Increased commercial power, market access. May also enable subsequent lobbying processes. Mainly organisation centred

8. Brokering	Purposeful action to connect businesses. Structure may be supply-chain relationship; dyadic alliance or larger collaborative group. Action is undertaken by a third-party organisation acting as a broker.	<p><b>Individual:</b> Those introduced by brokers gain weak-contact social value increases and potentially some enhanced knowledge</p> <p><b>Organisation:</b> Value may be substantial and near-term where an immediate need is behind the introduction, or be vague and indeterminate in other cases.</p> <p><b>3<sup>rd</sup> Party Broker:</b> nature of value depends on broker's mission and stake in collaboration outputs</p>
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**Table 11 - Data illustrations by process**

Basic Process	Data Source (node name)	Fragment reference (at coding node)
<b>1. Contributing</b> <ul style="list-style-type: none"> <li><b>Presenting</b></li> <li><b>Donating</b></li> </ul>	<p><b>Contributing</b> (QR about their trade association)</p> <p>(about an 8 figure millionaire who gave a presentation)</p> <p>(about a knowledge sharing forum)</p> <p><b>Presenting</b></p>	<p>So there's a knowledge function there for you?</p> <p>QR - Oh definitely, yes, so there's a source of knowledge there, certainly in the earlier days, but now, of course, as this company has grown, I'm employing the engineers, better engineers, and they're contributing back in to the organisation (association). [Named], my Ops Manager, is very active in the association.</p> <p>NN –now [named] came to do a master class and ultimately of course we could have put that out on to Twitter and we could have put it out to everyone and their mother really</p> <p><b>UR - So how do you reconcile that to yourself? Do you think well we'll get something from the next one or /</b> I give myself a pat on the back <b>(laughs)</b> Yes. It does. I'll come back to FM. First time I went it was great for me. It was fantastic. It allowed me to develop a network that really helped me. 18 months later we were the ones presenting. <b>Right.</b></p>

	<p><b>Donating</b></p> <p>Gave a commercial idea to a supplier for free</p>	<p>But it was a way of putting something back, you know, we'd taken something out of it, it was now time for us to put something back, and I've hosted meetings here with other organisations where we've taken them through our strategies and certain sub-commodities, so / horses for courses ...</p> <p>I think some of it depends on the mindset. If you go in there thinking negative then you'll come away thinking negative. But umm / you know, the vast majority of times, if you go in to these forums, you're going to pick something up.</p> <p>SC – 001 The people were like, so you want this exclusively, we're like, no, we just think it's a good idea. We think that you should do this, it should sell well, and they're like, yes, but, you want 1,000 for free, but no, just / just sell them. It'll help the industry.</p> <p>SC -002 We thought it would be a good way to start a relationship.</p>
<p><b>2. Learning</b></p> <ul style="list-style-type: none"> <li>• <b>Benchmarking</b></li> <li>• <b>Consulting</b></li> <li>• <b>Learning actively and Spying</b></li> </ul>	<p><b>SCAT_Learning</b></p> <p>Sourcing of ideas</p>	<p>Monitoring contacts:</p> <p>DG_1 when I came in 2010, what I inherited was a database which in essence had anybody who had an interest on it and we still maintain that database</p> <p>Benchmarking:</p> <p>DG_2 so the benefit of going to them is that they're actually doing best practice experience because they're going around and seeing what that company does and you can never / you never know what you're going to pick up from when you walk around a company, as another person.</p> <p>DG_3 So you get best practice sharing, like it or not, umm, I don't mean like it or not, it will happen, umm, because you're going and looking at that particular location and seeing things that may spark off ideas for you. We normally then include one or two, what I started by calling them Vital Topics, so people get a 10 minute presentation ...</p> <p>DG_4 ...in fact, probably some of the SME's are better at change management and lets say employee engagement than some of the large boys.</p> <p>QR_1 Umm / well yes, I mean / within our European association, some of our members are members of the European Mobility Group, but the information that comes through from that is not really valuable to us, whereas information you get through the SMMT it's kind of valuable, but we can always get it ourselves anyhow. We just become aware of it earlier and quicker by having like a foot in that camp as you say</p> <p>UR_1 Networking with other procurement organisations and it's a really good way of improving your learning.</p>

### LG\_Learning Actively

UR\_2 You always pick up something, you know, two or three things, even if you're quite mature, but if you're starting off on a commodity that you've not looked at before, then the learning curve and the implementation is far, far quicker, so we utilise them quite a lot.

QB\_1 I read quite a lot of trade magazines. It was an American magazine that I had subscribed to when I lived in America, so they carried on sending it, and it was purely a little paragraph that caught my eye. As I say having lived in America you always treat their claims with a lot of scepticism, so I asked for product, a trial product, which they sent. I actually applied it to a turbo charger and seeing it do the job confirmed that there was potential. But, at that time, nobody in the automotive industry was particularly interested in coating turbo chargers or even exhausts.

KG\_1 the suppliers themselves, they'll send you out a brochure of all the new things on the market and that, umm, you tend to ... oh, another brochure, throw it away, but no, it doesn't always work like that. There is useful information there.

### LG\_Spying

(just before MS-1) Yes, we go to shows to see what's out there.

