IMPLICATIONS OF SOCIAL COHESION

IN ENTREPRENEURIAL COLLABORATION

by

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Thesis submitted in accordance with the requirements of

University of Liverpool for the degree of

Doctor of Business Administration

March 2023

Supervised by Dr. Allan Macpherson

Declaration of own work

    I declare that this document represents my own work and that I have correctly

acknowledged the work of others. This thesis is in accordance with University of Liverpool

Academic Integrity Policy and has not been submitted for any other degree.

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March 27, 2023

Abstract

This action research study explores social cohesion in a small group of collaborating entrepreneurs. Over twenty years, this cadre moved from sharing ideas to functioning as an *ad hoc*, non-hierarchical firm focussing on small to medium-scale real estate development. However, a volatile marketplace combined with spiralling development costs challenged profitability and caused the firm to stagnate. As entrepreneurs, the members were resistant to establishing positional leadership that might constrain their creativity and feared upsetting their long-standing social network. Excessive social cohesion hindered their criticality and stifled their problem-solving capacity to produce a state of sub-optimal synergy. As a member of the firm, I confronted the problem as an insider action researcher using action science with a phenomenological approach. Through the process of systematic literature review, I developed a conceptual framework to examine critically how and when the moderation of social cohesion could optimise synergy. I conducted semi-structured interviews to improve my understanding of the firm's dynamics and employed thematic analysis to inform my approach to sociometric technique, which, in turn, supported three cycles of action. I then assessed the level of social cohesion and perceived status to configure rosters for the Escape Room sessions, which the participants chose for their intervention activity. By framing oversight as a resource to support the relationships and actions in entrepreneurial collaboration, I overcame the members' concerns about positional leadership and the literature's preference to maintain a hands-off approach. This effort generated the spark to resolve the workplace-based problem by promoting the firm's dynamic capabilities in developing its assets for the marketplace. Finally, I

conducted a retrospective pretest-posttest survey to scrutinise the effect of the intervention, showing a significant, positive impact on the member's perceptions of ongoing team problem-solving games as the social activity of the firm.

Keywords

Social cohesion; Entrepreneurial collaboration; Organisational synergy; Innovation.

Dissemination

The following related, peer-reviewed journal articles have been published:

Minhas, J. and Sindakis, S. (2021a) Implications of social cohesion in entrepreneurial collaboration: A conceptual model and research propositions. *Journal of the Knowledge Economy* [Online], 12(4), pp.2016-2031. Available from https://doi.org/10.1007/s13132-020-00706-5.

Minhas, J. and Sindakis, S. (2021b) Implications of social cohesion in entrepreneurial collaboration: A systematic literature review. J*ournal of the Knowledge Economy* [Online], pp.1-32. Available from https://doi.org/10.1007/s13132-021-00810-0.

To my parents, Maqsood and Ruqaiyya,

who instilled in me the importance of lifelong learning

and sacrificed greatly for my opportunities.

And, to my grandfather, Aziz Din Busoga,

whose legacy of entrepreneurship and collaboration

abides.

Acknowledgements

I am sincerely grateful to my supervisor, Dr. Allan Macpherson, for his stalwart mentorship and to my loved ones for their support, especially Korsan and Simon. I would also like to thank the participants in this study for their patience, Professor Tom Gollery for the statistical report of my post-study survey, and Mrs. Jean Hills for having been a true awakener so very much ahead by a century.

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1 Introduction

Entrepreneurs are known for assuming risk in starting new ventures, mainly owing to their willingness to take strategic action to create value (Burgelman & Hitt, 2007). Over the past twenty-five years, I actively sought opportunities to meet and exchange ideas with other entrepreneurs to benefit my business practice. Through that effort, I eventually became part of a social network with eleven other entrepreneurs in the Southwestern Ontario Region of Canada, where I reside. The group became increasingly socially cohesive and supportive of its members. Approximately ten years ago, the members of this *ad hoc* firm (hereafter called 'the firm') began to collaborate in small to medium-density real estate speculation and development. They were and remain unanimously explicit in their desire to maintain a flat organisational structure without a positional leader. As entrepreneurs, they did not want to be employees or have managers in their pursuit of innovation (Kempster & Cope, 2010). Each member contributes capital and undertakes various administrative duties as required for a given project.

Like the other members of the firm, I assumed that we, as entrepreneurs, would continue to be competitive in the regional real estate market because we were innately innovative and collaborative (Bernard, 2000; Koellinger, 2008; Carayannis, Grigoroudis, Sindakis and Walter, 2014; Carayannis, Samara and Bakouros, 2015; Chen, Chang Y. Y. and Chang Y.C., 2017; Dickel & Graeff, 2016; Frigotto, 2016). So, while we did not establish positional leadership, we also followed the typical hands-off approach with one another, presuming that any attempt to manage one another would be unnecessary or even

counterproductive (Stevenson & Jarillo, 2007). As the market became overheated with over-competition for development sites, it became apparent that simply bringing entrepreneurs together could not ensure that they would perform in a manner greater than the sum of their individual abilities or potential – a concept known as (organisational) synergy (Camuffo & Gerli, 2016; Dundon, 2002; Lawford, 2003; Liening, Geiger, Kriedel and Wagner, 2016). To that end, the firm entered a period of stagnation as the members were unwilling to ratify any new projects, given the contemporary market conditions. How exactly our cadre would come together such that the collective performance would exceed that of the individual members had been left to chance, and the synergy necessary for innovation did not occur (Dundon, 2002; Witges & Scanlan, 2015). Over the course of my DBA journey, I would find out that models of synergy rely heavily on leadership, and while entrepreneurs are very capable of leadership themselves, they do not like to be managed (Dickel & Graeff, 2016; Frigotto, 2016; Kempster & Cope, 2010; Namjoofard, 2014; Oketch, 2004; Wong, 1992). I undertake this study to explore the stagnation of the firm and to pursue a pragmatic remedy that revitalises the innovative potential of its constituent members.

1.1 Social cohesion

The sense of belonging that links members of a firm together is known as social cohesion (Dyaram & Kamalanabhan, 2005; Hoigaard, Säfvenbom and Tonnessen, 2006; van der Noll, 2017). These linkages are also the site of entrepreneurship (Chan J., To and Chan E., 2007; Chen et al., 2017; Covi, 2016; Mulunga & Nazdanifarid, 2014; Najmaei, 2016). Although social

cohesion is believed to be positive in terms of improving synergy and group performance, few studies consider how excessive social cohesion can be detrimental to group performance (Dyaram & Kamalanabhan, 2005; Wise, 2014). Even where excessive social cohesion is found to undermine organisational performance, it is social cohesion that continues to be analysed, rather than its utilisation toward optimising synergy (David, Yang, Bianca and Getele, 2020; Dyaram & Kamalanabhan, 2005; Langfred, 1998; Stogdill, 1972; Sulistyo & Ayuni, 2020). In any organisation where innovation is being fostered through entrepreneurial collaboration, social cohesion remains key in creating a sense of belonging through the trust, tolerance, and respect necessary for successful innovation (Koellinger, 2008; Stafford, Bartley, Sacker, Marmot, Wilkinson, Boreham and Thomas, 2003; Wong, 1992). Moreover, the definition of social cohesion does not provide a detailed description of the experiences of entrepreneurs working with one another, perpetuating the belief that managing entrepreneurs is oxymoronic (Chan et al., 2007; Stevenson & Jarillo, 2007).

The precise implications of social cohesion are unclear regarding when it can or should be exploited in entrepreneurial collaboration (Oketch, 2004; Namjoofard, 2014; Wong, 1992). The challenge in sustaining innovation through the firm's undertakings lay in understanding that while social cohesion mitigates member exit, it can also hinder innovativeness when excessive (Chen et al., 2017; Sethi, Smith and Park, 2001; Wise, 2014). Disrupting the group members could be beneficial, but the resulting synergy may not be optimal (Goold & Campbell, 1998; Wise, 2014). No clear recommendations exist for how social cohesion activities can be exploited to moderate synergy (Dundon, 2002; Hoigaard, 2006; Najmaei, 2016). In the context of the firm, improving the understanding of the implications of social cohesion in

entrepreneurial collaboration could optimise synergy toward innovation, allowing a return to competitiveness in rapidly changing market conditions. Below, I discuss my workplace-based problem, the problematising process that enabled its clarification, and the development of my research aim and objectives.

1.2 My workplace-based problem

The articulation of my workplace-based problem as well as my research aim and objectives were supported by an iterative process. It began with the critical action learning (CAL) final reports of the didactic portion of the University of Liverpool DBA programme. The CAL final report at the end of each module was an opportunity to synthesize what I was learning against the backdrop of the cadre of entrepreneurs of which I was a member. As I began to understand the role of an action researcher, my confidence to actively intervene in the stagnation of my firm grew alongside my belief that I could create and support change within the firm (Coghlan & Brannick, 2014). At the outset of my DBA journey, I felt a fog of ambiguity about how to understand the inactivity of my firm without assigning blame or violating the explicit disdain of the members for positional leadership. I was motivated only by the notion that if the firm did not deliver financial gains to its members, it would break up and cease to exist. In Section 1.2.1 below, I discuss how I enhanced my understanding of the workplace-based problem.

1.2.1 Problematising process

As the didactic modules progressed, I became more deliberate in my critical reflection. I realized that I was looking for a pre-packaged solution - as had been my practice - to address the changes in the real estate market, instead of looking at my organisation and its stagnation (cf. Schön, 2016). I learned that actionable knowledge could be extricated from my firm (Gilson, 2014) despite the role expectations that persisted in and legitimised the status quo which were likely embedded within the (informal) structure of my firm. For the first time, I became aware that my emphasis must lie in the posing of the problem rather than its attempted solution (Argyris et al., 1985; Tripp, 1994). The problematising process would not be formulaic as it required a pivotal change for me as a would-be knowledge broker to an insider action researcher in questioning my assumptions and not taking previously established findings for granted (Greenwood & Levin, 2007).

The affiliation of the members of my *ad hoc* firm arose from our long-standing social network characterised by enduring friendships. Unfavourable market changes, including an abundance of like-minded real estate investor groups and sky-rocketing real estate prices (Crawley, 2017), significantly reduced the availability of the habitual projects undertaken by the firm. Despite the demonstrably entrepreneurial archetypes comprising the firm, the inability of the members to innovate beyond their habitual, routinised projects and practices led to a prolonged period of inactivity, threatening the existence of the firm itself, especially because members could withdraw financial support in the face of dwindling profitability.

My research supports the firm in escaping two years of inactivity. While the members cherish

their sense of belonging, they may be held back from their full innovative potential because of

it. I leveraged my insider positionality as a member of the firm to guide this action research

project. This role required constant reflection and vigilance to understand the shared

experience of social cohesion better. The process of action research was supported by ongoing

engagement with the body of knowledge, so the development of my research aim and

objectives was not arbitrary or merely a reflection of my curiosity. It also required a systematic

review of the literature, as detailed in Chapter 2. This process was necessary to move my focus

from the symptom of the firm not ratifying new projects to the underlying malady of its

stagnation. In Section 1.2.1 below, I discuss the results of this process in the development of my

research aim and objectives.

1.2.2 Development of research aim and objectives

Modern firms include entrepreneurial collaboration as a matter of survival in pursuing

innovation, but that does not mean the synergy is optimised to sustain innovation (Dundon,

2002; McNish & Silcoff, 2015). The stagnation of the firm challenged the notion that bringing

entrepreneurs together would automatically lead to innovation. The consensus in the body of

knowledge is that synergy cannot be optimised without navigating the interpersonal

relationships of the collaborating entrepreneurs and that it is in these very links where

innovation rests (Birley, 1985; Burgelman & Hitt, 2007; David et al., 2020; Larson & Starr, 1993;

Najmaei, 2016; Sulistyo & Ayuni, 2020). Studies continue to report on the undesirability of

excessive social cohesion in entrepreneurial collaboration but do not provide actionable

direction on how social cohesion can be sustainably moderated (David et al., 2020; Fox, 2019;

Goold & Campbell, 1998; Huczynski & Buchanan, 2013; Sulistyo & Ayuni, 2020; Wise, 2014).

Organisations deplete finite resources, including time, money, and technological assets, among

others, in the effort to generate novel ideas because the merits of involving entrepreneurs as a

matter of organisational strategy and competitiveness are well-established (Carayannis et al.

2014; Carayannis et al. 2015; Chen et al. 2017; Frigotto 2016). If such a practice is to be

sustainable, synergy must be optimised by mitigating excessive social cohesion. There is a

knowledge gap that directly bears on my workplace-based problem in the understanding of

how social cohesion intervention can be utilised to optimise organisational synergy. Innovation

cannot be left to chance, yet the disdain of entrepreneurs for positional leadership must be

respected because of the reluctance of entrepreneurs to assign leadership roles (Birley 1985;

Dickel & Graeff, 2016; Frigotto 2016; Kempster and Cope 2010; Namjoofard 2014; Oketch,

2004; Wong 1992). Without social cohesion, no group will come into being, let alone be

sustainable or innovative (David et al., 2020; Dyaram & Kamalanabhan, 2005; Sulistyo & Ayuni,

2020; Wong, 1992). At the other extreme are the ill effects of excessive social cohesion. For

decades, scholars have concluded that excessive social cohesion diminishes the quality of

decision-making and critical thinking, eroding the likelihood of creative solutions (Dyaram &

Kamalanabhan, 2005; Forsyth, 2010; Huczynski & Buchanan, 2013; Janis, 1973; Leavitt, 1974;

Lerner, Li, Valdesolo and Kassam, 2015; Wise, 2014). However, none of these studies shed light

on how to moderate social cohesion sustainably to optimise the synergy necessary for

innovation. Even among scholars that argue for the monitoring of social cohesion, its utilisation

to optimise synergy is not considered (David et al., 2020). This suggests that a high level of social cohesion among the members of the firm may be stopping them from maximising their innovative potential. This insight has motivated me to investigate possible solutions to stimulate the firm toward adapting our project selection and development practices.

The risks created by sub-optimal decision-making do not necessarily upset the sense of belonging of highly socially cohesive groups (Dyaram & Kamalanabhan, 2005; Forsyth, 2010; Huczynski & Buchanan, 2013; Janis, 1973). All too often, fear of member exit stifles intervention leaving any assurance of optimal synergy to chance. At the same time, reliance solely on stewardship creates ambiguity in the process of support, given the resistance among entrepreneurs to positional leadership and hierarchical constructs (Dickel & Graeff, 2016; Frigotto, 2016; Kempster & Cope, 2010; Oketch, 2004; Namjoofard, 2014; Wong, 1992). The literature confirms that the linkages between individual members of the firm comprise their social cohesion and are the very locus of their innovativeness (Hoigaard et al., 2006; Najmaei, 2016; Quince, 2001). However, the qualities of those linkages are not defined in terms of what particular characteristics support criticality and trust alongside the sense of belonging (Muhlenhoff, 2016; Najmaei, 2016; Stacey, 2011).

For innovativeness to exist in the face of new problems, the members of any group must adapt collectively to generate novel solutions. The individuals within that group perform collectively to exceed their capabilities, thereby achieving (optimal) synergy (Dundon, 2002). For that to happen in entrepreneurial collaboration, individuals must co-evolve through interaction toward a sense of belonging that values cooperation and knowledge (Covi, 2016). Social cohesion is antecedent to synergy, and (optimal) synergy is necessary for innovativeness

(Dundon, 2002; Witges & Scanlan, 2015). Because social cohesion is integral to synergy, the relentless pursuit of synergy frequently leads to a bias that overemphasises social cohesion without realising that the result can lead to positive (or optimal) as well as negative (or sub-optimal) synergy (Goold & Campbell, 1998; Lawford, 2003; Witges & Scanlan, 2015). Because the allocation of resources in the pursuit of synergy is frequently underestimated (Goold & Campbell, 1998; Lawford, 2003), more efficient means of optimising synergy must be found for moderating social cohesion. In identifying such risks, I critically examined if and when social cohesion interventions should be undertaken in the context of the firm. Hereafter, *organisational resources* refer to time, money, and technological assets.

Moreover, the support of appropriate interventions becomes more critical than maintaining extant social activity budgets. The support of entrepreneurial collaboration requires allocating finite organisational resources regardless of the firm's size. In light of undesirable phenomena that arise in highly socially cohesive groups, the risk created by poor decision-making can threaten the sustainability of the group, amounting to a significant waste of organisational resources (Goold & Campbell, 1998; Huczynski & Buchanan, 2013).

The appropriateness of social cohesion interventions that can optimise synergy in entrepreneurial collaboration may benefit from evolution or adaptation in the oversight of the existing level of social cohesion to inform decision-making. Merely assembling entrepreneurs and relying upon their inherent collaborative skills can lead to costly synergy bias (Goold & Campbell, 1998; Lawford, 2003). In synergy bias, synergy is too often promoted without criticality at the expense of overseeing core functions of individual members with the potential to overspend or overcommit organisational resources (Goold & Campbell, 1998). The literature

is clear that relying on leadership alone to fuel synergy leaves supportive organisational

processes in a state of ambiguity, especially because entrepreneurs reject organisational

hierarchy and positional leadership without necessarily aspiring to be leaders themselves

(Dickel & Graeff, 2016; Frigotto, 2016; Kempster & Cope, 2010; Oketch, 2004; Namjoofard,

2014; Wong, 1992). Adapting the approach to undesirable phenomena characteristic of

excessive social cohesion could better inform the planning and support of social cohesion

activities and interventions. For example, groupthink creates a tendency toward heightened

concurrence seeking among group members leading to the detriment of optimal synergy and

criticality (Janis, 1973; Leavitt, 1974; Lerner et al., 2015; Wise, 2014).

Again, social cohesion does not ensure optimal synergy. Highly socially cohesive groups

tend to become stagnant in terms of innovation because they persist in a state of sub-optimal

synergy. Counterproductive developments within the study participants' interactions have

stifled innovation by reducing the quality of decision-making, criticality, and, therefore, the

capability to generate novel ideas (Goold & Campbell, 1998; Janis, 1973; Huczynski & Buchanan,

2013; Wise, 2014). However, there is no guidance on utilising social cohesion interventions in

entrepreneurial collaboration concerning the risks to organisational synergy (David et al., 2020).

Excessive social cohesion among collaborating entrepreneurs is likely to be created because of

the concern of member exit, distracting them from addressing sub-optimal synergy (Goold &

Campbell, 1998; Huczynski & Buchanan, 2013). Significant organisational resources are

consumed in assembling rosters of entrepreneurs. Before interfering with their social linkages,

consideration must be given to the risks of intervention. The literature does not address sub-

optimal synergy in entrepreneurial collaboration, let alone provide any recommendations for proactive measures that could assist the firm in moving beyond its stagnation.

In summary, my research aim is to critically assess how and when social cohesion intervention should be undertaken to optimise synergy among the collaborating entrepreneurs comprising the firm. The objectives of this study are: (1) to critically examine the exploitation of social cohesion for the optimisation of synergy in entrepreneurial collaboration; (2) to make recommendations for ascertaining the level of social cohesion in entrepreneurial collaboration; (3) to make recommendations regarding the timing of social cohesion interventions for the optimisation of synergy in entrepreneurial collaboration; and, (4) to make recommendations concerning the allocation of organisational resources for the optimisation of synergy in entrepreneurial collaboration.

1.4 Thesis organisation

Action research supports the resolution of the workplace-based problem while creating actionable knowledge. There are two action research projects intertwined in my undertaking, following the advice of Zuber-Skerritt and Fletcher (2009). The first is the core action research project which attends to my workplace-based problem through fieldwork as informed by the literature. This component highlights the meaning of *action* in action research being a matter of engaging the study participants collaboratively with theory, not just a particular activity. The second component is the thesis action research project which furthers my theoretical inquiry through reflection on workplace engagement and agency and entails my independent research

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and writing. Therefore, throughout this document, I will address my taken-for-granted

assumptions and biases alongside the necessary criticality and reflexivity to interrelate the core

action research project and the thesis action research project.

1.4.1 Core action research project

My fieldwork within the firm comprised the core action research component of this

study in a manner that was participative and collaborative (Zuber-Skerritt & Fletcher, 2007). My

engagement with the participants was informed by the systematic literature and emerging data

from the semi-structured interviews and the sociometric technique. Three cycles of action were

undertaken, of which only the first two led to an actual intervention activity. The process of

evaluating, *constructing*, *planning action*, and *taking action* (ibid) sparked a plausible solution

for our workplace-based problem such that a consensus was reached by the members not to

undertake a third intervention activity but to continue with brainstorming that solution.

1.4.2 Thesis action research project

I conducted the research and writing of the thesis action research component

independently from the participants of the study (Coghlan & Brannick, 2014). I independently

evaluated the data generated by my mixed methods research to facilitate further reflection and

bridge the thesis action research project with the core action research project.

1.5 My role as an action researcher

This DBA thesis required balancing my habitual administrative role within the firm with that of an action researcher. I negotiated access with the study participants, who are also members of the firm (Coghlan & Brannick, 2014). My pre-understanding of the firm supported access but also influenced my approach (Greenwood & Levin, 2007), particularly in my avoidance of asserting myself as a positional leader against the members' explicit wishes. The necessary balance to maintain agency within the workplace and rigour in my research required ongoing reflection as a deliberate process. The fieldwork that comprised the core action research project was done in collaboration with the study participants alongside my related reflection to identify and confront my own bias and taken-for-granted assumptions (Coghlan & Brannick, 2014; Gummesson, 2000; Nielsen & Repstad, 1993). Moreover, doing research within the firm was inherently opportunistic since the workplace-based problem was occurring whether or not I undertook this study (Coghlan & Brannick, 2014).

1.5.1 Insider action researcher

My role as an insider action researcher was a matter of positionality that placed me inextricably in the milieu of the firm. Our small cadre of entrepreneurs comprised an *ad hoc* firm and espoused a commitment to maintaining a non-hierarchical firm without positional leadership. In the didactic portion of my DBA journey, I was introduced to the notion that what the members of the firm say based on their attitudes, beliefs, and values may be mismatched

from what they actually do (Argyris, 1990). While this concept may be a truism in describing human nature, it would be naïve for me even to begin this research, let alone engage the members of the firm in action, without being explicit in my internal dialogue about the skills I must develop as a fledgling scholar-practitioner. In the next section, I establish the nature and demands of my role as the action researcher of this study as well as a fledgling scholar-practitioner in the context of my DBA journey. The development of my competencies as a scholar-practitioner required ongoing attention to my mode of practice (i.e. first, second, or third-person), reflective practice, double-loop learning, and overcoming the tensions inherent in my role.

Because of my insider positionality as a member of the firm, I assumed responsibility as the sole enabler of action and emergent information throughout the project. The nature of my insider action researcher role was differentiated from traditional research approaches as I was not neutral but rather an actor (i.e. one who takes action) that would actively intervene while supporting and creating change within the firm (Coghlan & Brannick, 2014). Realising the advantage of developing a structured framework for action research required participation and collaboration from the members in favour of trust and relationship (Greenwood, Whyte and Harkavy, 1993). By developing this type of environment, I could enhance critical faculty through increased dialogue whereby the iterative cycles of action and inquiry sustained participation in resolving our workplace-based problem through intervention, as well as the creation of new, actionable knowledge (Cassel & Johnson, 2006; Susman & Evered, 1978; Tsoukas, 2009). However, to fulfill the role of insider action researcher competently and successfully, I would have to develop certain skills and my mindset as a scholar-practitioner.

1.5.2 Scholar-practitioner competencies

My development as a scholar-practitioner inherently confronted tension and contradiction in pursuing creativity because I had to use existing theory to inform my practice and generate new insights toward developing new theory (Gold, Spackman, Marks, Beech, Calver, Ogun and Whitrod-Brown, 2015). There are extensive lists used to describe scholar-practitioner competencies from the perspective of human resource development (cf. Kormanik, Lehner and Winnick, 2009) and frameworks for researcher development (cf. Vitae, 2011). Ultimately, I could not lose sight of the necessary balance between doing research within the firm and attending to my usual role therein to develop practical knowledge that informs my judgement and decision-making (Galvin & Todres, 2008). This type of practical wisdom amid competing priorities is best formulated by Flyvberg (2001) in the form of three questions that could support my role as a researcher and my development as a scholar-practitioner: (1) Where are we going?; (2) Is this desirable?; and, (3) What should be done? Stemming from my first exposure to this approach to research in the didactic portion of my DBA journey, I adopted the repetition of these three questions as an internal conversation before making any decision as a means to span the boundary between theory and practice (Huff A. & Huff J., 2001), rather than constantly critiquing myself against a lengthy list of criteria.

1.5.3 Forms of engagement

To be a competent scholar-practitioner and an effective insider action researcher, I had to develop an understanding of the form of my engagement beyond the personal and professional learning held in first-person practice. First-person practice allowed me to confront my assumptions, attitudes and bias so that I took competent action based on pragmatic decision-making (Coghlan and Brannick, 2014). However, action research is a collaborative undertaking. How I engaged with the members of the firm as the participants in this study to make the changes necessary to resolve our workplace-based problem constituted second-person practice. Second-person practice required me to genuinely include the participants through listening and managing conflict to promote collaboration and quality decision-making (Anderson, Gold, Stewart and Thorpe, 2015). While third-person practice was a matter of disseminating the actionable knowledge of my study as undertaken in two peer-reviewed published articles (cf. Minhas & Sindakis, 2021a, 2021b), I had to maintain my commitments to honouring the confidentiality of the participants and, most importantly, their contributions to this study.

1.5.4 Double-loop learning

Among the members of the firm, the mismatch between their espoused theory and their theory-in-use had surely created defensive routines that became a likely barrier to the change necessary to overcome our workplace-based problem (Argyris, 1990). Therefore, an

overarching system of values would have to guide not only my role as a researcher but also the design of my research as I will elaborate in Section 3 (Action Research Methodology). In confronting the resistance to change held in the mismatch of espoused theory and theory-in-use my attention was focused on: (1) achieving my intended purpose of resolving the workplace-based problem; (2) maximising winning and minimising losing for the members of the firm, especially as it related to participating in this action research study; (3) suppressing negative feelings through developing dialogic space and supporting the taking of interpersonal risk; and (4) behaving according to what I consider rational (Argyris and Schön, 1974; Senge 1990; Stacey, 2011). Relying solely on this value system allowed minor changes to address errors (i.e. single-loop learning) but was likely to limit the revelation and critique of assumptions that were limiting the possibilities (i.e. double-loop learning) for the firm. These notions constituted the values with which I confronted defensive routines: (1) seeing and using valid information to engage the members of the firm as participants in this study; (2) promoting and honouring the informed choice of the participants; (3) monitoring and reflecting on the implementation of any decision in the effort to resolve the workplace-based problem; and (4) pursuing actionable knowledge (Argyris, 1977; Senge, 1990).

1.5.5 Reflective practice

As a general concept, reflective practice became a part of my business practices after many years of professional practice. I was certainly willing to reflect on my actions to engage in a process of continuous learning. But, through the didactic portion of my doctoral

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development, I was able to become more deliberate and consistent through my internal dialogue about what this concept meant for my role as an insider action researcher in real-time. To support the members of the firm, I initially adopted a circular, internal dialogue based on Gibbs' (1998) framework that could be entered at any point of the process: (1) What happened or was said?; (2) What did I feel or think about it?; (3) What do I know about it, and is there any experience or evidence to help my understanding?; (4) What might I do in the future about this? This reactive process served me well, but as I began to rely more upon reflective practice, I saw that simply experimenting with new experiences could lead to missteps in my practice, especially as it related to how I was framing questions. As I report in Chapters 4, 5, and 6, my research shed light on gaps between espoused theory and theory-in-use, particularly for the concept of positional leadership in the context of the firm. I realised my engagement and, therefore, my agency with the other members of the firm had to evolve toward thinking-on-my feet or reflection-in-action as described by Schön (2016) if I was going to access implicit knowledge.

To support my first-person practice, I used tools that allow reflective journaling in a timely fashion to avoid losing the very wording that might spark emancipatory thought. More importantly, reflective journaling allows an important pause for criticality before making decisions, let alone taking action in my second-person practice and constituting the rigour of my third-person practice. The reader should not be misled to think that I was able to commit to formal note-taking amid my workplace milieu. Often, journaling my thoughts in a timely fashion was thwarted by the need for discretion and avoiding any unintended upset of a curious fellow member of the firm. To that end, I relied on a wide variety of technological tools to support my

journaling in my existing business practices that would lend themselves well to support my role as an insider action researcher. I could rarely handwrite journal notes. My thoughts were often entered discretely into the voice recorder utility of my mobile phone or the Keep Notes application that can be used across Google and Android platforms.

1.5.6 Confronting tensions

As a fledgling scholar-practitioner, the ontology of action research – that states of reality are dynamic and changeable by human agency (Coghlan & Brydon-Miller, 2014) - made me equally excited and trepidatious. One of the most significant challenges I faced was to maintain separation between the story of action and the sense I made of it by reflecting critically on the process and being willing to return to the literature for insight (Anderson et al., 2015). But, I would not have a story to tell if my research were not practically relevant. For that to happen, I had to understand that 'action' in the context of action research required me to work with theory to engage the members of the firm in the resolution of our workplace-based problem such that the understanding of 'why' the problem has occurred and 'how' it can be solved is both credibly addressed (Coghlan & Brannick, 2014; Saunders, 2014). The success of this action research study demanded the development of my skills, as discussed in the preceding sections, particularly through the use of reflective practice and earnest double-loop learning. These competencies, in turn, contributed to the rigour of this study and helped address the research objectives developed in Section 1.2 through the organisation and structure of my DBA thesis.

1.6 Thesis structure

My DBA thesis is organised into seven chapters. The introduction establishes the context, motivation and my role in the research. The second chapter reports on the relevant findings in the body of knowledge using a systematic literature review. This process supports the development of a conceptual framework to further my understanding of the relevant processes and phenomena impacting my workplace-based problem. Chapter 3 clarifies my action research paradigm and the mixed methods I used in exploring the phenomenon of social cohesion in entrepreneurial collaboration toward resolving my workplace-based problem. Chapters 4 through 6 detail the analysis of my findings from the research methods I used against the backdrop of my story of the cycles of action, reflections and sensemaking. Finally, I conclude my thesis in Chapter 7, including its contribution to practice and implications for future research directions.

2 Systematic literature review

There is consensus that the very spark of innovation rests in the social bonds between individuals, referred to as social cohesion (Chan et al., 2007; Chen et al., 2017). Social cohesion must exist for synergy to develop, and synergy must be optimal for innovation to occur (Dundon, 2002; Witges & Scanlan, 2015). However, innovation is unlikely when social cohesion is excessive (David et al., 2020; Schultz, Mietzner and Hartmann, 2016; Sulistyo & Ayuni, 2020; Wise, 2014; Quince, 2001). While the phenomenon of entrepreneurs working with one another is not new, studies do not explore how the moderation of social cohesion can optimise synergy. In this chapter, I develop a methodological framework to review the literature relevant to the implications of social cohesion for entrepreneurs collaborating in the pursuit of innovation. I examine how the literature could inform my workplace-based problem and practice by developing a theoretical framework for areas of concern. The abstracts of 631 academic resources between 1950 and 2022 are analysed using Webster and Watson's (2002) methodology. I identified and critically examined sixty-six salient resources, which I critically analysed, categorising research methodology, subject area, and additional pertinent bibliometrics.

Entrepreneurial collaboration is an emerging field of research that draws from various disciplines and requires clarification in its use of terminology for both *entrepreneurial collaboration* and *social cohesion*. In addition to making those clarifications, I challenge the tendency to maintain a hands-off approach in the stewardship of entrepreneurial cadres. The theoretical framework provides a helpful overview of related concepts to guide my research

and encourages the rethinking of agency as necessary and not as a matter of interference or constraint. Beyond the scope of my DBA thesis, this chapter contributes to the growing field of entrepreneurial collaboration by proposing the moderation of social cohesion as a means to sustain innovation.

Therefore, this chapter also identifies the need to understand further how social cohesion can be moderated to foster sustainable innovation among collaborating entrepreneurs. To explore the vast array of scholarly resources available in entrepreneurial collaboration, social cohesion, organisational synergy, and related issues, I adopted the methodology of the structured approach described by Webster and Watson (2002). To select the source material for this systematic literature review, I used The University of Liverpool Online Library, which utilises Discover library collections of print and online content to search a wide variety of content, including journal articles, conference proceedings, reports, theses, dissertations, books, and eBooks. I consulted EBSCO's premier aggregated database of Academic Source Complete, Business Source Complete, JSTOR, Emerald, Elsevier, Wiley, Springer, Taylor & Francis, Sage, IEEE, WOS, and Scopus. Section 2.1 analyses the methodology for conducting my systematic literature review and the results. I then critically analyse and synthesise the insights of the selected academic resources concerning the identified concepts. The conclusions and implications of my systematic literature review are presented at the end of this chapter, closing with my thoughts on limitations and future research possibilities.

2.1 Methodology

Webster and Watson (2002) describe a selection process for peer-reviewed journal articles readily applicable to other forms of scholarly resources, such as conferences, doctoral theses, and published texts. This process allows me to systematically eliminate vast numbers of scholarly resources that are not relevant as a first step (Step 1). Examination of the references used in the resources I considered comprises a backward search (Step 2) as recommended by Webster and Watson (2002) as well as a forward search (Step 3) to examine where and by whom selected papers are cited. My preferred resource to expedite forward-searching is Google Scholar because of the ease of use and simplicity of its user interface compared to database utilities within Discover.

In Step 1, I gathered approximately 4,000 resources using the keywords entrepreneur*, collaboration, group cohesion, social cohesion, synergy, and innovation) and permutations using an asterisk (*). I used the advanced search utilities within Discover and the databases listed above with Boolean, as well as natural language searches. The selected keywords are based on the context of entrepreneurs collaborating in the pursuit of innovation. The asterisk is used to allow for wildcards. For example, "entrepreneur*" allows searches to include various related words such as entrepreneur, entrepreneurs, entrepreneurial, and entrepreneurship. Step 1 is particularly helpful in supporting the efficiency of selecting scholarly resources even where varying definitions of particular terms returned inconsistent results. For example, *entrepreneurial collaboration* is not standardised to mean *individual entrepreneurs working*

with one another to innovate. Many researchers use the term to describe *instances of different entrepreneurial initiatives being melded as a matter of collaboration between firms*.

I use this example to highlight the efficacy of a systematic literature review. From the initial search, 631 academic resources were selected for further analysis, with thirteen published texts, six dissertations and theses, and five conference papers. Of the peer-reviewed articles, 103 were found to be duplicates, while the other resources do not have duplicates in the searches conducted. Further selection scrutiny finds 252 peer-reviewed articles to have irrelevant titles, along with one prospective conference paper. I then rejected 188 peer-reviewed articles along with two published texts, three dissertations, and one conference paper in my review of abstracts and summaries. Finally, consideration of the full text reduced the number of peer-reviewed articles by forty-four. The selection process yielded sixty-one academic resources at the end of Step 1. Step 2 identified two additional peer-reviewed articles by backward searching. Finally, Step 3 identifies three additional peer-reviewed articles for a total of sixty-six resources as being salient. This process is summarised in Figure 1 to illustrate the process of elimination I undertook and the identification of additional, relevant resources using backward-searching and forward-searching.

Using the concept matrix analysis, I classified particular themes and traced their presence or absence in the selected resources (Klopper, Lubbe and Rugbeer, 2007). For example, in the context of social cohesion and how it might bear on collaboration among entrepreneurs, a general theme of *limits and implications of social cohesion* permits an efficient assembly of resources.
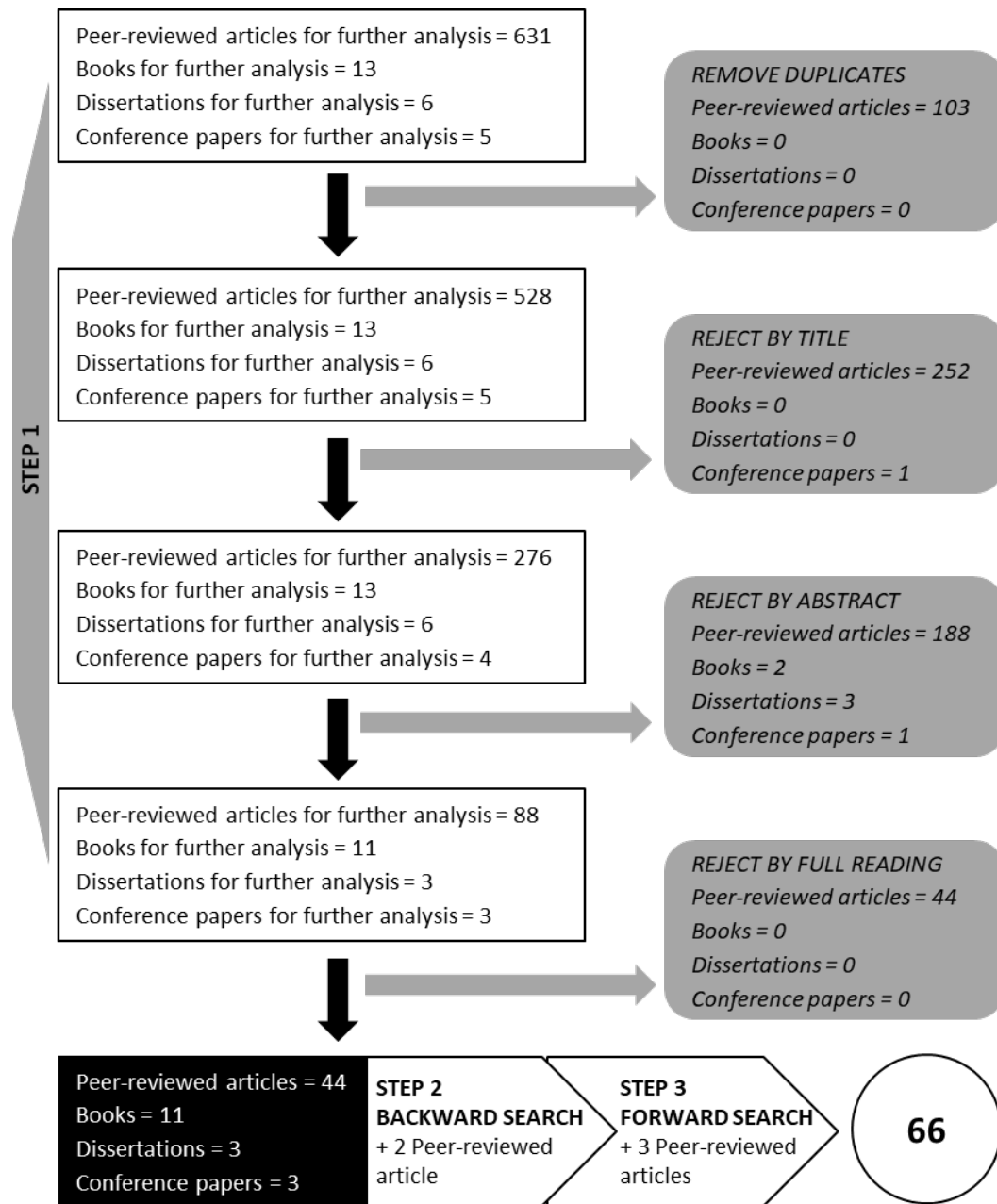
Figure 1. Academic resource selection process

Table 1 is formatted according to the year of publication for purposes of organisation according to themes as emphasised by Webster and Watson (2002), not to undertake a chronological summary. Furthermore, this organisation enables rigour in synthesising literature

by avoiding the selection of resources that only support a particular bias or point of view (Klopper et al., 2007; MacLure et al., 2016).

In Table 1, the concept matrix for my systematic literature review is summarised along with selected bibliometric data to orient the reader to the discussion and figures below. My intent in this section is to provide a "clear take-home message" for the reader regarding the academic resources I use for my systematic review of the literature (Bem, 1995:p.172). Table 1 organises the academic resources for my systematic literature review in descending order by year and author(s). The key concepts identified in the above paragraph are then indicated using an "x" in the row associated with a given academic resource if that resource provides salient insight. Following the three steps of Webster and Watson (2002), five types of academic resources are used for my systematic literature review: peer-reviewed journal articles (PRJA), academic texts or books (BOOK), expert opinions (EXPO) – namely Harvard Business Review, conference or working papers (CONF), and doctoral theses (DOCT). The type of academic resource is also indicated in Table 1. The research methodology is noted as archival study (A), single or multi-site case study (C), survey (S), or theoretical (T). The country of publication for the academic resource is noted using ISO 3166 three-letter country codes. The SCImago Journal Rank or SJR (SCImago, n.d.) is also noted in Table 1 unless it is either not applicable (N/A), such as in the case of most published scholarly books or not listed (-) such as in the case of journals with low citation. While several different indices exist to indicate the importance and prestige of journals, poorly cited journals are rapidly entering the indices. Researchers must have metrics that allow greater precision in distinguishing the prestige of a given journal (González-Pereira, Guerrero-Bote and Moya- Angón, 2010). Ideally, I would read each article and make my

own judgments, but I concede that not all resources or journals have the same value, as argued

by Garfield (2006) as well as Guerrero-Bote and Moya-Anegón (2012). I do not intend to debate

the merits of the various indices available to distinguish journal prestige, but I need to

demonstrate my rationale. I chose the SJR for methodological and technical reasons. The SJR

establishes different values for citations according to the scientific influence of the journals that

generate them. It resolves the computational issues for journals with no references to other

journals in the database, unlike PageRank-based methods (González-Pereira et al., 2010).

Finally, Table 1 lists the subject area and category listed for the given academic resource by

SCImago (i.e. deriving from the Scopus database). Of course, this is not an exhaustive listing of

the subject area and category descriptions that may exist for a given journal. These resources

are listed under twenty-five different subject areas or categories representing salient

contributions from their respective domains. More detailed bibliometrics about the resources

selected for my systematic literature review are provided in Appendices A to H.

Table 1. Concept matrix analysis and selected bibliometrics

Author(s)	Year	Dimensions of entrepreneurial collaboration	Limits and implications of social cohesion	Affects and antecedents of organisational synergy	SELECTED BIBILOMETRIC DATA				
					Type of academic resource	Methodology	Country of publication	SJR	Subject area/category
Macpherson et al.	2022	X			PRJA	T	GBR	67	5
David et al.	2020	X	X		PRJA	C	NLD	27	5
Sulistyo & Ayuni	2020	X	X		PRJA	C	MEX	12	5
Barile et al.	2018		X		PRJA	C	GBR	45	5,7,24
Berger	2018		X		BOOK	A	USA	N/A	12,16,23
Chen et al.	2017	X	X		PRJA	T	GBR	67	5
Vveinhardt & Banikonyte	2017			X	PRJA	T	POL	-	15,19
Camuffo & Gerli	2016	X	X	X	BOOK	C	USA	N/A	4,10,15
Covi	2016	X	X		PRJA	A	DEU	27	8
Dickel & Graeff	2016			X	BOOK	A	DEU	N/A	4,10,15
Felden et al.	2016	X		X	BOOK	A	DEU	N/A	4,10,15
Frigotto	2016			X	BOOK	A	DEU	N/A	4,10,15
Liening et al.	2016			X	BOOK	T	DEU	N/A	4,10,15
Muhlenhoff	2016	X			BOOK	A	DEU	N/A	4,10,15
Najmaei	2016	X	X	X	BOOK	A	DEU	N/A	4,10,15
Schlaile & Ehrenberger	2016	X			BOOK	T	DEU	N/A	4,10,15
Schultz et al.	2016	X			BOOK	A	DEU	N/A	4,10,15
Carayannis et al.	2015	X			BOOK	T	DEU	N/A	4,10,14
Griffith et al.	2015		X		BOOK	A	USA	N/A	4,10,15
Lerner et al.	2015			X	PRJA	A	USA	243	20
McNish & Silcoff	2015	X			BOOK	C	CAN	N/A	4,14,15
Witges & Scanlan	2015			X	PRJA	A	USA	36	17
Carayannis et al.	2014	X			PRJA	C	DEU	27	8
Carayannis & Rakhmatullin	2014	X			PRJA	T	DEU	27	8
Clar & Sautter	2014	X			PRJA	C	DEU	27	8
Mulunga & Nazdanifarid	2014		X		PRJA	A	USA	-	5
Namjoofard	2014			X	DOCT	C	DEU	N/A	5
Wise	2014		X	X	PRJA	C	GBR	102	5
Hoigaard et al.	2013		X		PRJA	C	USA	-	3,24
Huczynski & Buchanan	2013			X	BOOK	A	DEU	N/A	19
Corwin et al.	2012	X			PRJA	A	CAN	-	15,19,24
Stacey	2011	X		X	BOOK	T	GBR	N/A	15,19
Forsyth	2010		X		BOOK	A	USA	N/A	19,24
Hung & Gatica-Perez	2010		X		PRJA	T	USA	129	6,9
Kempster & Cope	2010	X		X	PRJA	C	GBR	15	5,24
Casey-Campbell & Martens	2009		X		PRJA	A	GBR	107	5,7
Koellinger	2008	X			PRJA	A	NLD	131	5,8
Smith & Polanyi	2008		X		PRJA	A	USA	76	11,18,21
Stewart et al.	2008		X		PRJA	A	GBR	24	5,22
Stevenson & Jarillo	2007	X			BOOK	A	DEU	N/A	5
Burgelman & Hitt	2007	X			PRJA	A	USA	46	5,8
Chan et al.	2006		X		PRJA	A	NLD	107	2,20,24
Hoigaard et al.	2006		X		PRJA	S	USA	71	20
Dyaram & Kamalanabhan	2005		X		PRJA	A	IND	-	24
Reitz & Banerjee	2005		X		CONF	S	CAN	-	13,24
Berman & Phillips	2004		X		BOOK	A	NLD	N/A	24
Oketch	2004		X	X	PRJA	A	GBR	85	5

Continued on next page

Author(s) (cont'd)	Year	Dimensions of entrepreneurial collaboration	Limits and implications of social cohesion	Affects and antecedents of organisation-al synergy	SELECTED BIBLIOMETRIC DATA				
					Type of academic resource	Meth-od-ology	Country of publication	SJR	Subject area/ category
Lawford	2003			X	PRJA	A	USA	-	5
Carron et al.	2002		X		PRJA	A	USA	97	1,25
Dundon	2002	X	X	X	BOOK	A	USA	N/A	5
Quince	2001	X	X		CONF	A	GBR	N/A	5
Sethi et al.	2001		X		PRJA	C	USA	171	5,8
Bernard	2000	X	X		CONF	A	CAN	N/A	13,24
Carless & dePaola	2000		X		PRJA	S	USA	71	20
Dion	2000		X		PRJA	A	USA	67	20
Goold & Campbell	1998			X	EXPO	C	USA	179	5,8
Larson & Starr	1993	X		X	PRJA	T	USA	155	5,8
Wong	1992	X	X	X	DOCT	A	USA	N/A	5
Senge	1990	X		X	BOOK	T	USA	N/A	15,19
Mudrack (a)	1989		X		PRJA	A	USA	71	20
Mudrack (b)	1989		X		PRJA	A	USA	134	2,5,24
Birley	1985	X	X	X	PRJA	C	NLD	182	5
Carron	1982		X		PRJA	A	USA	-	1,25
Leavitt	1974			X	CONF	A	USA	N/A	3,19
Janis	1973			X	PRJA	A	GBR	69	24
Festinger et al.	1950		X		BOOK	A	USA	N/A	24

Table 2 summarises the frequency of each of the subject areas or categories. The reader should bear in mind that several subject areas may apply to a given resource, as demonstrated in Table 1. Still, it allows the reader to understand better what domains contributed saliently to my systematic literature review. The subject area and category descriptions are assigned arbitrary numbers corresponding to their alphabetical listing because of space constraints, as provided in Table 2 below.

Table 2. Frequency of subject area/category

Number assigned in Table 1 for reference	Subject area / category	Frequency	Relative frequency	Percentage
1	Applied Psychology	2	0.018	1.8%
2	Arts and Humanities	2	0.018	1.8%
3	Behavioural Sciences	2	0.018	1.8%
4	Business	12	0.105	10.5%
5	Business, Management and Accounting	22	0.193	19.3%
6	Computer Science	1	0.009	0.9%
7	Decision Sciences	2	0.018	1.8%
8	Econometrics/Economics/Finance	9	0.079	7.9%
9	Engineering	1	0.009	0.9%
10	Entrepreneurship	11	0.096	9.6%
11	Environmental Health	1	0.009	0.9%
12	Ethics	1	0.009	0.9%
13	Government Policy	2	0.018	1.8%
14	Leadership	1	0.009	0.9%
15	Management	15	0.132	13.2%
16	Mediation	1	0.009	0.9%
17	Nursing	1	0.009	0.9%
18	Occupational Health	1	0.009	0.9%
19	Organisational Behaviour	7	0.061	6.1%
20	Psychology	5	0.044	4.4%
21	Public Health	1	0.009	0.9%
22	Religious Studies	1	0.009	0.9%
23	Social Conflict	1	0.009	0.9%
24	Social Sciences	11	0.096	9.6%
25	Sports Science	1	0.009	0.9%
%	N/A	114	1.000	100.0%

In this section, I used the methodological framework of Webster and Watson (2002) to identify and trace key concepts relevant to my workplace-based problem. Three key concepts were developed: *dimensions of entrepreneurial collaboration, limits and implications of social cohesion*, and *affects and antecedents of organisational synergy*.

Among the advantages of this systematic approach was the efficiency in helping me to survey the vast number of possible scholarly resources. For example, looking for insights into entrepreneurial collaboration under the entire subject area of "entrepreneurship" would have been prohibitively time-consuming in furthering my understanding of the implications of social cohesion in that phenomenon. I identified sixty-six salient academic resources across the identified concepts for further critical analysis and synthesis to inform my workplace-based problem. The leading theories and concepts identified are discussed in Section 2.2 below.

2.2 Tracing core theories and concepts using themes

The context of entrepreneurs collaborating is not new. However, the implications of their social cohesion to innovation is not clarified in the body of knowledge. The process of systematic literature review enabled me to assemble core theories and concepts as themes germane my action research project without relying on a particular author or viewpoint (Webster & Watson, 2002; Reees & Ebrahim, 2001). Critically reviewing literature from the perspective of the major themes allowed me to synthesise relevant sources regarding the exploitation of social cohesion to optimise synergy in entrepreneurial collaboration. Furthermore, I identified approaches to ascertaining the level of social cohesion. Using the themes defined in the concept matrix analysis, this analysis was divided into three sections, as reflected in Table 1 above:

1) Dimensions in entrepreneurial collaboration
2) Limits and implications of social cohesion
3) Affects and antecedents of organisational synergy

Below, I examine the implications of the themes traced through literature to inform my workplace-based problem and fulfill my research aim and objectives. Using these findings, I develop a theoretical framework to represent the related phenomenon in Section 2.4, leading to a more targeted, conceptual framework in Section 2.5 by which to identify the focus of my research and the potential locus of intervention.

2.2.1 Dimensions of entrepreneurial collaboration

I expected to be able to address the stagnation of the firm by tracing the theme of *dimensions of entrepreneurial collaboration* in my selected academic resources. However, the body of knowledge did not provide concrete solutions. Several researchers argue that what is happening between the individual entrepreneurs is more important than them being brought together or in close proximity (Corwin, Corbin and Mittelmark, 2012; Dundon, 2002; Quince, 2001; Stacey, 2011). This is because how they relate to one another may not be discernible to someone observing or judging their interactions externally (ibid). Kempster and Cope (2010) and Stevenson and Jarillo (2007) find that the prevailing outlook is to avoid interfering with entrepreneurs when they are collaborating. However, others argue that these interactions must be facilitated (David et al., 2020; Dundon, 2002; Larson and Starr, 1993; Quince, 2001; Sulistyo &Ayuni, 2020). The insights regarding the implications of social cohesion merely confirm its necessity for innovation to occur or its interference when excessive (David et al., 2020; Dundon, 2002; Larson and Starr, 1993; Quince, 2001; Sulistyo &Ayuni, 2020). The literature does not provide clear direction on how to support entrepreneurial collaboration, let

alone how social cohesion intervention could help optimse synergy. Chen et al. (2017), Schlaile

& Ehrenberger (2016), Schultz et al. (2016), Stevenson and Jarillo (2007), and Quince (2001)

agree that entrepreneurs are inventive in making changes through the introduction of new and

novel ideas. However, Birley (1985) points out that entrepreneurs alone cannot be expected to

sustainably generate actionable solutions without the benefit of others who also possess similar

creative and innovative attributes and outlooks, comprising a nurturing environment. Chen et

al. (2017) further argue that by facilitating the social exchange of the individuals working jointly

with one another, the synthesis of their diverse perspectives and collective intelligence

becomes possible in the quest for innovation.