MS\_1 - Supplier-led, plus we work in different factories all the time. We do people watching. In the industry it's called **stealing with pride**.

So we'll look at something and think, hey, that's a good idea, we'll look at introducing something like that in our line, because we do a lot of business in a lot of new factories, especially the food industry

### LG\_Benchmarking

QR\_1 I / outside I made / I deliberately have always made a point of getting on with our competitors, probably **for surreptitious collaborative reasons**, you know, and I do / I get on with most of them. Some of them are a bit challenging but most of them I get on with. That's within this industry.

DG\_1 (see CP learning)

TA\_1 Yes, I mean, colleagues do actually in terms of the procurement side, in terms of big industry, or what happens, I mean, within sort of America's approach to procurement etc. so again colleagues of mine, looking at a different aspect, about looking at the whole NHS procurement piece, and is it the most efficient, looking at sort of other countries in terms of how they do their procurement.

TA\_2 Yes, because we have that sort of on the collaboration helping side and then we'll also do ... we do benchmarking as well as sharing and publishing information and that's a bit more contentious actually, sort of showing them up as red, amber or green, and things.

TA\_3 Yes, that's sort of about prices, so we may do something, like lets pick sort of a ... 10 orthopaedic items and how much are the Trusts paying for that particular product and then you'd have some sort of benchmarking against those particular products.

Benchmarking in this clip is effectively a coordinating role by a third party and potentially therefore separable as a process.

	<p>Benchmarking sharing tentative</p> <p><b>Openness</b> Process benchmarking within GlobalCo easier to share</p> <p><b>Knowledge High Tec</b> knowledge flow resulting from trade association previously not available</p>	<p>TA_4 Absolutely, but like the headline of ... or how much they're spending on sort of agency staff and things like that, because obviously agency staff is perceived as high, but then what you then need to see is, well, what was the reason for that and how ... what's their turnover and what's the permanent staff basis isn't it really, so there's all sorts of dynamics really. That sort of sharing ... you've always got that ... supporting collaboration on some areas, but then some people will always be protective on other aspects as well.</p> <p>SC_1 Yes, yes, we've got a partnership of a local company called &lt;ChuCo&gt;, where we did our warehouse manager did a shadowing with their warehouse manager and vice versa. We spent time at their contact centre, they spent time with us, umm / yes, so people tend to find that beneficial.</p> <p>SC_3 I think that a good example that there was better / we could have made of it was when we sit in management meetings now we talk about problems, if I come up for proposal for a solution, then the warehouse manager, who did that shadowing, will turn to me and say, yes, that's what they do in &lt;ChuCo&gt;, and part of me wants to say, why didn't you tell me that, after you'd been to &lt;ChuCo&gt;!</p> <p>UR_3 It's / it's very good. I'll just give an example. The last one I attended, not the last one, the one before that, but the guy from North America presented his approach to how he was engaging (58:29) which was utilising the tool that we've just implemented which is (58:34) and that was quite an eye opener.</p> <p>QA_1 Again I think knowledge-wise the access it has given us, in particular things like technical issues, not real pressing matters that, when you build a building, breathability of it, umm, overcompensating for air leakage and things like that, that really we've crashed on (previously)</p>
<p><b>3. Influencing</b></p> <ul style="list-style-type: none"> <li>• <b>Lobbying</b></li> <li>• <b>Persuading</b></li> <li>• <b>Promoting</b></li> </ul>	<p><b>Lobbying</b> On establishment of a new industry association being used to lobby government change in housing construction</p>	<p>QA_1 What we're trying to say is look well give this industry some support to plug that short fall.</p> <p>QA_2 Yes, its been unreal and the Chief Exec that we've appointed ... his main ethos is all about ... collaboration, a real buzz word for him, and ... we've kind of honed him in and targeted him to things like opening links with Government and ... lobbying activists and things like this, to really focus his mind and he's got the benefit of all the technical expertise behind him and all the rest of the members.</p> <p>QA_3 There's (28:48) There's something been set up called NASBA and we've got a foot in that camp now. They've got reciprocal membership of us and we're helping them. They're pushing Government and they've been quite successful. I think they've just announced another £100M. worth of funding over the next three years to help self build get going.</p>