Collaborative entrepreneurship is used to describe the marshalling of entrepreneurial

processes at an organisational level, especially in collaborations between (educational)

institutions and private corporations (ibid). Nearly half of the total number of resources that I

rejected resulted from an inconsistency in using the term to mean collaborative

entrepreneurship, even in more recent scholarship (cf. Berger & Kuckertz, 2016). Quince (2001)

is the significant, relevant scholarly resource that more often aligns with my use of

entrepreneurial collaboration despite still using the term interchangeably with collaborative

entrepreneurship. Therefore, I argue for the standardisation of the term *entrepreneurial*

collaboration to mean the phenomenon of individual entrepreneurs working jointly to pursue

innovation.

As posited by Clar and Sautter (2014), organisational support of social exchange between

entrepreneurs maximses the conversion of market challenges into market opportunities. At the

heart of this lofty expectation lies the possibility for collaborating entrepreneurs to achieve

something greater than what they could achieve individually – synergy (Corwin et al., 2012),

especially by focussing on joint development to motivate joint learning in the pursuit of

concrete solutions (Clar & Sautter, 2014; Covi, 2016). Senge (1990) and Stacey (2011)

emphasise that the need for firms to develop their capacity to innovate is not only a matter of

key strategic advantage but also, as argued by McNish and Silcoff (2015), a matter of economic

significance that ensures the survival of the firm. Consequently, organisations can certainly

benefit from the inclusion of entrepreneurs, but they must oversee how such individuals can be

engaged effectively, sustainably, and, of course, profitably (Dundon, 2002; Najmaei, 2016;

Schlaile & Ehrenberger, 2016; Senge, 1990). Bringing entrepreneurs together can permit the

participants to cooperate and construct solutions together, creating an opportunity and more

critical decision-making (Chen et al., 2017; Sulistyo & Ayuni, 2020). However, as McNish and

Silcoff (2015) reported, nothing is guaranteed where the collaboration of entrepreneurs can be

positive or negative with corresponding economic outcomes.

Scholars uniformly observe that entrepreneurs from within the firm or externally are

increasingly being brought together to face new challenges and solve problems for the key

strategic advantage of innovation (Carayannis et al., 2014; Carayannis et al., 2015; Felden,

Fischer, Graffus and Marwede, 2016; Senge, 1990; Stacey, 2011). Birley (1985) adds that

entrepreneurs' inherently collaborative nature does not ensure innovation, especially when

entrepreneurial participation is grafted onto existing organisational structures or processes.

Furthermore, Kempster and Cope (2010) highlight entrepreneurs' preference to own their own

businesses rather than being employed. For the firm supporting entrepreneurial collaboration,

several scholars concede the reliance on entrepreneurs' inherently collaborative nature rather

than risk interfering with their innovativeness (Bernard, 2000; Burgelman & Hitt, 2007;

Koellinger, 2008; Stevenson & Jarillo, 2007). A further complication to the stewardship of

entrepreneurial collaboration is the lack of positive associations that entrepreneurs tend to

have with leadership in general (Kempster & Cope, 2010). In other words, entrepreneurs may

assume a leadership role but do not necessarily wish to be led. This finding may seemingly

validate keeping a hands-off approach to entrepreneurial collaboration but challenges any

effort to balance the continued participation of members within entrepreneurial collaboration

with any hope of sustained innovation (Dundon, 2002; Wong, 1992). At this point, the body of

knowledge offered me little more than a frustrating reminder to heed the explicit rejection of

positional leadership by the members of the firm. If there was any benefit to my practice, it was

to reinvigorate the importance of critical faculty and reflection. I could very easily violate the

preferences of my study participants by misusing my insider action researcher positionality to

drive change, regardless of how frustrated I was by the stagnation of the firm. I began to

rethink my very understanding of the entrepreneurs with whom I was collaborating. An

additional effort to forward search from my selected resources yielded new thought leadership

on how entrepreneurial collaboration itself could be viewed as a learning activity (Macpherson,

Anderson, Trehan and Jayawarna, 2022). This finding alerted me to my beliefs about the

"practice" of the firm (and its members) being rooted in small to medium-scale real estate

development and speculation. I had not considered that "doing entrepreneurship" was our

practice – and a learning activity (cf. Minniti & Bygrave, 2001 as cited by Macpherson et al.,

2022). Macpherson et al. (2022) further make the case for active support of social relationships

and activities in entrepreneurial activity. Beyond encouraging me to engage the members of

the firm in the social and contextual aspects of their learning and practice as entrepreneurs, I found renewed hope for my role in supporting that process.

In respecting the precepts of the firm, I also had to consider how my usage of our organisational resources might be perceived. If the justification for the engagement of entrepreneurs by any firm is to seek innovation as a matter of competitiveness and, in some cases, survival, as argued by McNish & Silcoff (2015), then organisational resources to support entrepreneurial collaboration must be allocated in a manner that can promote optimal synergy. Dundon (2002) points out that optimal synergy is necessary for innovation to occur in entrepreneurial collaboration and must not be left to serendipity, suggesting the need for some form of guidance or oversight. Interpersonal relationships are the very links where and through which entrepreneurs create innovation (Birley, 1985; Burgelman & Hitt, 2007; Larson & Starr, 1993; Najmaei, 2016; David et al., 2020). Tracing the knowledge held in the theme of *entrepreneurial collaboration* reveals a deficiency in how those aforementioned links could be exploited. The exploitation of these links, defined as social cohesion, is not described in the literature and constitutes the aim of this study to critically assess how and when social cohesion intervention could be used to optimise synergy among the collaborating entrepreneurs comprising the firm.

Since "performance is the enduring result of innovation" (Carayannis et al., 2015:p.13) and the frank purpose of entrepreneurial engagement, facilitating entrepreneurial collaboration is key to fostering greater innovative capacity (Carayannis et al., 2014; Carayannis et al., 2015). Accordingly, linking participants through interpersonal interaction to bolster their sense of belonging to the group comprising the entrepreneurial collaboration should not be feared.

Moreover, there is an inherent moderation of conflict in collaboration through which

entrepreneurs become empowered to co-create innovation (Carayannis & Rakhmatullin, 2014;

Quince, 2001). However, recommendations for the limits or nuance of that emphasis are not

made beyond the importance of creating access and interaction between the knowledge

networks within the firm and external ones (Carayannis et al., 2015; Sulistyo & Ayuni, 2020).

Again, I assert my call for the standardisation of the term *entrepreneurial collaboration* to

mean the phenomenon of individual entrepreneurs working jointly to pursue innovation. While

this section clarifies the concept for my particular workplace-based problem, it has also

established that entrepreneurial collaboration has necessarily become a key component of any

modern firm as a matter of organisational survival because of its innovative potential.

Nevertheless, simply bringing my fellow entrepreneurs together cannot deliver innovation or

remedy their stagnation. In the following section, I explore the concept of the *limits and*

implications of social cohesion to further my understanding of how to determine the site for

intervention for my workplace-based problem, among other things.

2.2.2 Limits and implications of social cohesion

The term *social cohesion* is increasingly claimed for use in the fields of economics and

politics. The core of the phenomenon is not necessarily rooted in nationalist discourse because

the sense of belonging anchors social relations toward the common good, resting in the

interactions between individuals (van der Noll, 2017). Group cohesion or social cohesion is the

willingness of individuals to cooperate to survive and prosper with a sense of belonging, as

defined by Dyaram and Kamalanabhan (2005). These terms are used interchangeably in the

body of knowledge, with the preference in management science to use the term group

cohesion to describe the concept. Literature about macroeconomics more often uses the term

social cohesion. However, in so doing, economists and political scientists alike focus the

concept of social cohesion broadly on the macro-level or nation-level interactions of innovative

groups. Compelling arguments exist to include micro-level social relationships of individual

participants in consideration of social cohesion (Mulunga & Nazdanifarid, 2014). Mutuality and

trust comprise the norms of the very social networks in which the links among individuals

persist to support the use of social cohesion as the preferred term for intrinsic micro-level

behaviour (Berman & Phillips, 2004; Chan et al., 2007; Smith & Polanyi, 2008; Vveinhardt &

Banikonyte, 2017). The very essence of entrepreneurship is embedded in those linkages

(Najmaei, 2016). Carron (1982) regards social cohesion as establishing social bonds that

potentiate the group's persistence in a unified fashion by the participants. Some scholars

suggest the concept is best defined as "a dynamic process that is reflected in a tendency for a

group to stick together and remain united in the pursuit of its goals and objectives" (Carron,

1982:p.124; Mudrack 1989a, 1989b). The notion of fondness is also considered in the literature

but not accepted in any universal fashion because the management context is more concerned

with the performance of the members of the group in accomplishing an assigned task than the

sociability of the group members with one another (Casey-Campbell & Martens, 2009;

Mudrack, 1989a, 1989b).

At this point, I continued to feel the burden of balancing my desire to promote meaningful

organisational change without interfering with the social bonds of the long-standing social

network that underpins the firm. Furthermore, the improvement of the firm in terms of group performance would be more likely to arise from targeting behaviour that enhances commitment to solving the workplace-based problem than increasing the extent to which the members like one another (Carless & dePaola, 2000).

According to Barile, Riolli and Hysa (2018) and Forsyth (2010), theorists decry the fact that cohesiveness is used to describe a vast array of group interactions and group functionality such that the concept itself lacks cohesion. This issue highlights the persistent deficiency within the body of knowledge concerning the discourse between the operational and conceptual definitions of cohesiveness (Casey-Campbell & Martens, 2009; Quince, 2001). Theorists and managers further conflate the term group cohesion with task cohesion, which focuses principally on the group's performance as it relates to the coordination of the motivations and skills of the members of the group (Casey-Campbell & Martens, 2009; Mudrack 1989a; Mudrack 1989b). Mudrack (1989a) argues that despite decades of research on the topic of cohesiveness, the body of knowledge remains "dominated by confusion, inconsistency, and almost inexcusable sloppiness about defining the construct" (p. 45). Carless and dePaola (2000) make two key distinctions in their effort to define group cohesiveness - the distinction between the group and the individual versus the distinction between the task and social cohesiveness. They argue that the individual aspect is the extent to which an individual wishes to be accepted and remain within the group, while the group aspect is a matter of integration in terms of similarity, unity, and closeness (ibid). They cite Widmeyer et al. (1985) to describe task cohesion as the extent of motivation to achieve goals and add that social cohesiveness is merely the development and maintenance of relationships within the group.

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Moreover, the attraction between the individuals of the group is not just a matter of

fondness. The attraction between individuals to form a group together is the essence of social

attraction which, when intensified, can permeate the entire group and transform the

individuals from being conjoined to being cohesive (Barile et al., 2018; Forsyth, 2010, Mudrack,

1989a). The economic benefit of entrepreneurial collaboration is embedded in the strength and

appeal of the social relationship between the entrepreneurs working jointly (David et al., 2020;

Quince, 2001; Sulistyo & Ayuni, 2020). The primacy of social cohesion in the pursuit of

innovation through entrepreneurial collaboration is highlighted without further direction on

how moderating social cohesion could help sustain optimal synergy. In the assembly of the

entrepreneurial cadre of which I am a member, task cohesion cannot be considered to have *a*

priori primacy over social cohesion in fostering the innovative potential of the individual

entrepreneurs. This consideration returned my curiosity to new approaches to social cohesion

within entrepreneurial collaboration to optimise synergy. As I considered the context of the

firm, I realised that bringing entrepreneurs together to solve problems successfully necessarily

requires elaboration of the problem. However, that effort does not benefit from *a priori*

knowledge in the same manner as a simple and straightforward task. Therefore, I assert my

preference for the use of *social cohesion* instead of *group cohesion* in the context of

entrepreneurial collaboration, especially in the context of the firm, where tasks may vary or lack

a clear definition.

People develop links between one another and their group as a whole, whether they are

brought together for social interactions or a particular task, creating a sense of belonging

(Hoigaard et al., 2006). Despite an ever-evolving definition of social cohesion, the notion of a

sense of belonging is central to its understanding and rests in the interpersonal bonds between members of the group (Chan et al., 2007; Chen et al., 2017). Some scholars have declared social cohesion as "the total field of forces which act on members to remain in the group" (Festinger, Schachter and Back, 1950: p.164) because it is exceptionally challenging to quantify in empirical research (Chan et al., 2007). Social cohesion bears on individual and organisational bonds comprising social processes where the sense of belonging remains the dominant characteristic (Reitz & Banerjee, 2005). In a management context, social cohesion is multi-faceted but widely accepted as a hinging on the sense of belonging valued by any group member through their interpersonal relationships. It drives their willingness to work jointly, arising from individuals collaborating, fuelled by their level of mutual admiration in creating a heightened sense of belonging (Dyaram & Kamalanabhan, 2005; Forsyth, 2010). Despite the consensus regarding social cohesion as a sense of belonging, the literature does not report how it might be exploited to optimise synergy in entrepreneurial collaboration.

However, there are limits to social cohesion upon which organisational survival hinges (Berger, P., 2018). Without social cohesion, members of a group will leave (member exit), disintegrating the group such that it would no longer exist (Dion, 2000). With social cohesion, members of a group increase their participation with much less risk of member exit (Dyaram & Kamalanabhan, 2005; Wong, 1992). The concern arises when group members face new problems and must adapt collectively to create new solutions by performing together in a manner that exceeds their capabilities (i.e., optimal synergy). Such performance is an antecedent to innovativeness (Dundon, 2002). If entrepreneurs of the firm are to co-evolve with market challenges, they require involvement and interaction toward a sense of belonging

that values cooperation and knowledge in supporting innovation (Covi, 2016). Therefore, naively trusting in a socially cohesive entrepreneurial collaboration's innovative capabilities may prove erroneous.

The exact role of social cohesion in fostering innovativeness ranges from the finding of a direct and positive relationship (Wong, 1992) to a finding of diminished innovativeness when social cohesion is excessive (Stewart A., Lee and Konz., 2008; Wise, 2014). Exploring whether social cohesion may have a moderating effect on innovativeness is the very purpose of my action research project and this DBA thesis. This discussion gives rise to the first research objective of my study, to critically examine the exploitation of social cohesion for the optimisation of synergy in entrepreneurial collaboration.

Recognising when synergy among collaborating entrepreneurs is inadequate, optimal, or excessive is paramount in this context. Social cohesion rests in the interpersonal relationships within entrepreneurial collaboration and entrepreneurship itself (Berger & Kuckertz, 2016; Dundon, 2002; Hoigaard, 2006). Social cohesion does influence organisational synergy, but it does not always do so in a manner that contributes positively to collective performance or problem-solving capacity, especially in highly socially cohesive groups where the ability to innovate in the face of new challenges stalls (Griffith, Sudduth, Flett and Skiba, 2015; Hoigaard, Boen, De Cuyper and Peters, 2013; Sethi et al., 2001; Wise, 2014). This is the essence of my workplace-based problem. Accordingly, this conundrum gives rise to the second research objective for my study, to make recommendations for ascertaining the level of social cohesion in entrepreneurial collaboration.

Social cohesion has been identified as the site of innovativeness and economic impact in entrepreneurial collaboration and, therefore, merits consideration of the possibility of its measurement. The sociometric technique is a descriptive instrument that has been in use for more than half a century and allows the measurement of what is happening in a group in terms of social cohesion, although this procedure is unable to answer why individuals have formed linkages (Forsyth, 2010). The sociometric technique in research about social cohesion in entrepreneurial environments is a valid and persistent practice (Barile et al., 2018). It involves first administering one-question sociometric tests where the participants indicate their selection of other members in the group for a particular aspect of their interactions or relationships (Moreno, 1950). The subsequent sociogram is a drawing undertaken by individual participants to represent the structure of social relationships among the members of a group in a particular time reference that is still used by modern researchers, especially to uncover organisational dynamics and the relationships between individuals (ibid). This drawing reflects perceptions of rejection and leadership within the group. This technique is widely used in education and has been a useful indicator of social cohesion, especially useful for small groups (ibid). The criticism of the sociometric technique arises from the reliance on one individual rating others and representing a general indication of the linkages between group members (ibid). However, to consider the implications of social cohesion in the firm, the sociometric technique is entirely appropriate. It provides a means of gauging social cohesion among the collaborating entrepreneurs that is situated in their perspective. Moreover, confronting the strength of interaction through social cohesion evaluation can support collaboration because

the self-assessment of strengths and interactions is key to innovating and learning

collaboratively (Clar & Sautter, 2014).

The utilisation of internal observations such as sociometric technique or external

observations such as proximity tags or advanced audio-video analysis is a matter of fervent

debate in the literature because new, interesting framework s shall develop that help both

researchers and practitioners to differentiate between the internal and external perceptions of

a group through the use of automatically extracted cues (Barile et al., 2018; Hung & Gatica-

Perez, 2010). Proximity tags track the time an individual spends with or near another member

of the group. This technique cannot provide any further insight into how such proximity

impacts the quality versus the strength of linkages toward optimising the collective

performance of the individuals comprising the firm. Collaborating entrepreneurs with high

levels of social cohesion may consider themselves to have a high level of performance, but that

does not ensure sustainable innovative capacity.

The body of knowledge has moved well beyond the direct and positive correlation

between social cohesion and innovation argued by Wong (1992). Excessive social cohesion is

implicated in diminished innovation (Stewart et al., 2008; Wise, 2014), which can be further

explored using newer technologies such as proximity tags (Hung & Gatica-Perez, 2010). Such

external observation can reveal inefficiency owing to excessive time being utilised by group

members to strengthen their social bonds rather than collaborating on a solution for the

problem at hand (Hung & Gatica-Perez, 2010). While these newer technologies are appealing,

my preference is to avoid any unnecessary expenditure in my agency that might diminish the

willingness of the members of the firm to participate in this action research project.

In this section, I was able to establish that social cohesion is necessary to sustain the firm and prevent member exit. I developed the case for the use of this concept instead of group cohesion for the context of entrepreneurial collaboration in my workplace-based problem. The literature points to the likelihood of there being too much social cohesion among the members of the firm to generate new ideas for the current workplace-based problem, let alone sustain innovation. The significant development in this section is to identify social cohesion activity as an apt site for intervention. Also, I was able to identify a low-cost method of assessing social cohesion using well-established sociometric techniques that would not require any expense to the firm other than the time of the members to participate. However, what that intervention can cause must be carefully examined in the context of what must precede innovation, namely synergy.

2.2.3 Affects and antecedents of organisational synergy

Synergy refers across disciplines to the whole being greater than the sum of its parts. The term, however, did not arise in management sciences but in the field of physiology in the mid-nineteenth century, where it was used to address the notion of a collective evolutionary drive in a sociological context (Werth, 2002). It was considered the universal constructive principle of nature enhancing cooperative output (Ward, 1918 as cited in Werth, 2002). Clarifying terminology and its use have been a helpful benefit of this systematic literature review. Still, the cooperative output of the entrepreneurs comprising the firm has not overcome the workplace-based problem.

Synergy refers to the individual people and their related knowledge, abilities, and processes merging to expand the firm's capabilities, especially in the face of new challenges and problems (Huczynski & Buchanan, 2013; Lawford, 2003). Without the linkages that comprise social cohesion, organisational synergy would not be possible (Lawford, 2003; Najmaei, 2016; Oketch, 2014; Wise, 2014). In the case of entrepreneurial collaboration, the driving force behind bringing entrepreneurs together is the pursuit of innovation, for which meaningful synergy must occur (Camuffo & Gerli, 2016; Dundon, 2002; Lawford, 2003; Liening et al., 2016). While organisational synergy may be present to some degree, demonstrably enhancing the collective abilities of group participants, it can be sub-optimal due to diminished critical thinking and decision-making, reducing the capability to innovate (Lerner et al., 2015; Huczynski & Buchanan, 2013; Dundon, 2002, Goold & Campbell, 1998).

In their capacity as organisational design and transformation experts, Goold and Campbell (1998) report that collaborative output is not always positive. They argue that synergy can be sub-optimal, becoming costly to the firm, not only for wasting organisational resources but also for creating undesirable changes in decision-making quality, including excessive risk-taking. This finding is very significant to my agency because I had only considered inaction as a matter of performance, not risk. However, the gravity of this notion is furthered by a qualitative case study undertaken by Frigotto (2016). She emphasises that entrepreneurs are already prone to risk-taking and function recursively within their decision-making environment to attend to problems at hand pragmatically. Therefore, sub-optimal synergy places the firm at risk of making costly missteps beyond the current stagnation I am determined to unsettle.

Synergy can be bolstered through the micro-level interactions of participants by the quality of events they organise to promote success in problem-solving or other collaborative activities (Vveinhardt & Banikonyte, 2017). The challenge remains in how to effectively moderate social cohesion so that it does not become excessive. Managers of entrepreneurial collaboration must foster social cohesion, but they must be vigilant for evidence of its excess manifesting as wasteful sub-optimal synergy (Goold & Campbell, 1998; Wise, 2014). Principally, organisational synergy is believed to be reflected in the efficiency by which a given team or group can accomplish their task (Namjoofard, 2014; Wise, 2014; Huczynski & Buchanan, 2013; Kempster & Cope, 2010; Lawford, 2003). This perspective may be significant and helpful in assessing the team's performance through their output for a given task. However, such an approach overlooks the need to consider the sustainability of the underlying strategic advantage being cultivated, which is the firm's innovative capacity. While it is important to recognise when synergy is occurring, it is perhaps even more important to recognise what is not reflective or indicative of optimal synergy (Goold & Campbell, 1998). In highly socially cohesive groups, sub-optimal synergy is characterised by concurrence seeking, known as groupthink. This diminishes the consideration of alternative solutions and criticality because of the desire of individual members to maintain harmony, thereby constraining the generation of new ideas or novel applications of existing solutions, even among entrepreneurs (Huczynski & Buchanan, 2013; Fox, 2019; Janis, 1973; Wise, 2014). However, individuals in a highly socially cohesive group can also aggregate and polarise within the group, becoming increasingly entrenched in a particular point of view and less willing to consider alternative solutions (Huczynski & Buchanan, 2013). The diminished consideration of alternative solutions can be further exacerbated in highly

socially cohesive groups by a willingness to make riskier decisions than those that would have

been taken by any individual member (Huczynski & Buchanan, 2013). Further to being able to

ascertain the level of social cohesion among the members of the firm, this discussion gives rise

to the third research objective for my study, to make recommendations regarding the timing of

social cohesion interventions for the optimisation of synergy in entrepreneurial collaboration.

Therefore, in the pursuit of optimal synergy, the perils of excessive social cohesion must be

confronted. The need to understand the risks to organisational synergy from leveraging social

cohesion in entrepreneurial collaboration must also be addressed. The literature shows that

entrepreneurial collaboration engagement by organisations striving for global competitiveness

is left ambiguous because models of synergy rely heavily upon commitment and leadership.

This tendency is ill-suited to the collaborating entrepreneurs of the firm who are not employees

and are averse to being led in the pursuit of innovation (Dickel & Graeff, 2016; Frigotto, 2016;

Kempster & Cope, 2010; Oketch, 2004; Namjoofard, 2014; Wong, 1992). Compared to

conventional hierarchical organisational structures that employ conventional worker

archetypes, understanding how social cohesion can be exploited to optimise synergy in the firm

is necessary to avoid wasting organisational resources. But, the relentless pursuit of synergy

frequently leads to a bias that overemphasises social cohesion without realising that the result

can lead to optimal as well as sub-optimal synergy (Goold and Campbell, 1998; Lawford, 2003;

Witges & Scanlan, 2015). Striving for synergy very often results in *synergy bias* which leads to

an overestimation of the benefits of what is believed to be reflective of synergy and an

underestimation of the organisational resources used in that pursuit (Goold & Campbell, 1998;

Lawford, 2003). This discussion gives rise to the fourth research objective of my study, to make

recommendations concerning the allocation of organisational resources for the optimisation of synergy in entrepreneurial collaboration.

Furthermore, sub-optimal synergy occurs in highly socially cohesive groups in the form of counteracting measures being taken by individuals to decrease the capabilities, critical faculty, and decision-making of the group rather than increase them beyond the sum of abilities of individual members of the group (Goold & Campbell, 1998; Janis, 1973; Huczynski & Buchanan, 2013). In such an occurrence, proximity and time being spent by individuals interacting can easily be misconstrued as evidence of optimal synergy. Optimal synergy improves the utilisation of resources being allocated for entrepreneurial collaboration (Goold & Campbell, 1998; Lawford, 2003). Sub-optimal synergy manifests in reduced efficiency of operations and, very often, in decreased quality of decision-making with the potential for underestimated costs (Goold & Campbell, 1998; Lawford, 2003). Perhaps the most significant indicator of sub-optimal synergy is disequilibrium with the external environment (Lawford, 2003). These findings are of considerable value in validating and addressing the need to consider the risks to synergy from leveraging social cohesion in entrepreneurial collaboration. Tracing the theme of *limits and implications of social cohesion* establishes social cohesion as the antecedent to synergy and the site where the potential for economic impact and the innovativeness attributed to entrepreneurs resides. The synthesis of the selected literature traced through the theme of *effects and antecedents of organisational synergy* reveals that any framework to sustain innovativeness in entrepreneurial collaboration must consider the moderation of social cohesion.

Increased communication and interaction can be misleading to an observer who might

presume that the apparent increase in social cohesion will strengthen mutually positive

attitudes between individuals and the rest of the group (Huczynski & Buchanan, 2013). In the

context of any firm, synergy reflects the combined effort of the members, but innovation

cannot be achieved until the individual members interact with a greater joint effect than the

sum of those acting alone (Huczynski & Buchanan, 2013; Lawford, 2003). As Lawford (2003)

argues, synergy can be optimal or sub-optimal, where optimal synergy has beneficial,

contributory, and productive effects, allowing for improved efficiency and greater exploitation

of those opportunities available to or created by the firm. While members of the firm have

been satisficed with delivering the required profitability, such an outcome does not necessarily

require optimal synergy. In facing new problems, the entrepreneurial cadre must function in a

state of synergy to optimise the likelihood of successful innovation (Dundon, 2002; Felden et

al., 2016; Najmaei, 2016; Wise, 2014). Furthermore, in the case of excessive social cohesion, the

firm's performance may be satisfactory without outperforming the individual members' abilities

because counterproductive phenomena may have arisen, as pointed out by Huczynski and

Buchanan (2013). Optimal synergy will most often lead to more efficient use of existing

organisational resources, while negative organisational synergy will not. This point remains

theoretical without further probing of the selected literature to explore how such an

observation can translate to meaningful intervention, and no empirical examples were found in

the literature. Here, an important point, synthesised from the tracing of *effects and*

antecedents of organisational synergy through the scholarly resources selected for my

systematic literature review, is that social cohesion is not a by-product or meta-phenomenon of

synergy; rather, the opposite is true.

In this section, my findings expanded my understanding of synergy beyond my simplistic

concerns about the performance of the firm. The literature revealed that sub-optimal synergy

was a much greater risk to the firm than just the stagnation with which I have been

preoccupied. The tendency toward poor and risky decision-making is likely to precipitate a

misstep by the firm even if the members decide to ratify a new project. Therefore, if optimal

synergy is to be fostered, social cohesion must be moderated to ensure that the quality of the

linkages that potentiate the economic benefit and innovativeness of entrepreneurial

collaboration are given primacy. I found my motivation to stage an intervention to be

substantially bolstered. Still, first, I had to be able to visualise the general relationships between

the theoretical concepts explored in this systematic literature review by developing a

theoretical framework. The next section describes that effort.

2.3 Theoretical framework

The concepts and phenomena traced in the discussion above can be assembled as a

theoretical framework to help my understanding of their inter-relatedness (Given, 2008). This

framework represents a general representation of the relationships between entrepreneurial

cohesion, social cohesion, synergy, and innovation. From the discussion above, the consensus

among scholars regarding the related concepts in entrepreneurial collaboration is that social

cohesion must be present for the entrepreneurial cadre to exist in any effective way (Berman &

Phillips, 2004; Carron, 1982; Chan et al., 2007; Mudrack 1989a, 1989b; Mulunga & Nazdanifarid, 2014; Smith & Polanyi, 2008; Vveinhardt & Banikonyte, 2017). If the synergy in that group is sub-optimal because of excessive social cohesion, valuable organisational resources will be squandered, and the quality of decision-making will diminish (Fox, 2019; Huczynski & Buchanan, 2013; Janis, 1973; Leavitt, 1974; Wise, 2014). If the synergy in that group is optimal because of just the right amount of social cohesion, then innovation is much more likely to occur (Goold & Campbell, 1998). I propose the theoretical framework shown in Figure 2 based on the results of this review to represent the relationship between social cohesion, its moderation, entrepreneurial collaboration, and synergy. The framework is discussed in more detail in section 2.4. In proposing this framework, the challenge for me as an insider action researcher lies in understanding how to increase interpersonal trust, sharing, and, most importantly, criticality among the entrepreneurs comprising the firm - without causing member exit.

INNOVATION

OPTIMAL SYNERGY

MODERATION OF SOCIAL COHESION

ENTREPRENEURIAL COLLABORATION

SUB-OPTIMAL SYNERGY

wasted resources & diminished quality of decision-making
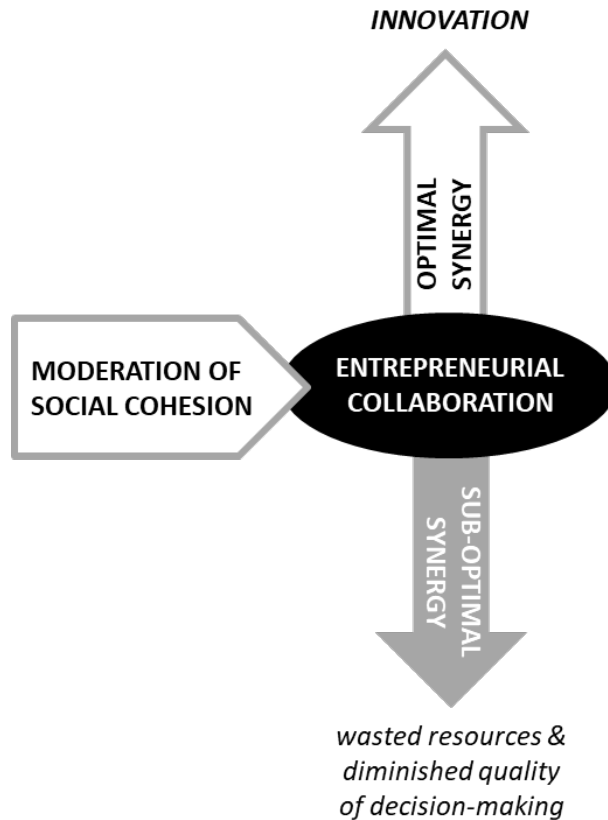
Figure 2. Theoretical framework

2.4 Conceptual framework

The theoretical framework shown in Figure 2 provides a general representation of relationships between entrepreneurial cohesion, social cohesion, synergy, and innovation as derived from the systematic literature review. However, in seeking a defensible approach to designing the actual method of my intervention, I require greater specificity regarding the direction of my research. I must develop a conceptual framework that enables me to engage with the problem in my context (Given, 2008). Collaboration requires interaction between participating entrepreneurs, necessitating the optimisation of social cohesion through their

interconnectedness and individual interactions (Muhlenhoff, 2016; Najmaei, 2016; Quince, 2001; Stacey, 2011). Universally, interference with entrepreneurial cadres is considered a threat to innovation. Nevertheless, the rationalisation of resources in the pursuit of innovation cannot rely upon the mere assembly of a roster of entrepreneurs and external observation (Corwin et al., 2012; Dundon, 2002; Kempster & Cope, 2010; Larson & Star, 1993; Stacey, 2011; Stevenson & Jarillo, 2007; Quince, 2001). Constituting an entrepreneurial cadre with diverse participants does not necessarily enable action. Over the past seventy years, the study of entrepreneurial collaboration repeatedly points to the interpersonal relationships that constitute social cohesion as the key challenge and motivation for the pursuit of innovation (Carayannis et al., 2015; Carayannis & Rakhmatullin, 2014; David et al., 2020; Quince, 2001).

However, the tendency of entrepreneurs to mitigate discord in no way assures that optimal synergy will be maintained, especially where social cohesion may become excessive to the detriment of decision-making quality, let alone the generation of novel ideas (Fox, 2019; Huczynski & Buchanan, 2013; Janis, 1973; Leavitt, 1974; Wise, 2014). Therefore, the fear of triggering conflict must be set aside, especially given those collaborating entrepreneurs inherently moderate conflict when empowered to co-create innovation. How entrepreneurs behave toward one another in social settings impacts action and the dynamism and responsiveness of the group because of the inescapable impact on their sensemaking (Najmaei, 2016). As seen in the firm, the performance of key contributors within the entrepreneurial cadre can mask a lack of innovativeness. They may be overlooking the fact that these stalwarts are anchored in one manner of status quo for decision-making and strategy until they find the next, better status quo (i.e. dynamic conservatism) (Argyris, Putnam and Smith, 1985).

Moderating social cohesion can create an invaluable opportunity for disrupting subgroups of stalwart performers who may be masking dynamic conservatism and thwarting true innovation.

In confronting novel problems, the exact purpose of the entrepreneurial cadre, let alone its individual members, cannot always be fully known. Being mired in the workplace-based problem, the *a priori* primacy of task cohesion cannot be relied upon in driving innovation, especially since innovativeness is not impacted by the mere functional diversity of participants (Chen et al., 2017; Sethi et al., 2001). I could play a key role in facilitating reflexive processes among the study participants, given that the success, failure and sustainability of entrepreneurial collaboration hinge on social cohesion (Quince, 2001, Sethi et al., 2001). It is these interpersonal relationships that potentiate mutuality in respect, trust, and goals in entrepreneurial collaboration. Given the volatility of the marketplace in contributing to my workplace-based problem, simply assembling a roster of the firm's members would not ensure the moderation of conflict. The cognitive differences of the participants that are valued for their innovativeness actually assure that conflict will arise (Chen et al., 2017; Sethi et al., 2001).

This finding encouraged me to explore how intervention could exploit social cohesion in entrepreneurial collaboration to optimise synergy. Within the milieu of the firm, I had to have some means of evaluating the level of social cohesion. In larger organisations, newer technologies can provide further insights, especially as a means of triangulation. Although newer, emerging, external technologies such as proximity tags and advanced audio-visual analytics exist, I advocate for sociometric technique as a well-established, well-suited, descriptive instrument for small groups in entrepreneurial environments, particularly as it

assigns the assessment of the phenomenon to an individual for whom it represents a shared

experience with the other members of the entrepreneurial cadre.

The conceptual framework in Figure 3 permits smaller firms to consider entrepreneurial

collaboration. My choice of sociometric technique is not in opposition to newer technologies.

Rather, it is a practicable suggestion to overcome the challenge of resource constraints,

especially in smaller firms where the inclusion of entrepreneurial collaboration may be

considered an extravagance reserved for multinational corporations. Figure 3 provides a

distinct consideration of the social cohesion of entrepreneurial collaboration as a central

phenomenon that exists at any level (low, optimal, or high) at a given point in time in the life

cycle of the project or firm. The level of social cohesion existing within the cadre is considered

an independent process because, at the outset of the life cycle of the entrepreneurial

collaboration, challenges arising from the market and organisational challenges are often still

ill-defined. Entrepreneurial collaboration benefits an organisation for problem definition as

much as for problem-solving, and the social cohesion of the entrepreneurial collaboration is not

immediately affected by any of the other processes or phenomena in the conceptual

framework. As the cadre persists and is left unchecked, the activities of the collaborating

entrepreneurs may not directly affect the level of synergy; instead, they affect the level of

social cohesion. The level of social cohesion can become excessive to the detriment of

innovative capacity when no efforts are made to engage participants with theory and move

forward. This is the "action" in action research and was supported paradigmatically by my

collaborative agency as an insider action researcher (Zuber-Skerritt & Fletcher, 2007).

Therefore, both *Sub-Optimal Synergy* and *Optimal Synergy* are dependent processes in

Figure 3. By gauging the level of social cohesion with collaborating entrepreneurs, I could co-

construct intervention with the members of the firm in an effort to prevent social cohesion

from dropping below what is necessary to maintain the cadre and exceeding what is necessary

for optimal synergy. The conceptual framework also had to support the development of my

metacognitive skills as I adapted my sensemaking.
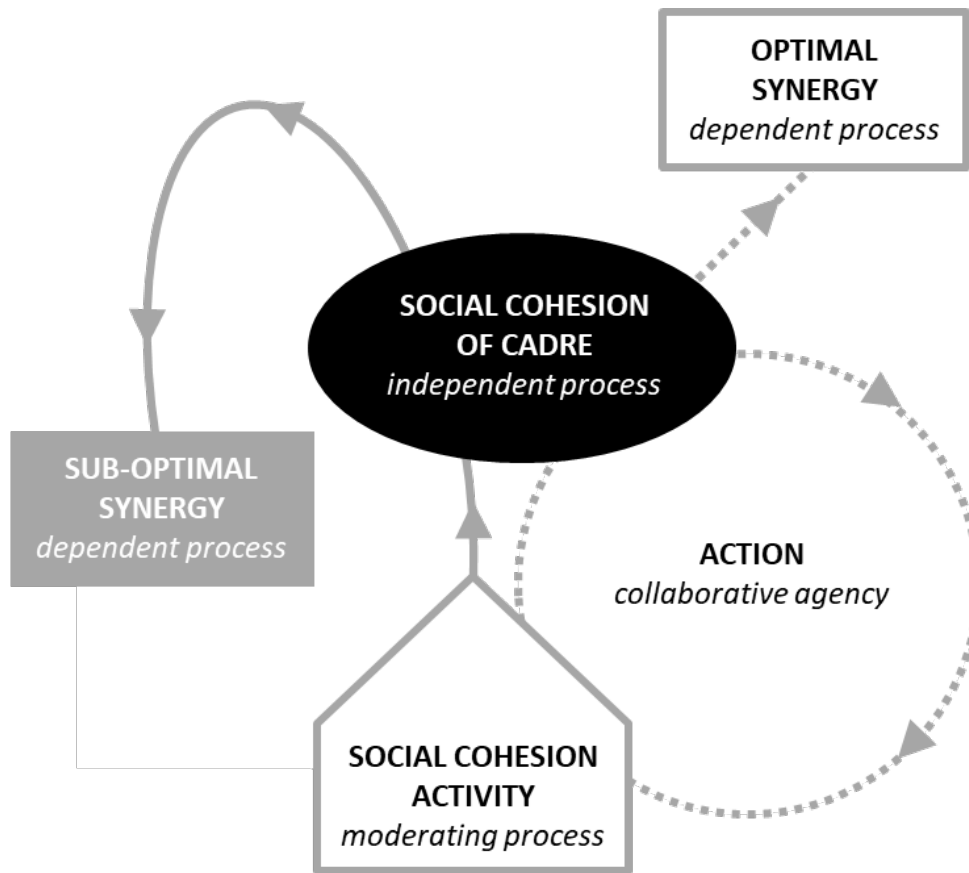
Figure 3. Conceptual framework

Social Cohesion Activity impacting the level of social cohesion of the entrepreneurial

collaboration is a moderating process in the conceptual framework because it does not directly

affect the level of synergy among the entrepreneurs. Rather, it affects the level of social

cohesion, which, in turn, can be moderated to the benefit of innovative capacity when efforts

are made to promote "action". It is important to differentiate the "action" of action research

from the particular activity employed for intervention. The exact activity, such as current

popular group activities to promote collaboration and critical faculty through problem-solving,

must be of value whether social cohesion is too high or too low. For example, many popular

team problem-solving activities are available in the region, including Lego Serious Play, Egg

Drop, Clue Murder Mystery, Spaghetti Tower Building, Escape Room, and Team Pursuit. I had to

allow for the input and preferences of the group if I was to establish a credible agency without

violating the disdain for positional leadership within the firm. That activity would then become

Social Cohesion Activity as an intervention. Therefore, the conceptual framework supported the

timely and cost-effective moderation of social cohesion within the firm while respecting the

aversion of the member entrepreneurs to the possible constraints of a positional leader. This

conceptual framework challenged the notion of sitting idly and hoping for innovation to occur.

A key part of that enhancement was being able to recognise when social cohesion was

adequate to allow collaborative entrepreneurs to continue being inventive without intervention

or further expenditures.

I call attention to the conceptual framework presented in Figure 3 for the consideration of

sustaining innovation through entrepreneurial collaboration, not just performance for a given

problem, task, or project beyond which the collaborating entrepreneurs may or may not remain

engaged. The proposed conceptual framework incorporates a sensitivity of the inclination to

avoid interfering with entrepreneurial collaboration (Stevenson and Jarillo, 2007) with the

aversion of entrepreneurs to being managed (Kempster & Cope, 2010). Ultimately, by involving the collaborating entrepreneurs in an assessment of the level of their social cohesion, the planning of suitable intervention activities, and the implementation thereof, the conceptual framework in Figure 3 promotes performance beyond the sum of individual abilities and contributions.

This conceptual framework merits the attention of scholars and practitioners alike. The resources allocated to bringing entrepreneurs together for the purposes of innovation must also encompass the effort to define and refine the understanding of the workplace-based problem. That undertaking demands criticality alongside an increased willingness to monitor and moderate social cohesion actively.

2.5 Limitations

Systematic literature reviews provide an excellent tool to inform practice development (Rees & Ebrahim, 2001). I consciously selected academic resources according to identified themes and research quality as opposed to my agreement with their opinions. This approach provides a safeguard against creating a summary of a particular viewpoint or a particular author (Webster & Watson, 2002). However, the selection of academic resources can never be completely free of biases despite the wide variety of databases used in this study (Kraus et al., 2020).

2.6 Conclusions

The methodological framework used for my systematic literature review revealed active academic interest in social cohesion in the area of entrepreneurship. It demonstrated an insufficient understanding of how social cohesion could be moderated to sustain innovation among collaborating entrepreneurs. The findings suggested that cadres of entrepreneurs will not innovate automatically, let alone sustainably. The role of an insider action researcher supports collaborative agency as a resource in the development of interpersonal trust, sharing, and, most importantly, criticality. Moreover, this chapter motivates new approaches to intervention in entrepreneurial collaboration.

Several clarifications in terminology become possible and necessary in analysing the selected academic resources in the context of this study:

1) The term *entrepreneurial collaboration* should be standardised to refer to *the phenomenon of individual entrepreneurs working jointly to pursue innovatio*n.
2) *Optimal synergy* and *positive synergy* are used interchangeably to mean that the entrepreneurs function collaboratively with a problem-solving capacity greater than the sum of their individual abilities or contributions.
3) *Sub-optimal synergy* can be the result of insufficient as well as excessive social cohesion. When social cohesion is insufficient or too low, the entrepreneurial collaboration can disintegrate through member exit. When social cohesion is excessive, groupthink and polarisation can occur, leading to resistance to alternate solutions and unnecessarily risky choices.

The challenge faced by organisations and especially managers is that optimal synergy is not a default state for entrepreneurial cadres. Maladroit intervention could diminish social cohesion drastically, making it necessary to consider member exit as a possible consequence. Therefore, the moderation of social cohesion in entrepreneurial collaboration is possible and an important, necessary research direction for modern firms pursuing innovation.

The systematic literature review also provides an overview for researchers interested in this area, along with a theoretical framework that highlights areas of key concern. The implications of social cohesion in entrepreneurial collaboration are a fledgling area of research, and the body of knowledge does not offer specific guidance in this area. My analysis demonstrates consensus that social cohesion is antecedent to synergy. And, optimal synergy is necessary for successful innovation in entrepreneurial collaboration. These findings are significant in fulfilling the first objective of this study to critically examine the exploitation of social cohesion for the optimisation of synergy in entrepreneurial collaboration. My findings also provide insight for the first research objective insofar as validating the notion of exploring the moderation of social cohesion as a means of sustaining optimal synergy as an active area for research. Social cohesion activity is validated as the site for intervention. What particular activities might reliably and cost-effectively deliver sustainable optimal synergy by moderating social cohesion are not revealed in the academic resources analysed in this study. However, this creates a significant opportunity for experimentation by managers and future research. The addition of entrepreneurial collaboration to bolster problem-solving capacity is an option for organisations seeking a competitive advantage and an increasingly recommended inclusion to the organisational structure of the modern firm.

Surveillance for evidence of sub-optimal synergy is necessary in managerial oversight, as discussed above. The strategies to successfully maintain adequate social cohesion and prevent member exit must be balanced with those strategies that mitigate excessive social cohesion and prevent wasteful sub-optimal synergy for the organisations involved. The methods to access the internal dynamics of entrepreneurial cadres will be supplemented by newer external technologies, including proximity tags and advanced audio-video analysis. Research must also evaluate the design of interventions to moderate social cohesion in terms of the appropriate allocation of organisational resources. Having established a conceptual framework for the moderation of social cohesion among collaborating entrepreneurs in this chapter, I report on my philosophical stance and the methods I employed in my research in Chapter 3.

3 Action research methodology

In this chapter, I discuss the approach I took to researching the implications of social cohesion in the firm and the design of my mixed methods. The systematic literature review reported in Chapter 2 developed the conceptual framework that identified key processes to inform my research objectives: (1) to critically examine the exploitation of social cohesion for the optimisation of synergy in entrepreneurial collaboration; (2) to make recommendations for ascertaining the level of social cohesion in entrepreneurial collaboration; (3) to make recommendations regarding the timing of social cohesion interventions for the optimisation of synergy in entrepreneurial collaboration; and, (4) to make recommendations concerning the allocation of organisational resources for the optimisation of synergy in entrepreneurial collaboration.

Those findings, in turn, influenced the selection of my research paradigm in terms of "the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed" (Kuhn, 1962:p.45). I do not intend to argue for my philosophical stance against other possible approaches but rather to clarify the rationale for my undertaking in the context of the firm. Especially in my effort to empower the members of the firm to solve the workplace-based problem, I adopted action research to understand, think, and promote change by involving the members of the entrepreneurial cadre in escaping stagnation (Law, 2007). Even though I presumed to be part of an egalitarian and non-hierarchical firm without positional leadership, I needed to define the paradigm for this study to avoid

misperceptions of bias or self-interest – and as a matter of rigour (Creswell, 2013; Coghlan & Brannick, 2014).

The aim of action research is not to survey a large population of otherised subjects in the hope of making generalisations or predicting the future. Instead, as an insider action researcher, I worked closely and in-depth with a small number of participants owing to their motivation, knowledge, and openness to improving their situation in pursuing a solution to the problem (Zuber-Skerritt & Fletcher, 2007). I followed a paradigm of social constructionism, and more specifically, phenomenology, wherein there is no single truth or reality. Instead, that reality is co-created by the individuals comprising a group and requires interpretation to discover underlying meaning through a better description of their shared experience (Creswell, 2013; Van Manen, 1990).

The issue of antecedence for the related concepts was well-developed through my systematic literature review. Social cohesion, which I frame as an independent process, must exist for synergy to occur. Optimal synergy, which I frame as a dependent process, must exist for innovation to happen. However, in the context of entrepreneurial collaboration, the consideration and utilisation of group activity as a means to moderate social cohesion remain unexplored. So, how could I design my research to attend to these objectives? Using my understanding of the relatedness of the concepts of social cohesion, synergy, and innovation in the context of entrepreneurial collaboration, I framed social cohesion activity as a moderating process that must be informed by the context of the firm. Moreover, the context of the firm, its culture, and even its extant data forms would bear heavily on these decisions and extend back into the didactic portion of my DBA journey marking where my first-person practice began. By

first-person practice, I am referring to my personal and professional learning, particularly

regarding how I dealt with data and addressed my assumptions and bias (Coghlan & Brannick,

2014; Reason & Bradbury, 2001).

The decision-making behind my philosophical stance from what I believe to be true

(ontology), how I believe that knowledge can be created (epistemology), and how I believe that

knowledge can be reached (methodology) was also influenced by the context of the firm (Guba,

1990). For example, the firm functions as an *ad hoc* organisation that undertakes a handful of

projects annually. Projects have always been transactional, such that no suitable data forms

exist for inclusion in this study. That type of historical data could certainly provide some insight

into individual or collective decision-making in a way that would permit a case-study

methodology. In the following sections, I develop the rationale behind my philosophical stance

leading to the particular methods I will use, including the data collection methods and my plans

for the analysis of that data. The specific qualitative methods are explained as well as the

quantitative methods that contributed to the mixed methods approach of my action research

project. Perhaps, most notably to my development as a scholar-practitioner, I discuss the

second-person practice considerations and implications of my research design.

3.1 Action science

The dual purpose of action research is to solve a workplace problem through

intervention and create knowledge in that effort through a collaborative process between the

people being studied and the researcher that is both reflective and critical (Argyris et al., 1985;

Coghlan & Brannick, 2014; Herr & Anderson, 2005). Action science, as a particular modality of action research, is a strategy whereby both the confidence and skills of the individuals within a group may be augmented and foster effectiveness (Argyris et al., 1985; Raelin, 2015). It is not exempt from the criticisms of action research insofar as lacking theory and for only contributing to knowledge through the telling of a story in a particular context without addressing issues of emergent theory (Coghlan & Brannick, 2014).

However, the philosophy behind action science, known as pragmatism, is the pursuit of knowledge for the task at hand in a manner that can be spontaneous and emergent, whereas traditional science pursues an exhaustive certainty in a methodical manner (Coghlan, 2011; Coghlan & Brannick, 2014; Susman & Evered, 1978). In overcoming these criticisms, my action research must extend beyond those steps necessary to take action or to create actionable knowledge in the context of the study by considering how the theories that are developed could inform other areas (Eden & Huxham, 1996). Therefore, it is the ontology of action research that forms my rationale through the belief that states of reality are dynamic and changeable by human agency (Coghlan & Brydon-Miller, 2014).

3.2 Qualitative Approach

The process of developing my workplace-based problem and the accompanying research aim and objectives is discussed in Chapter 2. However, the decision of which qualitative approach would best suit my action research project is rooted in the learning of the fourth didactic module – Management Research. In Section 3.2.1 I consider the five approaches to

qualitative research that could support my action research project: narrative research, grounded theory, ethnography, case study, and phenomenology using the text book for Module 4 (Creswell, 2013).

3.2.1 Considering the options

Narrative research develops a narrative about the stories of an individual's life through the study of that individual using interviews and documents. This approach would require multiple case studies of the individuals comprising my firm. As I was keen to avoid blame in my approach, I was reticent to adopt narrative research because my intention was not to uncover the motivations or traits of the entrepreneurial archetypes that constitute my ad hoc firm.

Grounded theory relies on the interviews of individuals within extant frameworks and social relationships by ascribing a theory of (social) cohesion that would invite an *a priori* notion of the essence of the lived phenomenon of entrepreneurial collaboration. However, I wanted to gain a better understanding of the phenomenon of entrepreneurial collaboration as shared and lived by the members of my firm without any presupposition on my part as a researcher. Therefore, I ruled out grounded theory as an appropriate qualitative approach for my action research project.

Ethnography is not well-suited to my research because the members of the firm collaborate for their pecuniary interests without any collective notion of social responsibility that could define them as a culture-sharing group.

Case study can deliver fine-grain data through in-depth analysis of the individuals in the firm. However, it may be lacking in what it reveals regarding the structures of meaning as I strive to address the stagnation of my firm – without assigning blame to any particular member.

Phenomenology emerges as the most pragmatic approach to support my action research project because it can help me describe the phenomenon I wish to study (i.e. the shared, lived experience of entrepreneurial collaboration by the member of the firm). This can be achieved using interviews, observations and visual representations of the experience.