		<p>QR_1 if I wanted to try and persuade the Department of Transport to do something for my little business, well I haven't really got much of a chance of doing that, and so in the UK we established / it went back to 1999, and we established the Trade Association because we've all got this common problem, with legislation, all Motability Operations, all the ISO Standards, and that's where we kind of recognise, well certainly some of us at the time, recognised that we are better working together, even though we're competitors, we're better working together to deal with common issues,</p> <p>QR_2 No, because ... we are negotiating more and more with Brussels, at a European level, rather than our own Department of Transport at a UK level, that we needed a European identity, so I was tasked, within the association, of setting up a European association. Now we've done that</p> <p>KN_1 Yes, so we would have another guy who would / one of the things Mersey Maritime did was do stuff like lobby the Government on things like customs and excise, taxes in the port area,</p> <p>KN_2 The Mersey Maritime is quite a strong group now of all the sectors. It is probably the most high profile. The incident I was talking about before about taxation, they actually went to Government and got some levy or tax overturned through the good work of Mersey Maritime. I can't remember what it was about. The / some tax exemption within the port area and /</p> <p>KN_3 Mersey Maritime lobbied and lobbied for years and got that overturned.</p> <p>LG_1 Okay, it's called the Committee for the Cooperation between Cotton Associations and there are 18 Cotton Associations from around the world. Imagine it as the United Nations of Cotton Associations. I run the / I'm the Secretary and we run that here in this office and our role is to lobby Governments when things go wrong, so we don't just lobby / where there may be an issue that will affect free trade, an export ban, and import ban, something like that, something that could cause global contract defaults, so the Chinese, for example, have recently put in to law that all cotton coming in to China must have a certain type of bailing, the bands that go around the cotton bale</p> <p>LG_2 So umm / in that particular case we've done a lot of lobbying on that. If a country introduces an import or an export ban we go to that country's Government and we lobby against that, trying to persuade that that's detrimental to the trade, it will cause lots of contractual disputes and they should be allowing free trade basically.</p> <p>LG_3 we have agreed with the World Trade Organisation that when these issues are discussed at the World Trade Organisation, at governmental level, that we should be involved in that / in those discussions, which is a significant advance, because it's Minister to Minister at the WTO</p> <p>LG_4 Those things are then translated in to legislation and law and suddenly it has an impact on cotton trade but it's too late, so that's one example where we've tried to sort of become aware of what's</p>
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	<p>Need to campaign and lobby for women's rights at many different levels and venues</p> <p><b>IN_Persuading</b></p> <p>Persuading example where the supply chain head influenced the market for collective benefit, negotiating common contract terms</p> <p>Other 3rd party brokering examples <b>Influence also includes industry standard setting</b></p> <p><b>Promoting</b></p>	<p>happening at a much earlier stage. An import/export ban, umm, I would say we generally have been successful, those bans have been lifted quite quickly after we've complained.</p> <p>NN _ there's various different sort of communities we have to convince of the economic benefit, never mind the social and legal whatever, but actually economic benefits, they haven't quite cottoned on to the fact that you know of course you want more business, it's stupid, so yes, so my networking is as much about bringing people on side, bringing them on to the agenda, getting them to recognise the economic benefit of having increased women's participation in enterprise, like they do in the United States, which delivers remarkable outcomes economically.</p> <p>TA_1 I think the particularly productive one was what we did on the Terms and Conditions ... so there were lots of different things really, and I think that was quite laborious, but as I say, to get there in the end, so that was particularly good.</p> <p>TA_2 You know that, from an SME's point of view, if they're doing business with Trust A, and ... it's different to Trust B, to Trust C, they ... [are] wondering what they're signing up to, whereas if you've got a set of documents that you know has been signed up to [centrally], and it's the same [across all trusts], then you've got that reassurance ...</p> <p>[Org] is an example of predominantly a lobbying group with international influence, and several different forums and engagement styles. Conferences, government agency meetings, inter-association collaboration and partner collaboration China to access potential members. WO is an example of org that exists to campaign for a social purpose, as well as also being a brokering and facilitating organisation. P2P coordination but also a support function. Lobbying at regional, UK and even EU levels.</p> <p>but by promoting certain ways of working and our engagement with people and promoting a sense of community and working together, we can evidence the fact that the money that's paid into us by the members does generate a rate of return of 3:1 or 4:1</p>
<p><b>4. Problem Solving</b></p> <ul style="list-style-type: none"> <li>• <b>Innovating</b></li> <li>• <b>Solutioning</b></li> </ul>	<p><b>PS Innovating</b></p> <p>Innovating</p>	<p>XZ_1 I'd say, right so, in this industry, like most of the other engineering industry, so it's just obviously, innovation plays a vital role, because you have to be on top of your game. You have to be innovative. You have to be able to resolve problems effectively because you have to have certain experience of expertise or that sort of exposure to the new technology and trends in the industry,</p>



<ul style="list-style-type: none"> <li>• <b>Sourcing</b></li> <li>• <b>Fixing</b></li> </ul>	<p><b>PS Solutioning</b></p> <p>On SME working closely with large auto company</p> <p>SME motivation especially for engineers is not always financial</p> <p><b>PS Sourcing</b></p> <p>Actively soliciting other orgs to collaborate in solving a known issue – not as interactive as it may be</p> <p>Exploring New Ground Serendipity</p> <p><b>PS Delivering</b></p>	<p>otherwise you cannot catch up with it and, in our sort of line, we don't have to just catch up with it, but we have to lead it in order to guide our customers.</p> <p>QB_1 I think when you're working with customers like that, they expect you to become more than just a supplier ... you are meant to be working within the team. [integrating small companies]... I think they do quite well at that. I think that's why they continue to be happy to work with us, even though we're a micro-company without the kind of accreditations that they need.</p> <p>QB_2 &lt;Biscuit Co&gt; was dependent on a constant supply of the product dropping from the hoppers on to the conveyor belt. They found the sticky product was not falling in a constant rain so they were not getting consistent biscuits. We coated the hoppers, problem solved, and they were ecstatic because they were held up to going in to production, until we happened to do that, so ... those are the kind of things that excite me, rather than making £10 million.</p> <p>...Solving problems is an interesting challenge ... That's maybe why I do crosswords and Sudoku and all that sort of stuff.</p> <p>TA_1 ... there must be some new technologies that would help us with that, so we would then go out to the market to say this is a challenge, we're looking to help support you with product development, to come up with ideas, so what would happen, in that scenario, that's what they call a Small Business Research Initiative, that you would have companies that would come along and say I've got the potential for this idea, those would all be assessed, and then you would then ... just cast that far and wide.</p> <p>KG_1 – 4 ...and then you go into it in depth then ... you start making enquiries yourselves and getting feedback off customers, well, what do you supply and what will it do and whatever, so umm ... yes, it's just a learning curve isn't it for everybody really. ... People were buying it in from China and umm didn't really know what they were buying, but then when we got into it, this [Supplier] that we know in Chester, who you know who imports a lot of this stuff, umm, he was instrumental in making the standards for the Chinese to follow.</p> <p>So he implemented all the standards and all that that they had to work to and then he starts importing the real McCoy ...</p> <p>So then it's up to us now to then convince Network Rail that that's your better value for money. Go and buy your cheap stuff and it lasts five years, or go and buy the better stuff, and it'll last you 25 years. So in a way we're educating ourselves but then we've got to educate Network Rail.</p>
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	<p>Negative face</p> <p>Networking in too close a community is unproductive</p>	<p>QB_1 Umm ... umm ... one thing I've found I needed to do more of was network and that became the buzz word activity by joining network groups and found them of fairly limited value because the groups I joined seemed to be completely full of professional service providers rather than like-minded engineers and manufacturing people.</p> <p>NN don't have any substantive evidence for this and I haven't looked at the research data on networking recently, because / but all I can say is that, in terms of our experience, we had previously / we've looked at the data on female entrepreneurship networking and they were all networking with each other, which is a complete waste of time.</p>
	<p><b>Socialising</b></p> <p>Social only</p> <p>Bonding capital</p> <p><b>Networking</b></p> <p>Maintenance and personal locus</p> <p>Specialised events improving access and increasing soc capital of the broker here</p>	<p>DG_1 ... which isn't about your professional life, it's more about you as a person, so for example, one of the items on there is what was your best motoring moment and this month we've had one that's gone on three times and that was driving down the West Coast Highway in America ...</p> <p>DG_3 Yes, lots of other areas of collaboration, but one of the elements that comes out from these networking meetings is, because people get to know each other, and get to know each other on a personal basis, umm, there will be times, when they talk to each other about things that are happening in the companies, that they don't even always tell us, that they get advice on from each other, and it's difficult to put any level of value on that</p> <p>BV_4 but I think my way of keeping relationships is much more personable so I keep the personable level of relationships which you know / we're dealing with 150/200 different organisations it could be quite difficult but that's how I keep collaborations going, I keep them going through the relationship.</p> <p>NN_4 because I think sometimes business networking, you can be invited along to business networking, and it's just shabby, it's shabby in so far as it's a joke. Put together with the wrong people and there isn't enough thoughtfulness behind it.</p> <p>ML_1 And it's difficult because it's like long days but actually, as soon as it reached benefits making those personal links, so you will be talking about work, because that's why you're there, but then you'll also be talking about your kids, you start to make those links, and meet people you wouldn't normally meet actually, so a lot of the Chairmen go to this, the Chairman of the LEP / I was at one before Christmas and the Chairman of Liverpool LEP was there and I got 40 minutes with him, which I'd have struggled to get that in his diary.</p> <p>ML_2 national figures, I've been able to chat to them, when they're a bit more relaxed actually.</p>