3.2.2 Moving forward with phenomenology

Phenomenology supported my effort to extend this inquiry and analysis toward discovering a deeper understanding and universal essence through a structured methodological approach that allowed me to streamline data collection (Creswell, 2013). Several philosophical assumptions underlie phenomenology and are discussed in this section to establish my rationale for its selection. For example, in using phenomenology as a methodology, I am espousing a belief in the observation of human behaviour as a means to understand nature, a preference for gathering conscious experience, and the importance of the exploration of individuals as a reflection of their society. Moreover, study participants must be confirmed as having experienced the phenomenon under inquiry (Creswell, 2013).

I must set aside personal judgement, bias, and prejudice in an effort to view the phenomenon with a fresh perspective. However, for me to believe that these challenges can simply be willed out of this study would be naïve (Monk & Howard, 1998). In fact, I undertook

ongoing, periodic critical reflection remaining mindful to apply this vital aspect of action

research to what was happening alongside the issues I was confronting (content reflection), to

procedures and strategies (process reflection), and to the critique of perspectives and

underlying assumptions (premise reflection) (Coghlan & Brannick, 2014; Mezirow, 1981; Reason

& Bradbury, 2001). To simply list the procedural aspects of the collection and analysis

diminishes the philosophical underpinnings of the phenomenological approach, especially in

the context of action learning (Moustakas, 1994; Raelin, 2015). Furthermore, meaningfulness to

other contexts must be integral to the conceptualisation of the particular context and maintain

explicit concern for theory. The design of any technique must integrate knowledge from the

body of knowledge to allow incremental movement of "the particular to the general in small

steps" (Eden & Huxham, 1996:p.80).

The members of the firm have typically met in social environments immediately before

ratifying new projects. This effort of social engagement may have created a sense of belonging

(Chan et al., 2007) but was not part of any deliberate effort to exploit social cohesion toward

greater innovativeness. In consideration of entrepreneurial collaboration, the effectiveness of

action science would be a matter of innovativeness through the optimisation of synergy.

To generate emergent, actionable knowledge I had to develop a better understanding of

the shared, lived experience of entrepreneurs collaborating as the phenomenon of interest.

Therefore, phenomenology is well-suited to this study because it is the methodology that seeks

the description of a lived experience from the perspective of the participants to enhance the

depth of the information gathered rather than quantification or explanation (Creswell, 2013;

Giorgio, 1997). Moreover, the cyclical nature of action research could be re-iterated within the

context of the firm to support a credible solution (Greenwood & Levin, 2007; Susman & Evered, 1978). Phenomenologically-oriented action research could support the improved selection and timeliness of appropriate activity to exploit social cohesion toward optimising synergy in the pursuit of greater innovativeness.

I was tasked with credibly moving this inquiry into the implications of social cohesion in entrepreneurial collaboration toward beneficial changes within the firm, not solely the creation of knowledge for the sake of knowledge (Coghlan & Brannick, 2014). Because of the inter-relationship of the intended phenomenological study and the action research cycle, I continued to interrogate how the perceptions of the participants might be shaped by their frames of reference, perspectives, and bias (Ladkin, 2005; Torbert, 2001). In short, it was not sufficient for me to simply acknowledge my bias and perspectives. I had to reflect critically throughout both the phenomenological and inter-related action research (Heron & Reason, 2001).

While the point of this discussion is not to debate the validity of one paradigm over another, the constructionist, phenomenological paradigm underpinning of this thesis does challenge the positivist belief in objective facts and truth being discoverable by disengaged or neutral observers (Carr & Kemis, 1986). Action research, on the other hand, holds that the behaviour, minds, and very nature of people comprise a complex whole that simply cannot be fully understood by outsiders. Therefore, phenomenology uses triangulation, relying on data that is grounded in the experiences of multiple perspectives to develop theory. As an action researcher, I concede that my observations were, in fact, subjective and depended on the theoretical framework, including what could be derived from the body of knowledge (Zuber-Skerritt, 2001), such as the conceptual framework informing this thesis.

3.3 Action research design

Traditional research esteems reliability and validity in the objective evaluation of its subjects and inquiry, but action research considers validity and reliability to be a matter of the results of the research being authentic and recognisable to the participants in the research (Zuber-Skerritt & Fletcher, 2007). My effort to access the meanings that members of the firm ascribe to their experience of collaborating with other entrepreneurs in a socially cohesive environment necessitated access to their thoughts and feelings (Sutton & Austin, 2015). This process required the participants in my study to critically reflect on the values that govern their actual behaviour to access their mental models, particularly through the action science modality within phenomenological action research (Raelin, 2015). Therefore, this study was designed to improve the understanding of the implications of social cohesion among collaborating entrepreneurs from the perspectives of the people involved (Creswell, 2013; Easterby-Smith, Thorpe and Jackson, 2012). The effort demanded access to the lived experience of the participants and their interactions with one another to better understand the reality they had co-constructed. Through this phenomenological approach, a better understanding of the shared experience of the participants could support the resolution of the workplace problem (i.e., sub-optimal synergy resulting in stagnation) with the creation of knowledge.

This duality of purpose is the essence of action research and the strategy of my project. However, practical problem-solving in the social context of the firm would require improving the quality of action. By collaborating with the participants as an inside action researcher, I could access the very essence of their experience of entrepreneurial collaboration as a socially

constructed phenomenon contingent on social context rather than a universal given (Creswell, 2013; Hycner, 1985). The central point of phenomenology is the lived experience, which simply cannot be understood contemporaneously but only through reflection upon what has transpired in the past (Creswell, 2013). Action research, on the other hand, is based on the interrelation of theory, practice, and change, allowing the researcher an opportunity to address the real-time, real-world challenges being faced by the firm (Greenwood & Levin, 2007). As such, action research supports the improvement of the learning practices within the firm and the understanding of the structure of the firm as well. However, intervention is not merely a significant feature of action research during the data collection but an explicit goal of the research itself (Greenwood & Levin, 2007; Raelin, 2015).

Phenomenological research describes a lived experience through the qualitative analysis of narrative data (Newington & Metcalfe, 2014). In the context of this study, my particular approach to inquiry was an individual, semi-structured, face-to-face, private, and confidential interview of approximately thirty minutes in duration with each of the participants in the sample (Byrne, 2001; Easterby-Smith et al., 2012; Hycner, 1985). The participants were all entrepreneurs with whom I collaborated in the undertakings of the firm (i.e., the members of the firm). Therefore, my proximity to the participants was a key advantage of phenomenological research because it enabled greater practicality of insight as it is based on the lived experiences of the participants (Berglund, 2015) as well as enhancing my first and second-person practice (Coghlan & Brannick, 2014; Reason & Bradbury, 2001). While the organisation of my DBA thesis was established through the thesis action research project and

the core action research project, the research design must be clarified to show the boundaries and inter-relatedness of the various components that comprised my mixed methods approach.

I employed my research methods in a deliberate sequence, but they did not develop in isolation from other aspects of my DBA journey at the University of Liverpool. The chronology of the components progressed from top to bottom as shown in Figure 4. The Critical Action Learning Report assignments in the didactic portion of my DBA journey at the University of Liverpool helped improve my understanding of my workplace-based problem. The systematic literature review reported in Chapter 2 continued to inform the definition of the workplace-based problem (as represented by a double-headed arrow) toward the clarification of my research objectives and the development of the conceptual framework. At that point, my foray into my role as an insider action researcher began.

The semi-structured interviews of the participants and the workplace exercises of sociometry were qualitative methods that informed the development of an intervention as a means to resolve the workplace-based problem while also creating actionable knowledge. For the purposes of orienting the reader to my research design through Figure 4, the retrospective pretest-posttest survey provided further validation of the effect of the social cohesion activity intervention. The decision to design, administer, and analyse a post-study survey (specifically a retrospective pretest-posttest survey) is explained in the discussion below.

WORKPLACE-BASED
PROBLEM

SYSTEMATIC
LITERATURE
REVIEW

RESEARCH OBJECTIVES
& CONCEPTUAL MODEL

SEMI-
STRUCTURED
INTERVIEW
qualitative

SOCIOMETRY
*qualitative +
quantitative*

INTERVENTION
ACTIVITY
(Escape Room)

RETROSPECTIVE PRETEST-
POSTTEST SURVEY
quantitative + qualitative
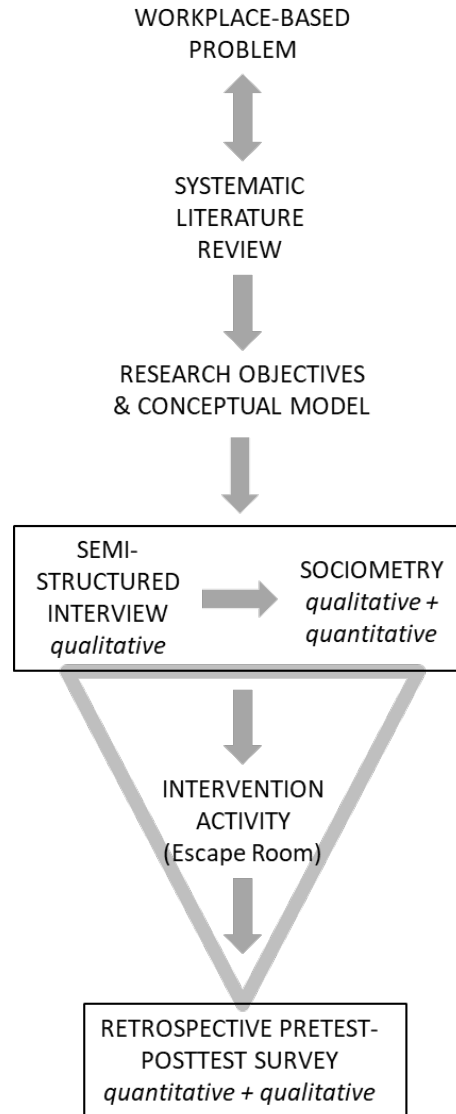
Figure 4. Action research design

Henceforth, I adopt certain naming conventions for fluency in my discussion. I refer to the semi-structured interview(s) as *interview(s)* and the retrospective pretest-posttest survey as *post-study survey*. *Sociometric technique* and *sociometry* are used interchangeably to refer to an overarching approach within which I employed two sequential components: *sociometric test(s)* and *sociogram(s)* as explained in Section 3.5.2.

3.4 Sampling method

My action research project cannot be a source of strong statistical inference as the group I am studying is too small for probability sampling (Field, 2018; Greenwood et al., 1993). Rather, as I principally seek to address my workplace-based problem, I deliberately engage in non-probability sampling based on the ease and convenience of data collection to serve that purpose (Creswell, 2013; Greenwood & Levin, 2007). This form of primary research is well-suited to the purposes of entrepreneurship research, particularly for innovation (Muhlenhoff, 2016; Najmaei, 2016). Moreover, my data sample approaches one hundred percent of the potential population. Given that I am investigating a single organisational network, social network analysis has been used in other entrepreneurship studies to investigate creativity (Lee, 2014). The particular aspects of my non-random selection are discussed in this section.

The sampling method contributed to my learning about the phenomenon of entrepreneurs collaborating in the context of the firm but not in an effort to make claims about all such collaborations, as would be the case in random sampling (Berg & Lune, 2004; Coyne, 1997). Furthermore, I was intentional in selecting individuals to support learning and understanding of the central phenomenon (i.e., the experience of social cohesion among collaborating entrepreneurs) (Giorgi, 1997; Marshall, 1996). As such, my intended purposeful sampling could be further specified as homogeneous sampling, where I sampled individuals based on membership in a particular group that has defining characteristics (Vagle, 2016) (e.g., the collaborating entrepreneurs comprising the firm). The need to understand the essence of the lived experience encouraged the design of the interview in the framework of

phenomenological methodology as I could also access the recommended number of

participants for the proposed undertaking (i.e., five to twenty-five) (Polkinghorne, 1989 as cited

in Creswell, 2013) who typify a criterion sample and can be accommodated through multiple

interviews in a timely fashion (Creswell, 2013). In fact, any member of the firm is suitable for

inclusion in this study because they are all considered entrepreneurial archetypes in their

respective domains.

The entrepreneurial cadre under study consists of a dozen male entrepreneurs between

the ages of 42 and 54 working together as an *ad hoc* organisation (i.e., the collaborating

entrepreneurs) and are at once the population (i.e., those I wanted to contact), the sampling

frame (i.e., those I could contact), and the sample itself (i.e., those I did contact) (Lewis, Watson

and White, 2009; Hutchison, 2009).

My study was inherently limited by the small sample size and the unique context of the

firm. At the same time, I argue that the opportunity to study entrepreneurial collaboration

unfettered by explicit organisational structure or hierarchy presents a novel glimpse into the

moderating influence of social cohesion activity on the innovation possible in such cadres.

As the firm is comprised of only twelve members, including myself, I wanted to recruit

the maximum number of participants from the sample frame because, as the insider

researcher, I would be abstaining from participation or representation in the data.

Furthermore, anyone who was not a member of the firm as described above was excluded from

the study. For example, individuals that supported the undertakings of the firm (e.g., external

accountants, realtors, etc.) were not considered for participation. Therefore, the sample frame

was eleven. However, I did not wish to risk undertaking coercive measures (wittingly or

unwittingly). At the beginning of my research, four members had personal obligations and mitigating circumstances which they cited for not participating. I recruited seven members (i.e., n=7) for the semi-structured interviews. In the sociometry component of my research, which encompassed the three cycles of action, one member of the firm was unavailable and asked to be excluded from any assessment (i.e., n=10). For the same reason, the sample size for the post-study survey was ten. To explore that phenomenon, I identified appropriate tools through the process of systematic literature to access the shared experiences of those individuals. I would have to guide the study participants without interfering in their reporting while mitigating my own bias. I discuss my research methods in Section 3.5 below.

3.5 Research methods

The most significant distinction of action research from purely positivist investigation is the presence of the researcher in the research. The challenge, therefore, is not merely one of process, but also ethics. Balancing my habitual role within the firm alongside my role as an insider action researcher requires personal growth and vigilance (Anderson et al., 2015; Coghlan & Brannick, 2014). I cannot reduce qualitative research to a list of technical procedures because rigour and ethics must be embedded in my broader understanding of my research design and data analysis beyond the representation of my mixed methods shown in Figure 4 above (Barbour, 2001). These issues are discussed throughout this section as well as throughout the data chapters of my thesis (Chapters 4,5, and 6) in a dialogic fashion to keep with the tradition of an action research thesis. My approach is to demonstrate that my claims

are made using analysis with methodological integrity (Levitt et al., 2018). Moreover, my findings will be presented in a fashion that reports on how I made sense of contradictions or disconfirming evidence in my data (ibid).

I focused my research methods on creating a better description of social cohesion among collaborating entrepreneurs. This section discusses the design and administration of the methods I used as well as my plans for the respective analysis. The interviews were informed by my systematic literature review, ultimately taking the form of a printed guide to assist me (Creswell, 2013; see Appendix I). In turn, the interviews informed my use of sociometric technique to gauge social cohesion (Forsyth, 2010; Kerlinger, 1986). The two components of sociometric technique – sociometric testing and sociograms – marked the start of each of the three cycles of actions and supported my collaborative agency as an insider action researcher to engage the members of the firm with theory toward planning and undertaking an intervention activity. Following the cycles of action, I designed and administered a specific type of post-study survey known as a retrospective pretest-posttest survey to support an independent statistical analysis of changes in the perceptions of the participants across key time points in my core action research project. The RPP survey was a means to spot effects and the relative size of those effects, not to establish correlation or causation. The interviews were focused on improving my understanding of the organisational dynamics in the context of the social cohesion of our entrepreneurial cadre before making any attempt to use my agency in the resolution of the workplace-based problem. The RPP survey also included four open-ended questions to provide further qualitative data regarding the perceptions of the participants.

To support my first-person practice, I used tools that allow reflective journaling in a timely fashion to avoid losing the very wording that might spark emancipatory thought (cf. Schön, 2016). More importantly, reflective journaling allows an important pause for criticality before making decisions, let alone taking action in my second-person practice and constituting the rigour of my third-person practice (Anderson et al., 2015). The reader should not be misled to think that I was able to commit to formal note-taking in the midst of my workplace milieu. Often, journaling my thoughts in a timely fashion was thwarted by the need for discretion and avoiding any unintended upset of a curious fellow member of the firm. To that end, I relied on a wide variety of technological tools to support my journaling in my existing business practices that would lend themselves well to support my role as an insider action researcher. I could rarely handwrite journal notes. My thoughts were often entered discretely into the voice recorder utility of my mobile phone or the Keep Notes application that can be used across Google and Android platforms.

3.5.1 Semi-structured interviews

Semi-structured interviews are dialogic, relying on asking questions within a predetermined framework but not such that the questions themselves are predetermined (Creswell, 2013). My questions could not be a simple rewording of my research objectives but still had to contribute to how I might go about moderating social cohesion toward optimising synergy within the firm. I used the interviews to generate qualitative data that might improve

my understanding of the organisational dynamics at play within the firm. I developed a list of questions to guide the interview (Creswell, 2013; Easterby-Smith et al., 2012; see Appendix I).

As the principal investigator, I did not ask questions that were theory-laden, and I maintained a pleasant but critical position toward taking nothing for granted (Benner, 1994; Giorgi, 1997; Moustakas, 1994). The questions in Appendix I served as a guide to keep me grounded in my framework, alongside highlighted reminders of terminology to prevent me from using academic or theory-laden jargon. Therefore, social cohesion is articulated, for more natural dialogic exchange, as the willingness to work and prosper together with a sense of belonging. Collaboration is given to mean when you work with other entrepreneurs when conveyed to the study participants. Drawing from the systematic literature review reported in Chapter 2, five key questions were conceptualised for the framework of the session with each participant.

Sethi et al. (2001) observed that excessive social cohesion affects performance, and Namjoofard (2014) argued that the ability of teams to perform is a function of synergy. Therefore, I needed to probe to what extent collaborating entrepreneurs require social cohesion to be productive. This knowledge could help my agency with conceptualising whether and to what extent the resources of the firm should be allocated in support of social cohesion (cf. Sethi et al., 2001; cf. Namjoofard, 2014). Furthermore, this aspect of my framework showed the potential of translating my conceptual framework into an actual method by exploring social cohesion activity as an intervention as well as when and to what extent it might foster optimal synergy, how the quality of linkages within the social cohesion of entrepreneurial collaboration influenced performance, and when and to what extent organisational resources should be

allocated for this purpose. Understandably, the impact of collective success or failure could

bear on the performance of collaborating entrepreneurs creating markers or triggers for

intervention, again to optimise synergy. The literature gives insight with respect to the

deleterious effects of violations of the expectations of team members by one another since

there appears to be a link between social cohesion and innovative performance (Stevenson &

Jarillo, 2007; Wong, 1992), especially in failure and creating blame (Kuo, Chang, Quinton, Lu and

Lee, 2014; Turner J., Hogg, Turner P. and Smith, 1984). While this knowledge derives from

workgroups in general and not entrepreneurial cadres, I must guard against any practices that

target or describe individual participants as opposed to group dynamics so as to mitigate any

descent into blame.

I wanted to use my framework to reveal important markers or triggers for intervention

in entrepreneurial collaboration (cf. Kuo et al., 2014; cf. Stevenson & Jarillo, 2007; cf. Turner et

al., 1984; cf. Wong, 1992). The need for collaborating entrepreneurs to act rightly is not itself a

matter of social justice but an important underpinning to activating rationality and criticality for

quality decision-making. Therefore, the value of social impact could inform the

conceptualisation of activities and alternate forms of resource allocations through the firm to

optimise social cohesion (cf. Oketch, 2004) in terms of team performance, although not

necessarily in the context of entrepreneurial collaboration. I also used the interview to query

the extent to which entrepreneurs value social impact in working with other entrepreneurs.

This knowledge could also help conceptualise alternate forms of resource allocation (i.e., time

over capital) to bolster social cohesion in the firm.

As previously discussed, entrepreneurs are not keen on having positional leaders, and managers prefer to keep their distance (Kempster & Cope, 2010; Stevenson & Jarillo, 2007). I could not presume to assign tasks or responsibilities to the firm's members as is done in conventional manager-employee scenarios. Furthermore, I needed to consider the potential effects to innovative capacity by the creation of in-groups or cliques because of mishandled delegation on the part of the manager (Graen & Uhl-Bien, 1995; Uhl-Bien & Marion, 2009).

The sense of belonging is considered the dominant characteristic of the individual and organisational bonds comprising social cohesion (Reitz and Banerjee, 2005). Therefore, my interview framework probed the impact of social cohesion on encouraging the members of the firm to take greater risk, especially interpersonal risk. This knowledge could help in moving them toward greater learning (cf. Reitz & Banerjee, 2005; cf. Wong, 1992). I would need to gain further insight into the participant experience with respect to when and to what extent social cohesion interventions could optimise synergy; how the quality of linkages could influence performance; what the antecedents of social cohesion and synergy were in their shared experience; and what the risks arose for synergy by leveraging social cohesion.

My interviews were designed to access individual experiences in their respective context (Creswell, 2013; Moustakas, 1994). The questions were divided into reminder points to permit level-up or level-down probing of the participants' experiences in a dialogic fashion and to guard against either leading the participant's answers or confirming my own bias (Creswell, 2013; Easterby-Smith et al., 2012; see Appendix I). Furthermore, the persistent phrasing of "in working with your fellow entrepreneurs" was made more dialogic for the actual interviews as "with other entrepreneurs" to maintain the frame of reference of the participant in the context

of entrepreneurial collaboration, mainly because the participants have substantial and varied business experiences outside of the firm. The following section details how I recorded the interviews and how I collected the qualitative data.

3.5.1.1 Data collection plan

I conducted the interviews in private with individual participants from March 5, 2019 to April 3, 2019 to uncover the dynamics of the firm (Braun & Clarke, 2006; Easterby-Smith et al., 2012; Lincoln & Guba, 1985; Kempster & Cope, 2010). For recording the interviews, I used a digital voice recorder (Sony ICD-PX470). Subsequently, I converted those digital recordings to text using Sony Sound Organizer version 2 and f4transkript software to allow proofreading, verification, and anonymisation. The transcripts of these digital recordings could reveal patterns of meaning, or themes, to tell me more about the participants' experiences, including their perspectives, practices, and processes (ibid; Gioia et al., 2013) that drive successful innovation. The individual interviews did not probe sensitive, embarrassing, or upsetting topics because I geared the questions toward asking the participant to describe their experience of social cohesion in collaborating with the other members of the firm. Having digitally recorded and transcribed the interviews, I began my foray into what I consider to be the most transformative skill acquired in my DBA journey – the interpretation and analysis of textual data. The next section discusses how I used thematic analysis to analyse, interpret, and derive meaning from my semi-structured interviews.

3.5.1.2 Data Analysis plan

The flexibility of thematic analysis allowed me to develop codes, concepts, and themes directed by the content of the transcripts and to explore the realities produced within the data (Braun & Clarke, 2022; Cope, 2011; Jayawarna, Jones and Macpherson, 2020). However, to uncover those themes, I would have to read and re-read the transcripts to develop codes that captured something interesting in the data while relating to my research objectives. In addition, I frequently returned to the digital recordings to ponder the pauses and inflections of my interviewees. Those details held meaning for me because of my involvement with the members of the firm – something I could not access as a remote, objective observer (Creswell, 2013). I also needed to maintain the inductive and constructionist considerations of my phenomenological stance because thematic analysis is not atheoretical, nor does it focus on the idiosyncrasies of the individual participants as is done in, for example, interpretative phenomenological analysis (Braun & Clarke, 2022; Cope 2011). Also, I had to acknowledge the influence of the themes traced through my systematic literature review (cf. Webster & Watson, 2002). These issues informed my reflexive approach beyond the mere consideration of my role as a researcher within the firm (Schön, 2016). I could not expect codes and themes to emerge. Rather, I had to actively generate those (Braun & Clarke, 2022; cf. Jayawarna et al., 2020). I maintained a recursive approach in my analysis which, frustratingly at times, required me to let go of the inputs and outputs I had already generated.

Moreover, my analysis would be grounded in the qualitative data and not theory-driven because its purpose was to critically assess how and when social cohesion interventions should

be undertaken to optimise synergy in entrepreneurial collaboration. Within that aim, I needed to recognise second-order concepts that attended to the objectives of my study: (1) to critically examine the exploitation of social cohesion for the optimisation of synergy; (2) to make recommendations for ascertaining the level of social cohesion; (3) to make recommendations regarding the timing of social cohesion interventions; and, (4) to make recommendations concerning the allocation of organisational resources for the optimisation of synergy.

I drew heavily from Braun and Clarke (2021) to support my learning of thematic analysis initially. Then, I began to adopt the parlance and pragmatic approach within the domain of management theory and entrepreneurship, as demonstrated by Jayawarna et al. (2020). Therefore, my reflexive thematic analysis could neither be an exercise in proceduralism nor a formulaic method for uncovering the latent (i.e., implicit) and semantic (i.e., explicit) meaning held in the data. I became familiar with the interview data, having designed, conducted and transcribed the interviews. I then contextualised my analysis to the management domain by following the data structure presentation of Jayawarna et al. (2020). While transcription is time-consuming, the process did support my reflections about the data and the participants' perspectives. I began a process of systematic coding of the data relying first on my spotting of interesting notions held in the specific articulations of the participants. The practical steps I took were to use colour-coded highlighting in MS Word of the participant transcripts with additional notes, including my journaling of follow-up conversations where I sought clarification from the participants. The first-order codes were not interpretations but relatively brief descriptions of what was being said by the interviewee. My notes and reflections helped me to uncover deeper meanings in the firm's context and the interviewee's perspectives. I created

first-order codes in the form of phrases that individuals outside of the firm could easily

understand. However, I frequently used organisational management concepts from the didactic

portion of my DBA journey and my systematic literature review to code interesting statements.

Reviewing and updating my notes as I reflected on the context of the firm and the interviewees'

perspectives was necessary to overcome this tendency.

At this point, I began to represent my first-order codes diagrammatically to explore how

they might be interrelated. I found myself referring to my notes about the data as much as the

data itself. This process allowed me to better identify patterns in the data toward developing

broader themes, or second-order concepts, by combining several codes to capture something

important about the data concerning my research objectives. These second-order concepts

involved my iterative interpretation of the codes to represent a pattern across the data set. At

this juncture, I felt challenged to let go of my initial ideas while becoming optimistic about how

this process could lead to a better understanding and development of the themes in my data.

To further develop and review themes, I frequently returned to the data and my codes to

reflect on the patterns developed through my effort to generate those themes. Thematic maps

helped highlight ambiguity, overlap, and conflict in my data structure. They made it possible to

refine, define and name the codes and concepts with more confidence because of my active

participation as a matter of rigour. This process also helped me to align quotations from the

transcripts with both first-order codes and second-order concepts. Finally, I could begin to

reflect on the relationships between the second-order concepts and how they fit together to

tell a bigger story through aggregated themes. Writing the report of my qualitative analysis

required more iterations than I expected. To integrate this analysis into my action research

project, I had to question my interpretations as they would inform the sociometry I employed to gauge the level of social cohesion in the firm. I report the aggregate themes that I developed in Chapter 4. Section 3.5.2 below discusses how I generated and analysed sociometric data at the start of each cycle of action.

3.5.2 Sociometric technique

Sociometric technique is well-suited to measure cohesiveness in small groups in real situations (Barile et al., 2018; Forsyth, 2010; Hung & Gatica-Perez, 2010; Kerlinger, 1986; Moreno, 1950; Pastor et al., 2003). In my discussion, I use the terms *sociometry* and *sociometric technique* interchangeably to refer to several methods whereby relationships within a small group of people can be studied. However, there are certain criteria for the validity and applicability of sociometric technique as established by Moreno (1950). The first criterion is that there is an acknowledgement of the difference between process dynamics and manifest contents. This criterion translated directly onto the gap between espoused theory and theory-in-practice that I explored as a source of defensive routines in the firm (cf. Argyris, 1990). Secondly, the group must be adequately motivated to participate which was certainly reflected in the frustration of the collaborating entrepreneurs with the stagnation of the firm. Thirdly, the participants must allow for a dialectic process to include extraneous criteria to the stalled performance of the firm. The support of the participants for my action research project toward resolving our workplace-based problem sufficiently satisfied the third criterion.

Therefore sociometry was not just a means to measure social cohesion but a method that integrated well with my philosophical stance, especially the action science strategy informing my action research project. Moreover, the administration of sociometric technique served my facilitation of the cycles of action and their constituent components (i.e., *evaluating*, *constructing*, *planning action*, and *taking action*) by supporting the development of a more structured framework for action research in the firm. This happened through the cultivation of participation and collaboration among participants with increased dialogue in the iterative cycles of action toward the resolution of the workplace-based problem through intervention, as well as the creation of actionable knowledge (cf. Cassel & Johnson, 2006; cf. Susman & Evered, 1978; cf. Tsoukas, 2009).

The systematic literature review validated the linkages that comprise social cohesion as the site of entrepreneurship (Hoigaard et al., 2006; Najmaei, 2016; Quince, 2001). However, beyond revealing the need for those links to be strong in avoiding group disintegration, the body of knowledge does not clarify the necessary quality of those bonds as an antecedent of optimal synergy in the pursuit of innovation (Dundon, 2002; Witges & Scanlan, 2015). My conceptual framework required a means to measure social cohesion in entrepreneurial collaboration. To that end, I selected two methods within sociometric technique: *sociometric test* and *sociogram*.

3.5.2.1 Sociometric tests

Only one question is asked per sociometric test as it is not a survey (Forsyth, 2010). The individual completing the sociometric test is referred to as a *chooser,* while the individuals selected for that particular task, attribute, or situation are referred to as *chosen*. These choices can be ranked in terms of the strength of the *chooser's* preference of the member(s) from zero, indicating rejection to a ranking system according to the number of individuals in the group, or simply as a matter of rejection or acceptance (i.e., 0 or 1) (Kerlinger, 1986; cf. Pastor et al., 2003).

Additionally, the analysis of the textual data from the interviews revealed the primacy of the relationships and actions in entrepreneurial collaboration (see Chapter 4). Further to that analysis, it became clear that the members of the firm were happy to have social cohesion to bind their cadre but clearly preferred criticality in their interactions with their fellow entrepreneurs for the projects on which they collaborated. Therefore, my analysis of the interview data informed the design of the questions to be used, where the typical inquiry that is phrased as *"With whom do you like working?"* (Test A) was supplemented by a separate question asking *"With whom can you solve problems?"* (Test B). I intended to explicitly investigate the finding that entrepreneurs prefer openness and criticality over merely strong social bonds in optimising synergy as antecedents to innovative capacity. I also needed the participants to reveal with which group members they maintained sufficient trust, criticality, and openness in resolving problems, especially in the firm's state of stagnation (cf. Huczynski & Buchanan, 2013; cf. Fox, 2019; cf. Janis, 1973; cf. Wise, 2014).

Table 3 shows the data form generated from tabulating the results of a sociometric test (e.g., Test B from Action Cycle 3). The participants were anonymised using randomly generated, four-character alphanumeric strings to allow continuity throughout my discussion. Instances where *choosers* were also chosen by other participants for the same sociometric test question are referred to as mutual choices, represented by *MC*.

Table 3. Data tabulation for sociometric test (Test B results from Action Cycle 3)

Chosen	Chooser									
	J49C	6KWW	9V5G	NVC7	PMN7	R8CH	3S4N	JL6F	Q6PD	TV5M
J49C	-	1	1	1	1	0	0	1	1	1
6KWW	1	-	1	0	1	0	0	0	0	0
9V5G	1	1	-	1	0	1	0	1	0	1
NVC7	1	0	0	-	1	0	1[a]	0	1	1
PMN7	0	1	0	1	-	0	0	0	0	0
R8CH	0	0	1	0	0	-	1	0	0	1
3S4N	0	0	0	1[a]	0	0	-	0	0	0
JL6F	0	0	0	0	0	0	1	-	1	0
Q6PD	0	0	0	0	1	0	0	1	-	1
TV5M	1	0	0	1	0	1	0	0	0	-
MC	4	3	3	4	2	2	1	1	1	3

[a]Interactions between 3S4N and NVC7 are highlighted for discussion purposes.

The next portion of my use of sociometric technique involved the drawing of sociograms by the participants to represent their perceptions of the dynamics of the firm (cf. Forsyth, 2010; cf. Hollander, 1978).

3.5.2.2 Sociograms

The sociogram was an additional paper-based tool that helped me to uncover the dynamics of the firm (Forsyth, 2010; Hollander, 1978). The applicability of the sociogram to my research aim was revealed through the process of systematic literature review detailed in

Chapter 2. The sequencing of its administration in following the sociometric tests (i.e., Test A and Test B) is an important aspect of accessing its potential to contribute to the resolution of my workplace-based problem (ibid). I was particularly interested in the inherent hierarchy of the firm, whether that had emerged to align with the espoused requirements of the members of the firm or not (Stacey, 2011).

The digitised sociogram of NVC7 from Action Cycle 3 shown in Figure 5 is an example of the data form generated from the second portion of my use of sociometric technique. My rationale for digitising the participants' submissions was to support the confidentiality of their data and to support my storytelling by allowing me to trace their interactions on the path to resolving the workplace-based problem. As highlighted in Figure 5 below, participants drew circles to represent the members of the firm, with the size of the circle representing the perceived *status* of an individual. The specificity of my use of the term *status* was significant to the rendering of the sociograms by the participants and to my analysis as an insider action researcher as I discuss in my plans to collect and analyse this data below. Arrows were used to represent the mutuality of discourse and relationships, where single-headed arrows represented one-way or unidirectional interactions, and two-headed arrows represented bidirectional interactions with greater mutuality. The relative, perceived strength of the relationships and interactions represented by the lines forming the arrows was indicated using thickness (Forsyth, 2010; Hollander, 1978; Moreno, 1950). In a few instances, participants used dashed or dotted lines, the meaning of which is developed and discussed in Chapter 5. In Figure 5, the digitised sociogram representing the submission by NVC7 at the entry into Action Cycle 3 shows an example of a two-headed arrow between NVC7 and 3S4N with a dotted line.
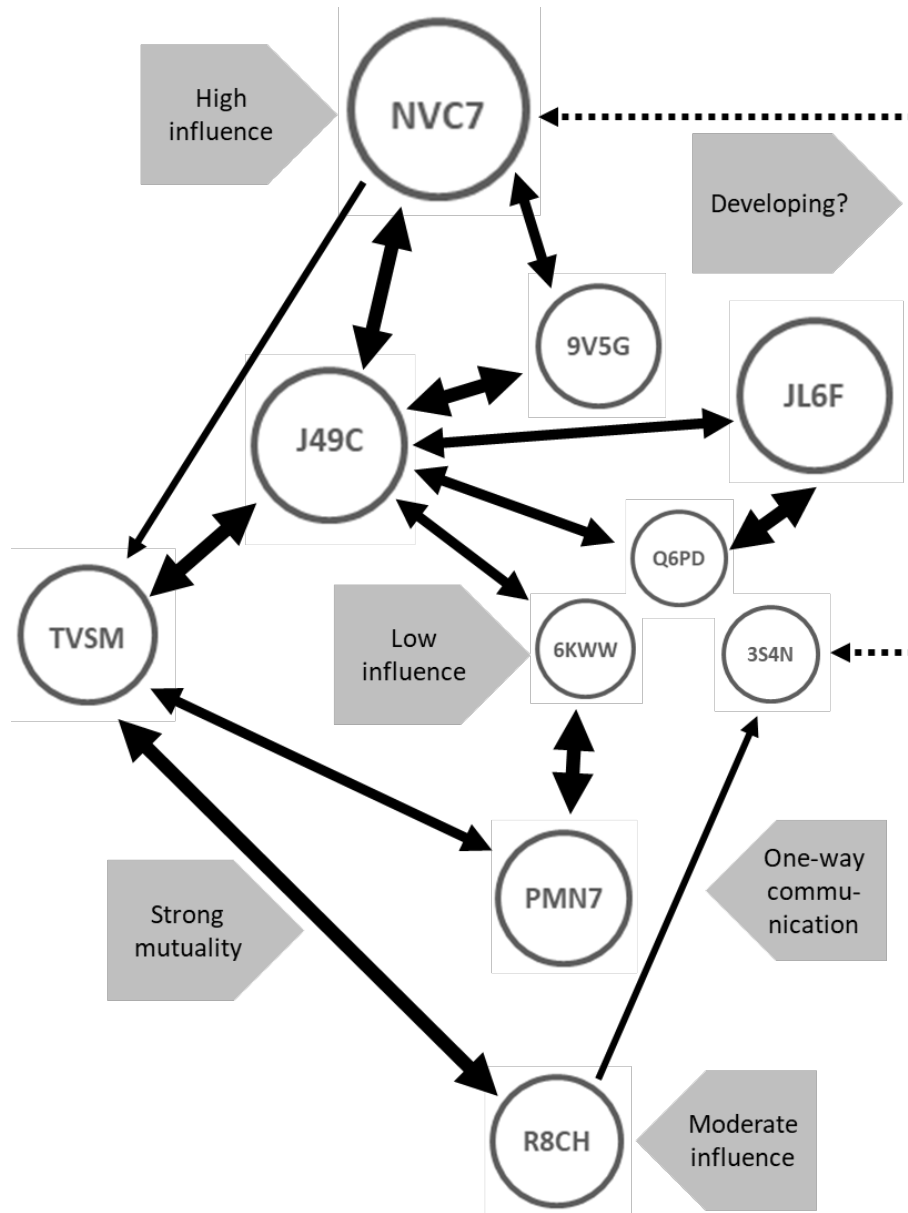
Figure 5. Digitised sociogram (NVC7 at entry into Action Cycle 3)

Having established my rationale for using sociometric technique, its specific methods, and its

suitability to support the cycles of action, I explain my data collection plan in the next section.

3.5.2.3 Data collection plan

I administered the sociometric technique to individual participants during group sessions at the entry into each cycle of action, comprising a key component of the core action research project that took place from November 12, 2019 to February 18, 2020. Prior to Action Cycle 1, I did not give the participants any advance information about the exact task they would undertake except for the fact that they would be helping with the firm's dynamics and not assigning blame to any particular member. Reflecting on Moreno's conditions for sociometry, I maintained this message with all the prospective participants, especially since I also wanted to mitigate any instances of certain individuals imposing their egocentric bias (cf. Carmeli & Schaubroeck, 2008). While I argue that the members were sincere in their participation, advance details of the sociometric test questions might have tempted a few individuals to promote their efforts in a more favourable light to enhance or maintain their image (ibid).

The sociometric tests required the respondent to mark their selection of the other participants on a paper-based form. At the same in-person session, I asked the participants to draw paper-based sociograms independently. I made arrangements, as detailed in Chapter 5 for a suitable environment that allowed privacy for the group as a whole and for individual participants to confidentially complete the sociometric tests and the sociogram. Each of the three cycles of action generated thirty paper-based data forms. For each of the ten participants, I collected one response sheet for each of the two sociometric tests plus their sociogram drawing. My analysis of the sociometric data generated during the cycles of action revealed the vastness of insights made possible by this simple yet powerful research method. However, in

the section below, I explain how my plan for data analysis required deliberate consideration of

my positionality in the firm through reflection – and the guidance of the literature – to maintain

my pragmatic approach in designing intervention.

3.5.2.4 Data analysis plan

I recorded the results of the sociometric tests in the form of a matrix that lists the

choosers against the *chosen* as shown in Table 3 above. This process enabled me to tabulate

which *choosers* were also chosen by other participants for the same sociometric test question

(i.e., mutual choices) thereby allowing me to proceed with necessary calculations. A myriad of

indices can be calculated for individual participants in the context of cohesiveness to describe

their traits, for example, their social compatibility index or emotional expansiveness index, etc.

However, given the values I was striving to propagate, especially in the avoidance of blame, I

selected an appropriate metric – the cohesiveness index – to give me a pragmatic evaluation of

the group-level cohesion in the participants (cf. Forsyth, 2010).

The cohesiveness index provided me with a means to measure the social cohesion of

the entrepreneurial collaboration because it relates to social relations, task relations, perceived

unity, and emotions (Forsyth, 2010; Moreno, 1950; Salo, 2006). While the need for this metric

was a significant finding of my systematic literature review, I also had to consider that without

challenging the participants to go deeper in their disclosure of how they perceived the

dynamics of the firm, I would learn little more than what they thought of the general level of

amicability among themselves by only asking them *"With whom do you like working?"* (i.e., Test

A). To that end, I developed the second sociometric test question as *"With whom can you solve*

problems?" (i.e., Test B). Test B sought to differentiate the cohesiveness of the firm beyond the

mere amicability of the participants, delving into which participants were maintaining criticality

alongside their social cohesion despite the stagnation of the firm. Therefore, the mutual choice

counts (MC) were of particular interest in calculating the cohesiveness index given by the

equation below (Forsyth, 2010), where *n* is the sample size (i.e., 10):

Equation 1. Cohesiveness index

$$Cohesiveness\ index\ =\ \frac{\sum(MC)}{\frac{1}{2}\ [n(n\text{-}1)]} \tag{1}$$

While the separate cohesiveness indices I calculated for Test A and Test B at the entry into

each cycle of action were meaningful to my research, they could not tell me why social bonds

existed or formed among *choosers* and *chosen* (Moreno, 1950; Forsyth, 2010). Still, they could

help point me in the right direction to help in the resolution of the workplace-based problem

when combined with cogent insights derived from the sociograms submitted by the

participants.

Giving the participants the sociometric tests first was a matter of established procedure so

as to invoke in them a more contemplative state of mind before asking them to represent their

perceptions of the firm's dynamics as a sociogram (cf. Forsyth, 2010; cf. Hollander, 1978). My

analysis of the sociograms was a time-consuming effort that challenged my tendency to

overanalyse data, given the possibility of quantifying sociograms beyond a valid, considered,

and thoughtful interpretation. I was well-aware of my bias toward interpreting idiosyncrasies despite having undertaken thematic analysis and not interpretative phenomenological analysis of the interview data to inform my use of sociometry (cf. Braun & Clarke, 2022; cf. Cope, 2011). To resolve this issue, I rationalised the size of the circles to represent *status* as low, moderate, or high. I rationalised relationships represented by arrows in terms of being mutual (double-headed arrow), strong (thick line), weak (thin line), developing (dotted line), or non-existent (no line). The digitised sociograms reflected my rationalisations. However, the meaning derived from sociogram data became more impactful to my research interests when placed in its proper context in the stories of the cycles of action, as discussed in Chapter 5.

For example, what would I do if a smaller circle had an abundance of arrows as compared to a circle that was represented as being larger, as shown in the representations surrounding the (larger) NVC7 circle as compared to the (smaller) J49C circle represented in Figure 5 above? This question developed in my learning process about sociograms, as I saw some renderings in the literature that did not seem intuitive, calling into question my understanding of the difference between status and influence (cf. Marquardt, 2005; Moore Jr., 1968; cf. Simpson, Willer and Ridgeway, 2012). I elaborate on this issue here because it demonstrates the evolution of my first and second-person practices.

In the argot of the firm, I have heard the members frequently use the words *status* and *influence* interchangeably. However, those terms are differentiated in the literature because perceived status leads to patterns of influence but not on the task confronting the group (Moore Jr., 1968; Simpson et al., 2012). Moreover, prior status is more likely to persist in times of ambiguity, exacerbating enactment (ibid). That differentiation was made explicit to the

participants in my data collection and remained a deliberate consideration in my analysis. Therefore, an organisational actor, like J49C, could be designated as "High" in perceived influence in my analysis of the sociograms, even though his circle was smaller than that representing NVC7 in Figure 5.

3.5.3 Retrospective pretest-posttest survey

My rationalisation for using a post-study survey, and specifically a retrospective pretest-posttest survey, was to provide a means for triangulating the effect of the intervention across all three cycles of action while guarding against response shift bias (cf. Little, Chang, Gorrall, Waggenspack, Fukuda, Allen and Noam, 2020). I selected points in time to create frames of reference for comparison that had meaning for the respondents (ibid). In the context of this action research study, those time points related to the entry into each cycle of action and the actual activity intended as an intervention, as shown in Table 4.

Table 4. Time points in cycles of action

Time point	Description in thesis	Dialogic description among members of the firm
1	Entry into Action Cycle 1	Before our first Escape Room session
2	After first Escape Room session	After our first Escape Room session
3	Entry into Action Cycle 2	Before our second Escape Room session
4	After second Escape Room session	After our second Escape Room session
5	Entry into Action Cycle 3	Before our third Escape Room session

The reader is alerted to the absence of a sixth time point. Following the sociometric exercises at the entry into Action Cycle 3, the participants reached a consensus during the group session that a third Escape Room session was not necessary. In Chapter 4, I discuss this issue in detail but mention it here to address the obvious question that the reader would have about my not using a sixth time point. Additionally, the reader is reminded that the cycles of action took place from November 12, 2019 to February 18, 2020 while the post-study survey sessions took place between April 17, 2022 and May 11, 2022. The issues of unreliable recall are contested in the literature and mitigated by explicitly articulating the time point for consideration in the survey instructions (Chang & Little, 2018).

I designed the survey form as a fillable pdf form to probe eight items for each of the five time points listed in Table 4, plus four open-ended questions. I expected participants would ask questions during the survey administration, so I conducted a separate, private session for each participant using a dedicated, password-protected laptop computer. Forty additional data points were created from each of the ten participants to generate 400 additional data points supporting the possibility of spotting an effect of the intervention. Limitations still exist because of the tendency of participants to report improvement due to intervention (ibid). However, the purpose of the post-study survey was not to establish causality but to help triangulate the effect of social cohesion moderation as a means to optimise synergy among the collaborating entrepreneurs (ibid).

The participants were instructed to indicate to what extent they agreed that a given item was applicable to their perception at a given time point (i.e., Likert Scale using Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree). The actual questions posed in this

portion of the post-study survey drew from the key concepts revealed in the systematic

literature review, which, in turn, supported the development of my research objectives and

even my sociometric test questions. The questions followed the best practices recommended

by Gehlbach and Brinkworth (2011) and Passmore (2002). Specifically, I designed the closed

questions to align with a particular concept or area of knowledge (i.e., domain) with no more

than the recommended two to three specific questions (i.e., items) per domain, as shown in

Table 5. Moreover, the closed questions encompassed components of the conceptual

framework developed in Chapter 2 to probe the dependent, independent, and moderating

processes as well as the research objectives for this study (cf. Carless & DePaola, 2000).

Therefore, I queried social cohesion as a general issue of belonging, distinct from any given

task (cf. Dassopoulous & Monnat, 2011) versus a matter of trust and willingness to take

interpersonal risk (cf. Berger & Kuckertz, 2016; cf. Lam & Bengo, 2003). The practical usage of

these concepts in an efficient manner was the basis for the specific questions designed for the

quantitative portion of the post-study survey, as shown in Table 5 below. I also posed four

open-ended questions at the end of the survey allowing text entry in the fillable pdf form I had

created. Those questions encouraged the participants to report on their perceptions, whether

those changed or not, across the entire intervention process. This created an opportunity to

gather further qualitative data for thematic analysis as described in Section 3.5.3.2 with an

emphasis on the research objectives of this study. I was quite surprised by how much

participants had to say beyond what they typed for their responses. I discuss how I dealt with

this issue and incorporated the additional data into my thematic analysis in Chapter 6.

Table 5. Post-study survey questions

	Closed items queried in sequence for each of five time points shown in Table 3.
1	I like working with everyone in our group.
2	I can solve problems with everyone in our group.
3	I can share my ideas with everyone in our group.
4	Our group solves problems as a team.
5	Our group should have a leader.
6	Our group should spend more money on team-building activities.
7	Our group should spend more time on team-building activities.
8	Our group should do team-building activities just before deciding on a project.

Open-ended questions prefaced by: Thinking about your perceptions over the course of our group activities from November 2019 through February 2020, please explain why your opinion did or did not change regarding …

1	… being able to share your ideas with everyone in our group.
2	… how much time or money our group should spend on team-building activities.
3	… our group having a leader.
4	… when our team-building activities should take place.

3.5.3.1 Data collection plan

I administered the post-study survey during in-person, confidential sessions with individual participants. The survey forms were prepared by me as fillable pdf forms in advance of each session with unique alphanumeric identifiers for each participant. Participants entered their responses on my password-protected laptop computer. For the Likert Scales, the participants had to click on the radio button corresponding to their response. In addition, participants typed their responses to the four open-ended questions at the end of the survey form. Once the participant indicated they had completed the form and had no more questions, I saved and archived their completed pdf form.

3.5.3.2 Data analysis plan

The post-study survey served the purpose of improving the rigour of my study by permitting the spotting of effects across the intervention process and at individual time points. It allowed me to use the multiple methods of my study to further my understanding of the phenomenon of social cohesion in entrepreneurial collaboration. The analysis and story of the retrospective pretest-posttest survey are presented in Chapter 6. In this section, however, I wish to establish the rationalisation for my approach in this use of data triangulation. The use of repeated analysis of variance measures (rANOVA) allows the measurement of individual responses between time points, not differences in individuals. This is a significant point in aligning my analysis with my philosophical stance, particularly in using phenomenology to create a better understanding of the shared experiences of the members of the firm and the emphasis of action science being on organisational change and learning (Argyris et al., 1985; Coghlan & Brannick, 2014; Easterby-Smith et al., 2012). Furthermore, I want to use the quantitative data of the RPP to understand if my efforts to optimise social cohesion among the members of the firm had any practical significance (Sawilowsky, 2009).

The typed responses of participants for the open-ended questions were analysed using the same thematic analysis described in Section 3.5.1.2. My one-on-one sessions generated considerable and salient verbal commentary from the participants. That additional qualitative data was anonymised and reported in Chapter 6 through my journaling so as not to violate the consent of the participants or the general precepts of my Ethics Approval by the University of Liverpool.

3.6 Methodological limitations

The research methodology undertaken for this DBA thesis was not without limitations or challenges. The methodological challenges I faced as an insider action researcher are highlighted in the data analysis chapters (see Chapters 4, 5, and 6) in an effort to report key moments in my doctoral development more vividly to the reader. In this section, I identify the limitations with the greatest potential impact on the quality of the findings and discuss counterpoints as well as the mitigating efforts I undertook. Detractors of action research highlight the lack of generalisability in this time-consuming branch of qualitative research, given that it is typically undertaken with a smaller number of study participants without the presumed objectivity of especially positivistic research (Greenwood & Levin, 2007; Karim, 2001). However, action research is a methodology that is a powerful means of improving practice and empowering research participants in the pursuit of two objectives: solving a workplace-based problem and generating new knowledge (Greenwood & Levin, 2007). The key practice that prevents the undue intrusion of my bias and maintains rigour is reflection (Coghlan & Brannick, 2014; Monk & Howard, 1998; Reason & Bradbury, 2001).

The very purpose of this study is to create a better understanding of the shared experiences of collaborating entrepreneurs as it relates to their social cohesion. Necessarily, phenomenology is the methodology best suited for that endeavour because it manifests the constructionist worldview through the description of the experiences by individuals (Charmaz, 2006 as cited in Creswell, 2013; Creswell, 2013; Moustakas, 1994). On the one hand, phenomenology inherently relies on the subjective reporting and narratives of study

participants, which, in turn, are still subject to my bias and require bracketing (i.e., the suspension of judgment by me as the researcher) (ibid). Again, the practice of critical reflection is the key to maintaining rigour and mitigating bias. Phenomenology does excel at providing unique perspectives and rich data for a better understanding of phenomena (ibid). Notwithstanding the small sample size of this study, these same limitations can stimulate ideas for future research in the area of entrepreneurial collaboration.

My ongoing concerns with any misperceptions about asserting myself as a positional leader weighed heavily on me throughout all my data collection and analysis. While many of the political challenges to my agency were masked by the support of the participants for my DBA journey, I had to remain vigilant for the impact my bias and actions could have on my workplace and, more importantly, the long-standing social network from which this cadre of entrepreneurs arose. This tension pressurised me to become more adept at reflecting while things were happening, whether I was conducting interviews with study participants or coordinating their Escape Room sessions. My need to reflect-in-action became persistent, and, while I still regularly used Gibb's reflective learning model for debriefing, I increasingly followed Schön's (2016) framework to support my decision-making.