<p><b>7. Allying</b></p>	<p><b>Collaborating_with_peers</b></p> <p>Setting up a trade association from the ground. Two separate examples encountered.</p> <p><b>CP Allying</b></p>	<p>QA_1 The main one, at the moment, I mean obviously four years ago we started the UK SIPS Association which was bringing the industry together really because we were such a small fragmented type cottage industry type trade, so we've pulled everyone together which was unique really because you put all of your imminent competitors around a table and genuinely we all got on together. It's a big market, occasionally you cross each other, but we found that collaborating and pulling all our experience together from a competitive point of view as well, opened a lot of doors for us all and created an opportunity whereby we had a forum where we could go out to the industry as a whole and say, look, we've got 72 members now, between us we generate £36M. worth of work</p> <p>QA_3 Whereas historically, you know, you go through your business degrees and whatever, they teach you about competitors and all the rest of it, but for me its been an eye-opener in that having these close relationships with your competitors or you know this close interaction hasn't done any of us any harm really.</p> <p>QR_2 I wanted to try and persuade the Department of Transport to do something for my little business, well I haven't really got much of a chance of doing that, and so in the UK we established / it went back to 1999, and we established the Trade Association because we've all got this common problem, with legislation, all Motability Operations, all the ISO Standards, and that's where we kind of recognise, well certainly some of us at the time, recognised that we are better working together, even though we're competitors, we're better working together to deal with common issues, so suddenly being an SME with very little influence, you become an association with a bit more influence.</p> <p>QA_1 ... with how many members now? 378 members now, and that's right across the SIP and ... SIP, timber frame, (27:31) glulam. So that's basically everything to do with timber. Timber. We started out as the STA Structural Timber Alliance. We've now renamed it the Structural Timber Association, when we finally did the branding.</p> <p>QR_1The original founder members, there were six of us, two of which have gone out of business, but we've kind of just kept chipping away at the industry and our other competitors and now we've got I think it's 17 members, but we account / our membership accounts for 95% of wheelchair accessible vehicles manufactured in the UK. Now with that kind of number, when we go to talk to the Department for Transport, or as it is, direct in to Europe, because it's all European legislation, or we go and talk to Motability Operations, or Motability, they will listen to us because we supply 95%</p>
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		of the vehicles you know, but we also, I mean, we've had to make sure that we conduct ourselves properly.
<b>8. Brokering</b>	<p><b>Orchestrating</b></p> <p>Describes a fairly hands-on approach to connecting which goes further and is driving exploitation not just prospecting phase</p> <p><b>SCAT_Brokering</b></p>	<p>DG_1 ... the core collaborative activity that I believe we do is, because of our contacts, and because we have a good understanding of what each of our member companies are doing, we have the ability to build consortia for whatever type of opportunities there is, whether it's AMSCII whether it's R&amp;D or whatever it might be. Now obviously AMSCII is something that's come and gone, umm, but if you look at Innovate UK R&amp;D opportunities, and that's one where I believe we've been relatively successful.</p> <p>DG_2 This is helping members access funding but by pulling the consortia / helping them pull the consortia together, if "a" company's got a bright idea, then it helps take it to a further stage. (describes in detail the Sheffield consortium) so we became part of it and then, from the first three core companies to meet the requirements of umm the core that was in existence, we needed to bring others in to the consortia and of course that was then through some of the contacts we had, that we brought other companies in to a consortia.</p> <p>DG_9 That's our role in life is to get people to lift their heads over the parapet to find out how they can improve their business by collaborating with others, whether it's a LEP, a Council, a University, other organisations, such as Business Growth Service, things like that, engaging internationally / nationally with the likes of SMMT at the right time, or other national activities, or engaging internationally, you know, UKTI, both</p> <p>ML_1 We can then link them up, so thinking about the network thing, if they've got things that they think ooh we want to do this, we can link them with other people in the region</p> <p>ML_3 It's more brokering I think actually, so some might be intuitive, because sometimes I've sort of linked people by e-mail and thought, oh gosh, they'll really get on, so I'm linking you because you've got this work stream but actually I think you'll really get on and have a productive relationship, you know, there's some people you'll know, but it is more sort of planning and positioning</p> <p>NN when it comes to business banking, actually, they're interested in people as well, so yes, when it comes / it's about referring, it's about saying, here, give this / here are three business bankers, give them a call, tell them you've been here etc. etc. so it's about connecting.</p> <p>NN p.10 so we have a tech supplier list, and say look, do something with one of these, so that's up and running now. So that gives you an example. We don't do things ourselves, collaboration / or the network / our network is absolutely</p>

	<p>Brokering with judgement but excluding as outcome</p> <p>ML_2 ... So how do you appear to your SMEs do you think?  I think most of them have been really enthusiastic because they can see that we can help them to get their products in to the market because we understand health and what they'll need to do and we're sort of breaking down procurement barriers for them. The ones who have found it difficult is where they've come to us with something might be really well developed and we've said that just won't work, who have you asked for advice on it, we haven't, so we're having to give them bad news.</p>
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### Table 12 - Data illustrations of process moderators

Factor	Description	Code	Data Fragment
<b>Risk Attitude</b>	<p>Collaboration can be inhibited by Individual and organisational risk aversion. Broker organisations can help to mitigate this risk.</p> <p>Peer cooperation with one new association has worked better than expected</p>	<p><b>Collaboration with peers [CP]</b></p> <p><b>Risk Taking [RT]</b></p> <p>Risk aversion</p> <p>Large org approach to risk mitigation is contracts</p> <p>Broker help</p> <p>Risk willingness</p>	<p>RT_QZ1 I wasn't networked to anybody. I was a bit paranoid about my IP that I didn't want ... you know, I filed patents for it and before they were published I had to withdraw them all, because I didn't want anybody to see the idea</p> <p>RT_QB2 I'm a naturally trusting person, but I have learned to be rather cynical when it comes to involving money and resources.</p> <p>RT_TU1 So the risk, culture, yes, definitely. Yes. Certainly a ... it's quite interesting how umm ... thinking about my dealings with the French and the Germans, they are far more parochial, so their culture is they're very protective of their own industry.</p> <p>RT_NQ3 ... but we only want to do that if you'll be exclusive with us ... then there could be some sort of commercial agreement there</p> <p>RT_DG2 I mean, there's lots of risks in there, but ... that's where I see we can step in and help</p> <p>RT_ML3 we run procurement events so our NHS Procurement Departments who are really risk averse can meet businesses who have got products so we have lots of input and lots of people wanting to work with us</p> <p>RT_KG2 You've got to try haven't you</p> <p>CP_QA3 Whereas historically, you know, you go through your business degrees and whatever, they teach you about competitors and all the rest of it, but for me its been an eye-opener in that having these close relationships with your competitors or you know this close interaction hasn't done any of us any harm really.</p>
<b>Social skill</b>	<p>Individuals' social skills pertaining to business collaboration. Examples of successful collaborators who</p>	<p><b>Social skills [SS]</b></p> <p><b>Collaboration skills [CS]</b></p> <p><b>Collaboration abler [CA]</b></p>	<p>SS_QR2 The only other business people that I know are going to be down our supply chain, and I won't know them particularly well ... as I say, I am really unsociable.</p> <p>SS_QB1 I'm not the most social of animals by nature.</p>