In the next three chapters, I use the *What? So What? Now What?* framework (cf. Lipmanowicz, Singhal, McCandless and Wang, 2015) to present the data and the understanding generated by my mixed methods research. I applied this reflective approach to extend my overall adoption of Schön's framework and to highlight stories of my research, cycles of action, and scholar-practitioner development. These data chapters also report on my development as a scholar-practitioner. I select participants as characters in my story to highlight how data served

as signposts - instead of the absolute truths that I would typically seek - to guide my effort in resolving the workplace-based problem. The *What?* component presents the data as generated in the context of my workplace-based problem and clarifies the insights I derived from my analysis in making sense of that data. The *So What?* component discusses the key points and their meaning. Finally, the *Now What?* component discusses my response to insights, what recommendations arose, and what resultant actions I took as my next steps.

4 Semi-structured interview data

This chapter reports on my use of semi-structured interviews to explore the organisational dynamics of the firm and inform my use of sociometric technique in the cycles of action. I used the interviews at the outset of my research to access the shared experiences of the members of the firm with respect to social cohesion in entrepreneurial collaboration. I used the collaborative agency of my role as an insider action researcher role to coordinate and facilitate the interview process (Creswell, 2013; Greenwood & Levin, 2007). Through the thematic analysis of the interview transcripts, I identified two aggregated themes as significant to the shared experience of social cohesion for the collaborating entrepreneurs comprising the firm: *relationships in entrepreneurial collaboration* and *actions in entrepreneurial collaboration*. Below, I report on the underlying sub-themes (second-order concepts), the particulars of my analysis, and the insights that supported my decision-making and resultant action.

4.1 Making sense of the data

My phenomenological stance for using semi-structured interviews and thematic analysis is detailed in Chapter 3. Nevertheless, the ability to engage with messy interview data in a meaningful way that could inform decision-making seemed somewhat mysterious and arbitrary to me at first. The milieu of my workplace is re-iterated here to orient the reader as to where and how my data was generated and analysed. Finally, the insights arising from my analysis are

discussed to inform my research objectives and the next steps in my mixed methods action research.

The members of the firm were operationally stuck, seemingly no longer able to innovate in response to market volatility in their regional real estate market. Notwithstanding, the firm is comprised of otherwise demonstrably entrepreneurial members known for their collaborative approach to problem-solving. However, my intention was not to explore individual members, let alone their idiosyncrasies. For that reason, and to avoid any descent into blame, I deliberately chose thematic analysis as opposed to interpretative phenomenological analysis (cf. Braun & Clarke, 2022; cf. Cope, 2011). While my research objectives guided my reading and re-reading of interview transcripts, they did not define first-order codes or second-order concepts as *a priori* constructs, as in grounded theory (Creswell, 2013; Straus, 1987).

In striving to develop a better understanding of the experience of social cohesion among the entrepreneurs collaborating in the firm, I used the recursive process initially described by Lincoln and Guba (1985) to organise and divide key units of meaning around the key issues or ideas expressed by the interviewees. Those expressions comprised illustrative quotations that were not simply chosen because they were interesting or well-articulated. Rather, the illustrative quotations address my research objectives in some fashion and contribute to my overall effort to create a better understanding of social cohesion in the context of the collaborating entrepreneurs that comprise the firm. The units of meaning would comprise first-order codes. Iterative re-reading and reconsideration of the interview transcripts challenged me to let go of initial ideas while remaining optimistic about how I was actively developing the themes from the language and ideas in my interview data (Braun & Clarke, 2022; Jayawarna et

al., 2020). I frequently returned to the data and the digital voice recordings to reflect on any

patterns I might uncover. To support my understanding, I did follow up with private,

confidential phone calls to interviewees whenever I needed clarification of their responses. This

process was welcomed by the affected interviewees as they consistently expressed

appreciation for my effort to honour their meaning. Furthermore, I used the data analysis

methods detailed in Section 3.5.1.2 to refine, define, and name the codes, concepts, and

themes that I generated with more confidence because of my active participation and as a

matter of rigour. I dropped infrequent or singularly represented themes, allowing me to

compare, contrast, and cluster open codes as a means to identify the higher-order aggregated

theme(s) (Attride-Sterling, 2001; Braun & Clarke, 2022; Jayawarna et al., 2020; Lincoln & Guba,

1985).

The inductive coding strategy described above set the context for my data generation to

produce persistent themes reflecting issues of importance in the organisational dynamics of

collaborating entrepreneurs, relating to their shared experience of social cohesion. In the

pursuit of innovation, I established through the process of systematic literature review that

social cohesion could not be excessive and that synergy must be optimal. For this to happen,

the conceptual framework which informs my research methods envisions a means to moderate

social cohesion if innovation is to occur, especially in a sustainable manner. I emphasised the

sub-themes (or second-order concepts) to demonstrate my active generation of the underlying

first-order codes with illustrative quotations from interview transcripts (please see Tables 5 and

6). Clarifications provided by follow-up conversations are indicated in square brackets. The

alphanumeric identifiers used to anonymise participants and provide continuity in data are also

included, as these will be significant in following the course of my mixed research methods

toward the resolution of my workplace-based problem. This interesting data demonstrated the

shared experience of the participants in the context of the firm. Using thematic analysis, I

organised it into two inter-related but distinguishable aggregated themes, which call attention

to the *relationships in entrepreneurial collaboration* and *actions in entrepreneurial collaboration*

as shown in Figure 6 below.
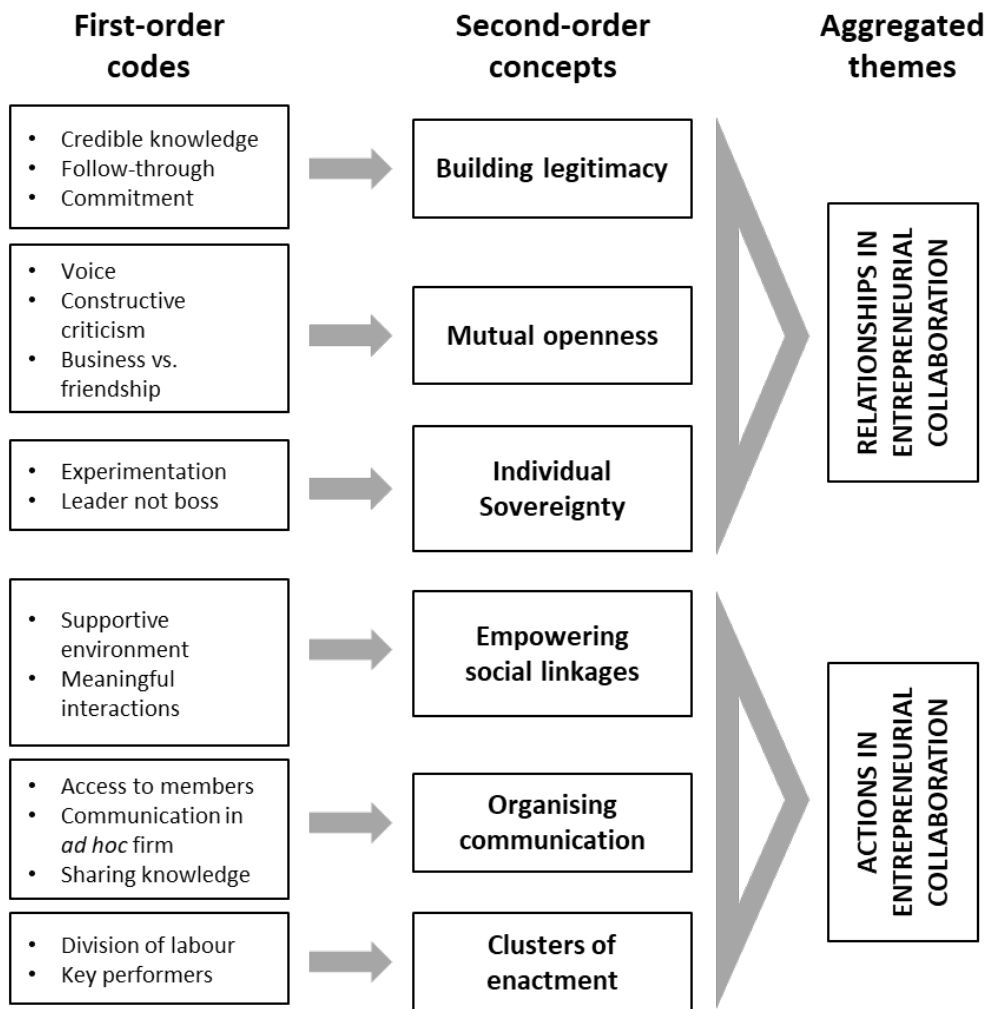
Figure 6. Semi-structured interviews textual data structure

Generalised social cohesion is necessary for the firm to exist (cf. Dion, 2000; cf. Dyaram & Kamalanabhan, 2005; cf. Wong, 1992). However, given the stagnation of the firm and the inability of the firm to innovate a solution for the workplace-based problem, the data structure suggests a clarification. My development of second-order concepts to address the research objectives and overarching effort to create a better understanding of the shared experience of social cohesion by the collaborating entrepreneurs comprising the firm shows the primacy of the active development of their relationships and the actions supporting those relationships. Action and relationship may well be part of a virtuous circle, but the analysis of the data showed that they are distinguishable. A better understanding of this issue could impact my decision-making and resultant action as I pondered how to reinvigorate criticality among the members of the firm without unduly risking member exit.

4.1.1 Relationships in entrepreneurial collaboration

The second-order concepts were represented in the clustering of first-order codes that became significantly better defined to encompass the underlying concepts communicated by the interviewees. Table 6 presents the illustrative quotations contributing to the aggregated theme of *relationships in entrepreneurial collaboration*. The discussion of how the sub-themes that I generated from first-order codes supported the development of this aggregated theme follows below.

Table 6. Relationships in entrepreneurial collaboration

Second-order concepts	Illustrative quotes Relationships in entrepreneurial collaboration	First-order codes
Build legitimacy	"If there's no trust [in the knowledge being shared] you're done. [Entrepreneurs] will move to someone else." (JL6F) "It's all about getting the proper information [from one another to keep] working together." (3S4N) "One of the things I look for is the benefits of dealing with other entrepreneurs is from an educational standpoint … Knowledge, experience. A few [other entrepreneurs] that I talk to on a regular basis share their [credible]knowledge with me [to discuss experiences and ideas]." (JL6F) "[Following through] would be an ongoing thing, but you would hope at least, you'd hope as a group and for yourself, that you could see [your commitment through even] when the group has become stagnant ." (Q6PD) "You can't really beat yourself up if a project is a failure [despite your follow-through and commitment], but you certainly can celebrate a success if everything came together as a result of the two of you collaborating." (6KWW) "[Time] is more the foundation of building a long-term relationship [and showing commitment]." (Q6PD) "It would certainly take time to be trusting of the individuals that you're with, before I think any of us would kind of be open enough to share 100%. " (Q6PD) "[When others know you are committed] it brings you to common ground where you guys can kind of relax and then cool the edge and talk about whatever problems you have or whatever you wanted to talk about at that time." (3S4N)	Credible knowledge Follow-through Commitment
Mutual openness	"[Being able to voice] different expertise can definitely enlighten both individuals, to allow them to come up with a better way of doing something as long as they're both open-minded. (Q6PD) "If you really are serious about improving your business or service, you have to be open to criticism. And, on the flipside, you should offer it in a professional way that it's give and take." (JL6F) "[If] I made a mistake I should have listened [to the input of others]. [Possibly, another entrepreneur]] knew something that could've potentially happened in the future right? (3S4N) "I'm more critical of people that I'm more comfortable with, because you know how they're going to take it. When you feel like you're going to get to that next level." (NVC7) "We can be pretty hard on each other, but at the end of the day we hold each other accountable, too. You've gotta take that … it's tough. You need to have that relationship in order to be honest, but you can't be too far where you're afraid to give them … go to them truthfully." (NVC7) "Being critical is good as long as everybody has an understanding that it's coming from a good place." (NVC7) "If something isn't going to go the way it feels it should, it'll come up during a social situation. There needs to be a business-like attitude, but in a very social way." (Q6PD) "The priorities of a business can be very different than the priorities of the friendship. I think the natural evolution [of our friendships] will probably reach a point where [our] business becomes hindered, where it starts to stagnate." (Q6PD)	Voice Constructive criticism Business vs. friendship

Second-order concepts	Illustrative quotes (cont'd) Relationships in entrepreneurial collaboration	First-order codes
Individual sovereignty	"Because they're never comfortable with the status quo. They're always looking to do more, learn more, make something better. That's just what makes an entrepreneur, an entrepreneur. It's one of those key attributes [of entrepreneurs]." (Q6PD)	Experimentation
	"Sometimes you need to try a few things first. But, if the trying is done in earnest and there's honesty with the partners and there's a definite mutual respect and a clear shared goal in mind, even if it doesn't work out, that may not necessarily stop me from working with that same individual on a different project." (6KWW)	
	"You have to be a fan of experimentation when it comes to business because you may just stumble upon that perfect formula that's a winning combination, and you may stumble a bunch of times and completely fail miserably, but learn from each failure that you have there." (6KWW)	
	"When there's got to be a leader, but there's a difference between a leader and a boss. A leader's going to lead the pack, a boss is going to tell you want to do, right? " (NVC7)	Leader not boss
	"Unless you introduce another person into that [stagnant] environment, I don't think that the business can continue to grow." (Q6PD)	

Relationships in entrepreneurial collaboration was one of the aggregated themes developed in my thematic analysis of the textual data from the interviews. It describes what themes combine to inform the way in which members of the firm are in a state of being connected. There are three components to what seems to drive the relationships between members of the firm: *building legitimacy*, *mutual openness*, and *individual sovereignty*.

Building legitimacy is a second-order concept I used to describe what the shared experiences of the participants reveal in terms of what they value in forming and maintaining their relationships with other entrepreneurs. This phenomenon is something more than mere trust as it demonstrates the evaluation of the quality of knowledge made possible through the interaction alongside the continuity of contribution and effort further demonstrated through the dedication of the other member. The first-order codes I clustered for this purpose were *credible knowledge*, *follow-through*, and *commitment*.

Credible knowledge emerged as a first-order code because the value of valid, actionable knowledge to collaborating entrepreneurs was evident in my repeated reading of the transcript data. On the one hand, members appear to consider credible knowledge as a key building block for their relationships with other entrepreneurs. Statements like "If there's no trust [in the knowledge being shared] you're done" (JL6F) suggest that the absence of *credible knowledge* even dictates the willingness of participants to form or continue such relationships as "[entrepreneurs] will move to someone else" (JL6F) if this desire for legitimate, actionable knowledge is not met. These statements bear upon my next steps significantly because they also highlight the potential appeal of *credible knowledge* to entrepreneurs in sustaining their relationships. It seems that *credible knowledge* is an esteemed currency in the building of trusting relationships for the participants through which collaboration is possible and social cohesion can develop.

Follow-through as a matter of continuity also emerges as a means by which the participants assess the legitimacy of the relationships they have or are building. This first-order code reflected my understanding of the importance of seeing *commitment* through "even when the group has become stagnant" (Q6PD). This particular statement is evidence of *follow-through* itself and heartening to my efforts to resolve the resolution of the workplace-based problems with the other members of the firm. Clearly, the emphasis on *building legitimacy* within the *relationships in entrepreneurial collaboration* is foundational and encourages my continued efforts as I can consider framing my collaborative agency as an insider action researcher in terms of my own *follow-through*.

Commitment is demonstrated through the dedication of the participants to their ongoing contributions and seems to encourage collaboration as well as discourse. Evidence of this theme is articulated as "[when others know you are committed] it brings you to common ground where you guys can kind of relax and then cool the edge and talk about whatever problems you have or whatever you wanted to talk about at that time" (3S4N). Arising from the context of the firm, this statement suggests that the notion of *commitment* can provide dialogic access for my agency to the members in furthering our efforts to resolve our workplace-based problem. It is important to clarify that the participants consistently identify *commitment* as it relates to the *relationships in entrepreneurial collaboration* as opposed to relating to a particular task or approach they are taking where whether a project was successful or not, the participants are forgiving "when others know you are committed" (3S4N). This phrasing was accessed through my effort to clarify a participant's use of the word "it" in responding to whether his relationships with the other entrepreneurs help him to operate. It suggests that the effort to demonstrate continuity in the contributions and dedication to the relationship establishes the legitimacy of *relationships in entrepreneurial collaboration*.

Mutual openness is the second-order concept I used to describe a clear pattern in the data arising from the participants' responses. This notion encapsulates the willingness of connected entrepreneurs to listen as well as to speak to the issues they face, especially in the evaluation of the knowledge they contribute to their *relationships in entrepreneurial collaboration*. In my analysis, *mutual openness* clusters the possibility of members speaking their thoughts as a means to give and receive feedback on their business interests without

violating their social bond. The underlying first-order codes that I developed were *voice*,

constructive criticism, and *business vs. friendship*.

Voice is simply the permissiveness to speak and be heard. In the context of the firm,

"[being able to voice] different expertise can definitely enlighten both individuals, to allow

them to come up with a better way of doing something as long as they're both open-minded"

(Q6PD). This suggests that *voice* is held as fundamental to being able to evolve expertise and as

a safeguard against missteps. Further evidence of *voice* being a tool to safeguard error is stated

as "[if] I made a mistake I should have listened [to the input of others]. [Possibly, another

entrepreneur] knew something that could've potentially happened in the future, right? (3S4N).

The sentiments of the participant seem to be about the importance of developing enough

comfort to know that other members of the firm do listen and value what he says. This suggests

that in the context of relationships in entrepreneurial collaboration, having *voice* is esteemed as

an opportunity to contribute. This indicates that the participants are also looking for safety

mechanisms through their *relationships in entrepreneurial collaboration*. However, without

mutuality, *voice* cannot be effective such that for the participants, "If you really are serious

about improving your business or service, you have to be open to criticism. And, on the flipside,

you should offer it in a professional way that it's give and take" (JL6F). This statement aptly

frames the esteem given to constructive criticism by the participants in general.

Constructive criticism in the context and culture of the firm is a means of offering useful

advice toward better results. It is well understood to mean providing feedback which

acknowledges not only the negative but also the positive to highlight where there is room for

improvement. However, it is a matter requiring familiarity with others. For example, "I'm more

critical of people that I'm more comfortable with, because you know how they're going to take it. When you feel like you're going to get to that next level" (NVC7) is a statement made in this regard. The response suggests that while the capacity to give and receive *constructive criticism* is a consistent theme in the textual data, the participants understand that a relationship must exist for such an exchange to occur meaningfully and without upset. Similarly, "being critical is good as long as everybody has an understanding that it's coming from a good place" (NVC7) is another phrasing that echoed the need to establish *relationships in entrepreneurial collaboration*. This statement reflects how several participants did demonstrate that entrepreneurs in the firm are mindful of the sentiments of others in their pursuit of innovation. For the firm in its stagnant state, this could also indicate a disruption to the normal levels of *constructive criticism* in times of ambiguity.

Business vs. friendship as a first-order code emerged from the persistent articulation by participants that highlighted their understanding of the implications of the long-standing social network from which the firm arose. Some participants indicated that the navigation of these roles was a matter of boundaries, while others felt it would hinder the progress of the firm. For example, encapsulating the former mindset is the statement that "if something isn't going to go the way it feels it should, it'll come up during a social situation. There needs to be a business-like attitude, but in a very social way" (Q6PD) clearly indicates the understanding that *relationships in entrepreneurial collaboration* may very well evolve to be deeper than the business context. Nevertheless, this statement suggests that the participant is aware of the need for finesse and nuance in approaching the matter. Encapsulating the latter mindset is this articulation:" The priorities of a business can be very different than the priorities of the

friendship. I think the natural evolution [of our friendships] will probably reach a point where [our] business becomes hindered, where it starts to stagnate" (Q6PD). This outlook indicates an expectation of limitations in mingling business with friendship. This suggests that some participants understand that the depth of the social bonds between the members of the firm may also be contributing to the problematic stagnation beyond just the ambiguity faced in responding to market conditions.

Individual sovereignty is the third of the second-order concepts that I clustered to develop the aggregated theme of *relationships in entrepreneurial collaboration*. It represents an interesting intersection of what the participants value in terms of their personal freedom to experiment (coded as *experimentation*) and their perspectives on positional leadership as a constraint to that important aspect of their entrepreneurial identity (coded as *leader not boss*). This coding was generated because the interviewees consistently clarified their understanding of the difference between a manager - or boss that would dictate their actions and decisions - as compared to a leader that would guide them through ambiguity.

Experimentation repeatedly surfaced as an important issue in the development and sustainability of the relationships of the participants. The statement that "because [entrepreneurs] are never comfortable with the status quo. They're always looking to do more, learn more, make something better. That's just what makes an entrepreneur an entrepreneur. It's one of those key attributes [of entrepreneurs]" (Q6PD) drew my interest. This statement suggests that as a matter of free will and autonomy, the capacity to choose among opportunities is central to *experimentation* and seems to draw on the internal motives of individual participants through self-generated criteria. To bring further light to this perspective,

I was intrigued by the notion that "sometimes you need to try a few things first. But, if the trying is done in earnest and there's honesty with the partners and there's a definite mutual respect and a clear shared goal in mind, even if it doesn't work out, that may not necessarily stop me from working with that same individual on a different project" (6KWW). In this statement, it appears that the failure will not necessarily descend into blame, and the high value of *experimentation* remains – but not as a reckless pursuit. Instead, this statement reveals that the participant retained a willingness to collaborate and co-create goals within his desire to experiment. Further evidence is demonstrated by the explicit statement that "[entrepreneurs] have to be a fan of experimentation when it comes to [collaborating in] business because you may just stumble upon that perfect formula that's a winning combination, and you may stumble a bunch of times and completely fail miserably, but learn from each failure that you have [as an individual and as part of the firm]" (6KWW). This suggests that entrepreneurs acknowledge the possibility of failing because of their penchant for *experimentation*, but they esteem the learning that can still occur in collaboration with others. Therefore, the intersection between *experimentation* and the constraints against it demanded a re-reading of the transcripts. In that process, I began to develop a better understanding of what might really be sparking the unanimous and sometimes terse rejection of any mention of positional leadership to address the workplace-based problem.

Leader not boss is clustered with *experimentation* in my thematic analysis because of the frequent coincidence of these first-order codes appearing in the interview transcripts. Without exception, every member of the firm is against positional leadership. However, the interviews afforded me an opportunity to inquire about the matter that yielded interesting and

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salient patterns in the data. On the one hand, I was struck by the statement that "when there's got to be a leader, but there's a difference between a leader and a boss" (NVC7). Here, the participant's affect was noteworthy. He became noticeably defensive in his physical posture, and the tone of his voice became somewhat condescending and sarcastic. I didn't realise it at the time, but I would eventually look back on this moment as the first instance of my attempting to reflect-in-action (cf. Schön, 2016). I felt that I had triggered the disdain for positional leadership in the firm. I became very aware that this moment was significant to the survival, let alone the development of my first and second-person practice. Rather than interrupt the interviewee with my need to validate my agency, I remained calm and quiet, nodding to encourage the interviewee to keep talking as I became vividly aware that I was about to face the consequences of my reflection-in-action. He continued, "A leader's going to lead the pack, and a boss is going to tell you what to do, right?". I carried on with the interview and used a subsequent, confidential phone conversation with the participant to thank him for his contribution to the study, allowing him to validate the transcript and seek further clarification about his comments on leadership. I detail this interaction for two reasons: to demonstrate the contribution of this experience in my development as a scholar-practitioner and because my trepidation to spark such a reaction had held me back from probing the disdain for positional leadership with other participants who were, from my years of working with them, more likely to react suspiciously and perhaps challenge my agency, unnecessarily owing to misperceptions of my intent as a member of the firm. Nevertheless, my efforts were fruitful and realising my intentions were not to assert myself as a positional leader through my action research project, the interviewee offered helpful clarification: "A leader's going to lead the pack

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[through ambiguity], and a boss is going to tell you what to do [without allowing for experimentation], right?" (NVC7). His clarifications show that the concept of leadership is well-understood to mean an organisational actor serving as a guide through ambiguity as opposed to a manager or boss that doles out pre-determined edicts and stifles creativity.

On the other hand, the statement that "unless you introduce another [role or] person into that stagnant environment [i.e., the workplace-based problem], I don't think that the business [i.e., the real estate projects of the firm] can continue to grow" (Q6PD) shows that there is not only an understanding that some actor will have to facilitate the firm's emergence through this period of stagnation but also that the participant is mindful of the perils of not addressing the workplace-based problem. Synthesising this analysis with the first-order concept of *experimentation* demonstrates the notion among the participants to conceptualise and value autonomy with connectedness, not constraint. For this reason, I clustered *experimentation* and *leader not boss* as *individual sovereignty*.

4.1.2 Actions in entrepreneurial collaboration

Developing the *relationships in entrepreneurial collaboration* shows a requirement for supportive *actions* in the recurring themes of my data. Table 7 presents the illustrative quotations contributing to the aggregated theme of *actions in entrepreneurial collaboration*. The discussion of how the sub-themes that I generated from first-order codes supported the development of this second, distinguishable aggregated theme follows below.

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Actions in entrepreneurial collaboration was the second aggregated theme developed in

my thematic analysis of the textual data from the interviews. It describes what sub-themes

cluster to inform how actions can best serve the connectedness of members of the firm. My

analysis established that three first-order codes were significant to supporting the relationships

of the members of the firm: *empowering social linkages*, *organising communication*, and

clusters of enactment.

Empowering social linkages is a second-order concept I used to cluster the first-order

codes of *supportive environment* and *meaningful interactions* that emerged from the transcript

data. The perceptions of the participants around what actions enhanced their shared

experience of social cohesion were persistent and gave considerable insight to inform my next

steps. The interviewees did reference various aspects of what they deemed to be valued in

their perception of a *supportive environment* for their entrepreneurial practice.