	<p>considered themselves to be unsociable.  An unconfident communicator and therefore poor collaborator.  A person with poor situational awareness trying to establish collaboration  Collaboration evolution through gradually socialised groups.  Difficulties in adaptation to virtual collaboration</p>	<p><b>Socialising [SG]</b>  <b>Individual traits [IT]</b></p> <p>Skill with on-line tools</p> <p>Research field intervention memo</p>	<p>CA_BJ2 ... she never came back to me ... I'm not ... none of us are that pushy type of people that say you know ... that's put me off, it probably wouldn't put other people off</p> <p>IT_ML2 ... somebody who is senior enough to reach the Board, so can talk to the Board about innovation, but still close enough to the front line to know what's going on and so have people talking to them about the reality</p> <p><i>Long passage in which an SME wanted to be introduced to a MNC – did not realise that the representatives were inappropriate, nor that the approach was inappropriate at an annual dinner</i></p> <p>CS_DG1 Annual Dinner. I had one of our SME's come up to me and say you've got to introduce me to the people on the [MNC] table ... at that point, he started to realise, the challenges that exist</p> <p>SG_DG3 Yes, lots of other areas of collaboration, but one of the elements that comes out from these networking meetings is, because people get to know each other, and get to know each other on a personal basis, there will be times, when they talk to each other about things that are happening in the companies, that they don't even always tell us, that they get advice on from each other, and it's difficult to put any level of value on that</p> <p>... but I think [A and B] are both a bit sort of in the dark ages with regard to this sort of stuff, so that's another issue I think that ... but I think they're kind of getting there slowly</p> <p>“Directors sat in separate offices and had evolved their own roles in business generation.  Even with respect to their longest standing clients, on which the business is highly dependent there is no strategy or even tactical energy devoted to relationship building. Through clauses in its contracts, one of their two most important clients invites its suppliers to engage more closely with it, but even in this case the company shies away from engagement.  The company believes that it has good enough operational level contacts to learn of future strategy 'through the grapevine' but does not know how much</p>
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			<p>information it is missing; how late its learning is, or how far behind its competitors it is.</p> <p>Directors are reluctant to go 'knocking on doors' and actively seeking information exchanges. Their major clients are in regulated industries and need to manage such exchanges formally and so tend to drag their heels when it comes to supplier engagement, more than they need to.</p> <p>One of the directors did visit one of the suppliers and found the experience very positive and informative, but following a subsequent negative experience in which their approach was ignored, the director lost confidence and discontinued the initiative.</p> <p>The phrase "we are not very pushy people" was used several times in internal discussion at business development meetings.</p> <p>The charismatic owner who has always developed relationships confidently is past retirement age and the new directors are not strong or willing networkers. One even described herself as being unsociable, though this was clearly not the case within her normal social or business circles. The sense gained by the researcher was that the directors, both of who had risen to their current positions on merit rather than qualification, lacked belief, confidence, and a sense of entitlement when it came to external business relationships. There was a strong reticence to attempt to develop relationships either face to face, or by phone."</p>
<b>Willingness</b>		<p><b>Collaboration abler [CA]</b>  <b>Collaboration willingness [CW]</b>  <b>CP Solutioning [CS]</b>  <b>Collaboration reluctance [CR]</b>  <b>Innovation abler [IA]</b>  <b>Innovation mindset [IM]</b>  <b>Solo working [SW]</b>  <b>Collaboration example [CE]</b></p>	<p>CW_ML1 we've just always got it in the back of our minds, that putting willing parties together ...</p> <p>CW_ML2 but everybody else has been enthusiastic, because we're an extra resource you see, and I suppose we've sort of tackled this by saying we want to put infrastructure forward and make the region more sustainable and improve health, so you can't / it's difficult to argue with that I think, you know, if the motivation is improving health, then that's what we should be about.</p> <p>CS_QB2 (solving the biscuit manufacturing problem) ... those are the kind of things that excite me, rather than making £10 million.</p>

		<p>Unmotivated or reluctant collaborators</p> <p>Necessity provided motivation</p>	<p>IA_QZ1 I have very clear ideas of what I want to do, you know, my sort of own goals, so I innovate around those goals, rather than be stimulated to innovate by somebody who I'm providing a service to, you know.</p> <p>IM_QZ4 this is why I don't want to do anything other than what I'm doing now. I could have made loads of money out of buying and selling stuff, but I wasn't interested.</p> <p>IM_QB3 Solving problems is an interesting challenge. That's maybe why I do crosswords and Sudoku and all that sort of stuff.</p> <p>SW_QZ1 people like me, I can't work for a company, because I'm far too independent but there's lots of people around that I know, like me, have loads of good ideas and provide a mechanism where all these people can work together and feed off each other and mutually support each other, but still retain their independence, and you'd get a lot of really good quality stuff at a very very sort of competitive price because none of us have got big overheads. We survive by being very lean and very efficient. So you know it's creating an environment where we can collaborate.</p> <p>CR_QI6 ... you know a very much dog-eat-dog and collaboration's a complete anathema to some people and it still is today. You talk about a lot of the last few years but I've not seen many successful collaborative ventures take place in the environment that we operate in.</p> <p>CR_QR7 It's a collaboration born out of necessity rather than a desire to innovate, yes, we need a supply chain, they need customers and you're fulfilling a mutual need. Probably the truth is that both parties would prefer to be living without each other, if they could afford to, which I suppose is a cynical way of looking at it, but it's true, so it's / I think it's collaboration that's forced on you rather than collaboration that you actually go out and actively seek.</p> <p>CR_TU1 because I've found it incredibly difficult in the last 10 years to try and get true collaboration to work in the supply chain, very difficult.</p>
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			<p>CR_TU3 they can't get anyone interested in sharing their procurement leverage or their technology or even sharing umm ... or even ... collaborating together to win a bigger piece of work.</p> <p>CE_TU5 When I was in America, I saw it working well actually. For some reason, it's the same type of suppliers, same sort of size, offering the same sort of offering and they had umm this association working together, but they've created it themselves, umm ... and umm because they'd realised they needed to compete, and it was six or seven houses, got together, and started learning from each other. They ran their own (09:37) go round to each of the factories on a monthly basis and actually (09:41) projects. You see other examples where this has worked, especially in the late 80's, with the work by the Society of Motor Manufacturing Trade, with the introduction of the Industry Forum.</p>
<b>Situational factors</b>		<p><b>Collaboration abler [CA]</b></p> <p><b>Collaboration forum [CF]</b></p> <p>Need for bespoke events</p>	<p>CA_DG2 .. one of the things we say to companies is the effort you put in, you know, don't come and join us and think it will all magically happen, it won't, you've got to put the effort in,</p> <p>CA_DG5 ... It's a very complicated dynamic which SME's don't always realise but that's why the benefit of our organisation and others are there, because we've been in the industry and we know the ways to get in and the right places for them.</p> <p>CF_ML4 ... Trade shows wouldn't do it, just personally wouldn't do it for me, really. I suppose for me it's that personal meetings and the networking stuff and I think a lot of things that might go on that's quite formal, it's the networking for me that's more important and I look back on things</p> <p>CF_ML5 ... in this job, is that I have to attend a lot of dinners, you know, and doing that, it is networking, but it's not networking through a work context,</p> <p>CF_ML6... so we've focused on it, so it's sort of formal informal. It's an informal occasion but we're being very sort of structured about how we do it, and you can't do that so much at other people's events, but you can sort of say to them, could you make me an introduction to this person</p>

		<p><b>Relevance of Contacts [RC]</b></p>	<p>CF_ML7 ... No, and we did in the first sort of few months, we did go round and we ran some / can't remember what we called them / meet the expert events, which were people from healthcare, talking to them about what healthcare / we just started it like that and then it has just carried on growing and growing, so there are too many really.</p> <p>RC_KN1 The problem &lt;Techco&gt;, which we're just reviewing at that moment, is that these tend just to be one man bands, builders, decorators, who are unable really / we are unable to generate much networking benefit because these people are not in a position really to recommend us ... nothing to do with technical at all. We are the only technical people / there is a telephony company there as well. There is also a large [electrical] company ... who attend as well, but other than that, it is solicitors, mortgage brokers, etc., painters, decorators, builders.</p> <p>RC_KN4 So we went along and we stood up, we said what we did and then once or twice, once a year or something, we actually got like our technical director to go in front of the podium and say, actually, do a 20 minute presentation on say seven key things you should know about your IT, so what's the hot topics these days, but I would be sitting next to say like one of the operations managers from Bibby. He wasn't interested in IT. The guy who ran Liverpool Marina he wasn't interested. He'd always say, oh, I'll mention it to our guys, so you weren't comparing apples with apples.</p> <p>RC_LR1 ... to be honest, we haven't got any actual benefit yet ... because these events are kind of ongoing and after a while you see ... the same people.</p> <p>RC_SC1 I don't go to any &lt;general&gt; networking events, because my point of view is, we deal with [our supply market] and I'm very unlikely to meet anyone [relevant] in these kind of things ... I do attend some kind of [networking] things for retailers and those are a bit more positive with less people trying to force stuff at you.</p>
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**Table 13 - Data illustrations of collaboration effectiveness**

		Data Source (node name)	Fragment reference (at coding node)
Effective collaboration examples		Collaboration Example [CE]	<p>CE_QB3 People trying to sell to a ... to each other I think in the end. So that didn't work too well, but then I came across the North West Automotive Alliance, which is a massive ... it's a good networking club, but goes far beyond that, and that I have found to be one of the most useful organisations I've come across to be honest.</p> <p>CE_QB3 Yes. Yes, I think so. I've never heard anyone say a bad word about the NWAA (15:13) and that says a lot for, not only the organisation, but the staff. Carol is quite exceptional. She is an exceptional person and built a good team. That's why it works so well.</p> <p>CE_DG3 Well the other one is a car for young drivers. It's another TSB. Again, small SME's, actually they were on an NAA event in India and they were talking over, lets say, evening meals, and suddenly there came up / two of them were in the situation where they had lets say teenage children, you know the problem /</p> <p>I know, yes.</p> <p>Why don't we do something about it. Now in the first couple of umm times that we worked together and tried to get bids through, we didn't get through. This was one that we then said, okay, lets try this from a different perspective and we got this one through and there's is a 13 quarter programme and we're in quarter nine at the moment.</p> <p>CE_DG2 "they won a million pound ATS contract, but it wasn't just at that level, it went on then because, once they'd won that contract, they were then able to go on and pick up other contracts as well".</p>
		PS_Innovating [PI]	<p>PI_LG2 we have developed a way of tracing cotton from the field to the shirt, full traceability, which is completely new.</p> <p><b>Okay, that sounds interesting. How is that done?</b></p> <p>If I told you I'd have to kill you!</p>

			<p><b>Okay!! (laughs)</b> Effectively you put a powder in the cotton, this stuff, the fluffy stuff.</p> <p><b>So it's actually marked ...</b> No, it's not marked ... You can mark cotton that's already in the system but what you can't do, and what we can do, is I can scan your shirt and I can tell you how much of that is Egyptian in that shirt.</p> <p><b>So you could tell me that it's a 4% Egyptian /</b> Yes, so we can now make that leap and that leap is really important because, in the cotton trade, there's a lot of corrupt trade, so for example, somebody said to me, oh gosh, that means that the world will realise that there isn't 400,000 tonnes of organic cotton in the world, there's only 200,000, because only 200,000 is grown.</p> <p>PI_LG3 It came about from a conversation with somebody from / who was in the paper trade and they made bank notes.</p> <p>PI_QB3 Absolutely. Absolutely. But it's difficult to uhh ... to get them to check because a lot of their customers specify on the drawing that this is what they want, (21:17) anodising, that's what you have to do. You now have the challenge of introducing this new, totally new process, in to the market which we're doing by finding basically UK manufacturers of high technology products, made in aluminium, that require all the advantages of the ceramic process, ceramic anodising process and the one's we've found, up to now, have been both automotive and non-automotive.</p>
<b>Examples of ineffective collaboration</b>		<p><b>Collaboration Reluctance [CR]</b> <b>Collaborative group [CG]</b></p> <p>About a trade association that should have been a good collaborative organisation</p>	<p>CR_SC1 Slows things down sometimes. It's / if you have to coerce people in to doing something, then it'll / oh we'll just do it ourselves. That / for instance, that project, where we'd met the supplier who could potentially make / who was interested in making model railway kits. At that stage, what we could have done, rather than pursued it with them, is we could have said, right, this is a great idea, great technology, but we're going to walk / these guys now, we've already got this complicated relationship. They are expecting something from us, we are expecting something from them, have a conversation with them, bid them goodbye. As soon as we get back to the UK find a company that does exactly the same thing, don't then / and have a proper customer supplier relationship rather than a collaboration. In this case that we've talked about, it's the collaborative element that's made it go sour.</p>

		<p><b>Collaboration Issues [CI]</b></p>	<p>CR_SC2 we haven't got the same level of emotional commitment, haven't got the same kind of, oh, who is getting a fair deal, blah blah blah, they're looking to rip us off, it's much more the traditional relationship.</p> <p>CI_QB1 Umm ... there have been, over the years, several occasions, working very closely with customers on programmes, for whatever reason, either turned sour or didn't come to fruition. One we spent quite a lot of time and money actually developing a whole new coating to use in an electronic application, automotive, and developed it, it worked fine, they diddle off to China.</p> <p>Oh as in they pulled a fast one on you?</p> <p>... The whole company ... upped sticks and went to China. So we'd done all that development work and got nothing for it but, luckily, the coating we developed works very well on automotive applications.</p> <p>So you still got something ...</p> <p>We ended up with a new product.</p> <p>CE_QA12 Then he run in to financial trouble and he owed us £50,000. So I obviously put the blocks on supply. We managed to get the bill down to about £7,000, umm ... in the end I got all my money back but he went under for quite a lot of money. He took a lot of ... people that I'd recommended to him as well, he took a lot of money. So that was kind of a poke in the eye really. You'd helped set it up and he's since got up and running and did it again with another ... he's gone to one of our competitors now and he took them for a load of money the second time. So that was one that started successful and ended disastrously.</p> <p>CG_QI1 ...became patently evident from the outset they didn't have a collaborative bone in their body and that was purely down to different behaviours, umm, they just wanted to control all the features and all the outcomes of the programmes that we were working with them on, whilst espousing collaboration as a key feature of the whole programme. Unfortunately it got to a point whereby the relationship was quite fractured with them.</p>
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