Table 7. Actions in entrepreneurial collaboration

Second-order concepts	Illustrative quotes Actions in entrepreneurial collaboration	First-order codes
Empowering social linkages	"So, without that sense of belonging being there in the first place, I think it would be very hard to foster that environment … you need to have a sense of belonging before you can trust. So everyone gets a sense of how things feel, and how everyone might interact." (Q6PD) "We all have is to know that we are contributing to something greater than just ourselves. And that as a group, just again, empowers that group more as human beings, and when you're empowered more as a human being, that can only help and aid in the growth of your business." (JL6F) "There are incidents that come up during a project that you are not prepared for and didn't' expect and then at that point you're going to be leaning on a fellow entrepreneur perhaps to help you through." (JL6F) "Encourage [the other entrepreneurs] to be a part of the community that we're in as their success leads to my success and oftentimes will lead to new opportunities." (6KWW) "[Through a supportive environment] you feel encouraged to do something that you normally wouldn't do to help the community in some way." (JL6F) "You're doing something but you're really interacting and talking about all sorts of topics that people are learning from or benefitting from. Contacts [that have credible knowledge and experience] are shared. Golf is not the only thing. Even just going out for coffee sometimes with another entrepreneur can be an excuse." (JL6F) "I don't think you need to go get a big membership at a fancy golf club to be able to improve your business." (JL6F) "I think sometimes people don't feel as comfortable. For example, we go out for drinks. There's a person that works here that doesn't drink. So, that particular person decides not to come out for those events. If you're doing things like that, going out for drinks, going out for food, those types of things, people can be … not purposefully, but excluded." (NVC7) "Doing group challenges that you work together on are great … After the excitement of them solving that puzzle and the excitement of everybody, it brings the team together and gives you that one thing that you can celebrate. … There's certain activities that I think really help bring the team together. It helps to get to know somebody." (NVC7)	Supportive environment Meaningful interactions
Organising communi- cation	"It does make me feel comfortable and confident going into a situation because I know I can prepare for it if I have to, previous to or after the fact I can obtain opinions from different entrepreneurs or persons that I interact with." (JL6F) "You can get and idea of who people are in a fixed group setting, but at the same time there's gotta be those opportunities to kind of branch off and get to know someone." (NVC7) "Opportunity for learning, opportunity for advancement as the business. As that group continues to learn from each other, I think it empowers the group to go on to do better." (Q6PD) "I actually enjoy interacting with people outside of my [specified tasks for the firm] because that's where you learn the most." (JL6F) "Definitely brainstorming new business ideas or new directions for existing business ideas is better when you've got more people." (6KWW)	Access to members Communication in *ad hoc* firm

Second-order concepts	Illustrative quotes (cont'd) Actions in entrepreneurial collaboration	First-order codes
Organising communi-cation (cont'd)	"If you can talk to them about something that you went through during the project, instead of just throwing out a bunch of ideas that happened on projects before." (3S4N) "If you're not learning something every day, every, whether it's every minute, you're not learning, you're not gaining anything." (R8CH) "So knowledge sharing is a huge aspect of my interaction with other entrepreneurs." (JL6F) "Continual learning is a basic need that I think we all have. And if you don't have that in the group, I don't think that the business can be as successful as it could be." (Q6PD)	Sharing knowledge
Clusters of enactment	"[We need to] become a team [like we used to be] as opposed to a number of individuals working on a task." (NVC7) "[Not working with the same people all the time] certainly does add different angles that you may not have thought about and brings different levels of experience that can certainly lend different qualities that can be applied in new ways plus the opportunity to learn [from one another]." (6KWW) "When they're working together, they can all learn from one another. They're going to build knowledge [compared to just working on what they seem to be good at]." (3S4N)	Division of labour
	"If you're a true entrepreneur you're always gonna learn. You are never going to say that you are done or that only your way works. [Entrepreneurs] want to work with somebody to reach their goals … because those collaborative efforts could lead to something bigger." (TV5M) "I'd rather not be in a scenario [of having to discuss my tasks], on a project. I want to be off a project. Right? Discuss things freely." (R8CH) "You've got to work together. You can't think that you're better than anybody else. And when you're working together, [the group] is the best overall." (3S4N)	Key performers

For example, one participant emphasised the value of an accepting and understanding milieu by stating that "there are incidents that come up during a project that you are not prepared for and didn't expect and then at that point you're going to be leaning on a fellow entrepreneur perhaps to help you through" (JL6F). Here, two key issues emerge from the data. First, the notion of failure is an accepted component of entrepreneurial collaboration owing to the primacy of *experimentation* which can be vulnerable to what members "didn't expect" (JL6F). Second, the engagement with other entrepreneurs as advisers and mentors is a key component of the expectations of the participant from the *actions in entrepreneurial*

collaboration. However, this *supportive environment* does not appear to be a mere crutch used by the participants for their practice. Rather, "without that sense of belonging being there in the first place, I think it would be very hard to foster that environment … you need to have a sense of belonging before you can trust. So, everyone gets a sense of how things feel, and how everyone might interact" (Q6PD). This statement brings out the vastness of how a *supportive environment* empowers social linkages because it serves as a conduit to nurture social bonds toward trust as well as allowing the culture and norms of the firm to emerge. Through this lens, I selected another salient comment from the data: "We all have to know that we are contributing to something greater than just ourselves. And that as a group, just again, empowers that group more as human beings, and when you're empowered more as a human being, that can only help and aid in the growth of your business" (JL6F). This response highlights that by empowering social linkages, the participants can use their actions to enhance the presence and function of their individual practices and their collaboration. Additionally, the statement that members of the firm should "encourage [the other entrepreneurs] to be a part of [a] community … as [the firm's] success leads to [the individual's] success and oftentimes will lead to new opportunities" (6KWW) suggests that empowering social linkages can yield dividends in terms of innovative potential.

Furthermore, the participants frequently clarified that their individual and collective actions in entrepreneurial collaboration needed to be purposeful, not extravagant, for sharing knowledge and authentic to enable the relationship to endure. *Meaningful interactions* developed into an important first-order code that I clustered with *empowering social linkages*. "[Through a supportive environment] you feel encouraged to do something

that you normally wouldn't do to help the community in some way" (JL6F) is the response that

led to the aggregated theme of *actions in entrepreneurial collaboration* because while it seems

that the participants seek to rely on the milieu to support their successes and failures, they may

also find it to be a dialogic space for challenging them to be more creative.

Organising communication is a second-order concept clustering three first-order codes

that I generated: *Access to members*, communications in *ad hoc* firm, and *sharing knowledge*.

This phrasing is used to emphasise the patterns of process, not structure for *actions in*

entrepreneurial collaboration. I did not seek to establish any form of *a priori* coding, let alone

sub-themes, but I must draw attention to the presence of a well-known perspective from

organisational theory. Weick (1974, 1976) argued that the word "organisation" makes the

sequences and pathways of communication into substances while "organising" can impact

uncertainty through the processing of information through the actions between actors within

the firm. Leading to this clustering was data clarified from the transcript: "[Access to members]

does make me feel comfortable and confident going into a situation because I know I can

prepare for [the problem I am confronting] if I have to. Previous to or after the fact, I can obtain

opinions from different entrepreneurs [if the other entrepreneurs also follow through and

remain committed to one another]" (JL6F). This suggests that central to the processing of

information is connecting to other members in the firm, especially as an example of *actions in*

entrepreneurial collaboration. Another statement falling under the first-order code of *Access to*

members is "you can get an idea of who people are in a fixed group setting, but at the same

time, [there have to be] opportunities to kind of branch off and get to know someone" (NVC7).

It seems the participant is aware of the benefits of enhancing the processing of information by

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having *Access to members*, not just those members with whom certain tasks are routinely performed. While the argument for the use of the word "organising" is established, the context requires further clarification in support of my research objectives as discussed below.

Communication in ad hoc firm as a first order-code emerges in the context of the firm because the firm is constituted as needed from an operational perspective, although its members interact on an ongoing basis owing to their long-standing social network. While communication can and does take many forms between the members (e.g., in-person meetings, phone conversations, email, texting, etc.), it is the contribution to information processing that stands out in *organising communication* in the firm. For example, "opportunity for learning, opportunity for advancement as the business. As the group continues to learn from each other, I think it empowers the group to go on to do better" (Q6PD). Here, the processing of information is a matter of the actions taken by the members, and the participant expresses the potential to further their learning and sustainability. On re-reading the transcripts, I was drawn to this statement, especially when further clarification was made by the interviewee: "I actually enjoy interacting with people outside of my [specified tasks for the firm] because that's where you learn the most" (JL6F). The participant seems to indicate that the processing of information is important to their growth as well as a motivator for their participation. Another instance of this first-order code was apparent in the statement that "definitely brainstorming new business ideas or new directions for existing business ideas is better when you've got more people" (6KWW). From this articulation and the follow-up conversation with the interviewee, it was apparent that the processing of information was

clustered into the actions of entrepreneurial collaboration because it was a necessary component of the innovation process.

Sharing knowledge was commonly expressed in the transcript data as a matter of importance by the participants. This first-order code was generated to convey the process of knowledge exchange as opposed to the validity or currency of credible knowledge as generated in the process of building legitimacy in the aggregated theme of relationships in entrepreneurial collaboration. Recognising this code as contributing to organising communication began with several salient and explicit statements made by the interviewees. For example: "So, knowledge sharing is a huge aspect of my interaction with other entrepreneurs" (JL6F). The participant later qualified that by "huge", he meant to indicate that the process of knowledge sharing was more than a matter of how he preferred to spend his time communicating with other members. Rather, it was a vital motivator and a key element that he sought in the actions undertaken in his collaboration with the other members of the firm. Furthering this sentiment is another statement: "If you can talk to them about something that you went through during the project, instead of just throwing out a bunch of ideas that happened on projects before" (3S4N). Again, this seems to indicate that sharing knowledge is a desirable process to entrepreneurs for purposes of exchange and critique that can further develop their individual and collective ideas in the pursuit of innovation. The appeal of sharing knowledge for entrepreneurs as a process is perhaps as significant as the currency of credible knowledge. The statement that "if you're not learning something every day, every, whether it's every minute, you're not learning, you're not gaining anything" (R8CH) exemplifies how the participant seeks an ongoing or continuous sharing of knowledge as a process that is of importance for the actions in entrepreneurial

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collaboration. Echoing that same perspective is the outlook that "continual learning is a basic need that I think [all entrepreneurs] have. And if you don't have that in the group, I don't think that the business can be as successful as it could be" (Q6PD). This suggests that the lack of *sharing knowledge* is viewed as a hindrance to the firm reaching its full potential and conversely, as clarified in my follow-up with the interviewee, *organising communication* to support *sharing knowledge* is instrumental in achieving success and getting the most out of the members of the firm (i.e. synergy).

Clusters of enactment is the third of the second-order concepts I clustered using the first-order codes of *division of labour* and *key performers*. Clusters is used to refer to the apparent subgroups within the firm that have developed around the *key performers* of designated tasks. Frequently, the data brought my attention to the possibility that people were creating structure that could influence information processing through the actions they were performing repeatedly and reliably for the firm. This phenomenon of creating organisational structure, albeit informal in the context of the firm, was posited by Karl Weick (cf. 1979, 1988) and merited my attention in considering the *actions in entrepreneurial collaboration*.

Division of labour emerged several times in the data as being recognised by the interviewees to represent less than an ideal condition for sustainable innovation. "[We need to] become a team [like we used to be] as opposed to a number of individuals working on a task" (NVC7). This suggests that the participant is aware that subgroups have formed and that the entrepreneurs are not collaborating across the entire membership. Furthermore, "[not working with the same people all the time] certainly does add different angles that you may not have thought about and brings different levels of experience that can certainly lend different

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qualities that can be applied in new ways plus the opportunity to learn [from one another]"

(6KWW) suggests that the lack of variety in the entrepreneurs attending to a given task stifles

creativity and learning within the firm. The implications are that the entrepreneurs may be

willing to rotate which members collaborate on given tasks for the benefit of innovative

potential.

Key performers is a first-order code I used to describe evidence or statements in the

data that related to designated individuals being relied upon by the firm to perform designated

tasks. One particular statement stood out particularly as being explicit in the gap between the

espoused egalitarian, non-hierarchical structure of the firm and the condition in which we had

become stagnant: "You've got to work together. You can't think that you're better than

anybody else. And when you're working together, [the group] is the best overall" (3S4N). Here,

it seems that a perception of in-group formation is being agitated and that some members may

be feeling excluded or isolated to the detriment of the innovative potential of the firm. Again,

data relating to this first-order code emphasises the benefits of more open collaboration and

the disadvantages of routinised tasks becoming the remit of the same individual or individuals

on every project. For example, "when they're working together, they can all learn from one

another. They're going to build knowledge [compared to just working on what they seem to be

good at]" (3S4N) conveys that neither learning nor entrepreneurship can happen with the

entrenched division of labour into which the firm has settled. Other statements under this

coding reveal the impact on collaboration among entrepreneurs. "If you're a true entrepreneur,

you're always [going to] learn. You are never going to say that you are done or that only your

way works. [entrepreneurs] want to work with somebody to reach their goals … because those

collaborative efforts could lead to something bigger" (TV5M). This shows that the

entrepreneurial identity cannot be expressed fully under the current approach of relying solely

on key performers. Additional data that contributes to how key performers themselves need

coaxing to unsettle this trend is also offered regarding perspectives during previous, active

projects. "I'd rather not be in a scenario [of having to discuss my tasks while] on a project. I

want to be [done] and off a project. [To be able to] discuss things freely" (R8CH). In following up

with the interviewee, it appears that the division of labour among key performers has become

onerous to the point that designated individuals prioritise their performance over the

opportunity to collaborate.

4.1.3 Summary of findings

These findings provide interesting, rich empirical evidence for improving the

understanding of the shared experience of social cohesion by the members of the firm. As it

relates to the goal of innovation, the collaboration of the members of the firm relies on their

relationships as well as the actions that support those relationships. Several insights arise from

the thematic analysis of the textual data of the interviews. Clearly, the members of the firm

value and recognise the value of *sharing knowledge*, yet this doesn't seem to be happening.

Members are clearly uncertain as to what approach could unsettle them from this prolonged

period of inaction. Is their sharing of knowledge hindered by a diminished view of one another's

integrity? There is no basis for that assertion that was made explicit by any of the interviewees.

So, how could I use what I've learned in creating an aggregate theme of *actions in*

entrepreneurial collaboration, primarily through clustering *empowering social linkages*,

organising communication, and *clusters of enactment* as second-order concepts in my thematic

analysis? I learned, through the process of systematic literature review, that it is possible to

measure social cohesion, but could I frame my sociometric test(s) to query the level of critical

faculty in the social bonds of the entrepreneurs that comprise the firm? Certainly, no mention

of this construct was found in my systematic literature review or my ongoing surveillance of the

literature. Could I somehow use the promotion of critical faculty in my intervention – whatever

it might be – to attempt to moderate the (excessive) social cohesion of the firm without unduly

risking member exit? Would this effort inherently reinvigorate the *mutual openness* I know was

evident in the early years of the firm?

In addition, the thematic analysis of the interviews contributes to my research

objectives and the next steps in my mixed methods action research. Starting with social

cohesion as the sense of belonging among the members of the firm and the site of their spark

of innovation is well-understood by the members as being limited by their friendship, not just

because of their inability to overcome current market conditions. Members recognise their

excessive social cohesion stifles their innovative potential because they are not collaborating to

their full potential as the firm has become increasingly fragmented through the routinised

performance of tasks by designated members. The primacy of constructive criticism in the

relationships between the members is also an important consideration in how I could use

sociometric testing to probe the perceptions of the members regarding the level of critical

faculty in their social cohesion, not just their general affinity for one another. Furthermore, the

timing of social cohesion interventions for the optimisation of synergy in the firm is clearly

impacted by the entrenchment of designated individuals who would rather complete their assigned tasks than promote opportunities for collaboration. Therefore, while members seem to understand that the actions required to foster innovation should be ongoing, the firm has become hindered by enactment suggesting that the recombination of the subgroups should inform the roster for whichever intervention activity is chosen. Finally, the members value the time and the purposefulness of their interactions over extravagance. Being more deliberate in the design and objectives of the group gatherings of the firm should exploit the members' desire for knowledge in building their innovative capacity.

My trepidation about violating the unanimous rejection of positional leadership by the members of the firm has constrained my agency. I know that the members are very supportive of my DBA journey, but I cannot take that for granted. The interviewees consistently demonstrated that they have a solid understanding of *leader not boss*. They will not be duped into accepting any euphemism of positional leadership because the clustering of *experimentation* and *leader not boss* arose from the persistent pattern of seeing positional leadership as a constraint on their *individual* sovereignty. Beyond the collaborative agency of my role as an insider action researcher, is there any construct that could be of value to the firm, let alone my first, second, or third-person practice? What I mean by this consideration of my form of engagement is how could I continue to confront my assumptions, attitudes, and bias in support of my personal and professional learning (i.e., first-person practice)? How could I include the members of the firm through listening and managing conflict to promote collaboration and quality decision-making (i.e., second-person practice)? Finally, how could I possibly disseminate actionable knowledge from my context (i.e., third-person practice)?

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Along these lines, how could I better understand the presumed, flat organisational structure of the firm? Given that sociograms have already been identified as an effective means to make this determination, I became more suspicious of the defensive routines that were triggered at any mention of positional leadership by the interviewees. Nevertheless, I could not naively expect members to freely express their perspectives on the influence and importance of another member. This process would be a test of my agency and would require the engagement of the participants, supported by their acceptance and trust in my ability to maintain confidentiality.

4.2 Key points and meaning

The key points arising from the interview data are threefold. First, the workplace environment must restore or reinvigorate a culture of criticality. While the members may recognise and understand what drives them to collaborate with other entrepreneurs in terms of their relationships and supporting actions, that does not mean that they know what to do when they become stagnant without risking those very relationships. More specifically, the qualities of their linkages may not be defined in terms of what particular characteristics support critical faculty, which is a phenomenon that may be different in the context of entrepreneurial collaboration than in workgroups in general (cf. Muhlenhoff, 2016; cf. Najmaei, 2016; cf. Stacey, 2011). Secondly, the routinised undertakings of the firm over the past decade have likely led to certain members being disconnected from others operationally, perhaps owing to certain members being accepted as key performers for a particular task. There is no question

that the firm is *ad hoc* and has always functioned as loosely coupled insofar as them having the autonomy to undertake their tasks without much coordination (cf. Weick, 1976). However, it is also clear that the firm has become a victim of its reliance on its own *key performers*. In fact, as the years have progressed for the firm, coordination is merely a matter of assignment to the designated "go-to" members with proficiency or expertise in given tasks leading to clusters of enactment (cf. Weick, 1979, 1988). The redress to this dilemma must also somehow respect the resistance of the members of the firm to positional leadership.

Thirdly, the very mention of positional leadership sparks defensive routines among the members and must be investigated as a manifestation of a gap between espousal and practice (cf. Argyris et al., 1985) with respect to the informal structure of the firm (cf. Stacey, 2011). Whether the members of the firm realise the implications of the informal structure of the firm, let alone that said structure exists, may not be deliberate. However, it appears that the informal structure may be entrenched, presenting a new risk for the firm to descend into blame (cf. Senge, 1990; cf. Stacey, 2011). This challenge is significant because everything I have rationalised in my research design, stemming from my philosophical stance, has catered to my sincere effort to avoid even the perception of my agency being used as an end-run around positional leadership. My second-person practice cannot hope to be successful without my earnest attention to the *commitment* I have made to the members with respect to confidentiality (cf. Coghlan and Brannick, 2014). The next steps in my research will also take me into new territory for my first-person practice as I must confront my assumptions, attitudes and bias so that I take competent action based on pragmatic decision-making (ibid). The intention that I have formed following this analysis is to maintain the engagement of the participants and

begin the process of creating meaning from work that transcends the present organisational

circumstances (i.e. stagnation) (cf. Wheatley, 1994) as I develop in the next section.

4.3 Recommendations and next steps

The preceding sections of this chapter report my effort to develop a valid, considered, and

thoughtful data structure from the interview data informing my research and action. Having

summarised the key points and their meaning in Section 4.2, I now respond to the insights

arising from my analysis to consider my recommendations and resultant action.

Whatever my trepidation about violating the rejection of positional leadership by the

members of the firm, I must consider the pragmatic impetus to establish some means of

guiding the firm away from poor decision-making, which becomes more likely in an

environment of excessive social cohesion (cf. Armstrong, Williams and Barrett, 2004). Those

poor decisions could lead to costly losses in whatever project we did ratify in escaping this

period of inaction. Furthermore, the defensive routines I witnessed in response to questions

about positional leadership are likely a signal of paradox, but my original interpretation must

expand to consider that members with domain expertise have been reliably serving as

knowledge brokers without an understanding of how their *commitment* to performance was

hindering optimal synergy. The analysis in this section suggests that these *key performers* have

been closing off parts of the cadre and essentially establishing an inadvertent in-group with all

its attendant folly by formalising their roles according to the tasks they are performing for the

firm (cf. Graen & Uhl-Bien, 1995). This *division of labour* among the *key performers* established

cluster of enactment in the firm. This development, albeit a matter of informal structure for the firm, is particularly troubling because meaning-making can come from anyone in the group, not just *key performers* (cf. Raelin, 2003). As such, any member of the firm that is cut-off in from the operational undertakings of the firm may be denied their potential contribution to the remedy for our workplace-based problem (ibid). Therefore, through my agency, I must prioritise the facilitation of *organising communication* imbued with criticality over control (cf. Balogun & Johnson, 2005; cf. Weick, 1974).

The recommendations arising from this thematic analysis are that I must explore the organisational dynamics of the firm in greater depth, especially with respect to its informal structure. Clearly, the persistent defensive routines were evidence of a gap between espoused theory and theory-in-use (Argyris, 1990) and reminded me of what I had learned about sociograms through surveillance of the literature. Sociograms could help improve my understanding of the relationships among the members of the firm and help map the social networks within the firm (cf. Moreno, 1960). Surely, I could clarify if some members of the firm were disconnected from others – operationally or otherwise. The *relationships* between the individual members require respect for their *individual sovereignty* to *foster mutual openness* and continue *building legitimacy*. However, explicit *actions* are required to unravel the *clusters of enactment* that have stifled *organising communication* toward empowering *social linkages* between the members. Therefore, the next steps in my mixed methods action research must probe what, if any, critical faculty exists in the linkages between the members of the firm that participate in the cycles of action as I attempt to moderate their social cohesion. From the

discussion above, the main outcomes and actionable knowledge arising from the results of the

semi-structured interviews are summarized in Table 8.

Table 8. Results of semi-structured interviews

Main outcomes	1. Members are disconnected operationally. 2. Critical faculty of members of firm must be revitalized. 3. Mention of positional leadership triggers defensive routines.
Actionable knowledge	1. Key performers are entrenched in *clusters of enactment*. 2. *Organising communication* is necessary to foster synergy.

     I will incorporate these recommendations into the design of my sociometric test

question(s) that will be administered before participants are asked to complete their sociogram

drawings, as discussed in Chapter 5. In turn, I will use those findings to support whatever

intervention activity will form my attempt to moderate the social cohesion of the firm.

Throughout my discussion, I will italicise first-order codes, second-order concepts, and

aggregated themes where they impact my observations and insights.

5 Sociometric technique data

In this chapter, I detail my use of sociometric technique, specifically sociometric tests and sociograms, to navigate the structure of the firm toward optimising synergy over three cycles of action. My systematic literature review supported two sociometric tests (see Chapter 2) and my analysis of the data from the semi-structured interviews detailed in Chapter 4. Using the differentiation between the general amicability among the participants and what they perceived to be more restricted in their ability to solve workplace-based problems, I coordinated an intervention activity – Escape Room - at the end of the first and second cycles of action. The participants reached a consensus at the entry to the third cycle of action and ratified continuing with brainstorming instead of proceeding to another session of the Escape Room. I compared the cohesiveness indices for the two sociometric tests along with insights from my analysis of the participants' sociograms to configure my rosters for the intervention activity sessions.

Below, I report on how this effort generated salient signposts to inform my recommendations and next steps as well as clarified *action* in terms of how I engaged the participants with organisational dynamics theory. Moreover, the spark that would ultimately lead to the resolution of the workplace-based problem is discussed and traced through the interactions of the participants. In Section 3.5.2, I established the appropriateness of sociometry to support the action science strategy of my research. For that same reason, I entwine sociometry with the telling of my cycles of action.

5.1 Making sense of the data

Whatever meaning I derived from the sociometry data was very much rooted in the context of the firm. To presume that I could simply ask the participants to reveal their perceptions about their lived experience of social cohesion with the other collaborating entrepreneurs would be politically naïve. I framed sociometry as a technique to understand the structure of the firm and not to assign blame. Using this approach, I could more genuinely propagate the values with which I intended to confront defensive routines: (1) seeing and using valid information to engage the members of the firm as participants in this study; (2) promoting and honouring the informed choice of the participants; (3) monitoring and reflecting on the implementation of any decision in the effort to resolve the workplace-based problem; and (4) pursuing actionable knowledge (Argyris, 1977; Senge, 1990).

Equally important to maintaining my agency and the legitimacy of the data was the physical environment in which each cycle of action would take place, creating an area "for collaborative learning and the design, enactment and evaluation of liberating actions" (Greenwood, 2007:p.131). At the same time, I had to remain aware that this approach was in stark contrast to the traditional research with which all the members of the firm were familiar. The Escape Room activity chosen by the consensus of the participants would be hosted by a third party at a commercial location for the purposes of the *taking action* final component of the cycle of action (cf. Zuber-Skerritt & Fletcher, 2007). However, the entry into each cycle of action consisted of *evaluating* (i.e., sociometric technique administration), *constructing* (i.e., approach to intervention), and *planning action* (i.e., coordinating intervention) components

(ibid). These components required a safe dialogic space with sufficient accommodation for interaction as well as individual completion of the required response sheets in private. This environment was achieved using a suitable office made available by one of the participants for all the group sessions to start each cycle of action. The data generated through the three cycles of actions is presented below, highlighting, at times, two participants anonymised as NVC7 and 3S4N to illustrate how the story unfolded to inform my recommendations and resultant actions. I discuss the sociometry data, my analysis, and my scholar-practitioner development against the backdrop of the cycle of action in which they occurred.

5.1.1 Stories and signpost from Action Cycle 1

I started the call to action a month before the first cycle of action at a social gathering of the firm. In the parlance of the firm, this meeting would eventually be referred to as the session "before our first Escape Room" as shown in Table 4. I facilitated the *evaluating, constructing, and planning* components of the entry into Action Cycle 1 on the same day. Whether this was an ideal decision or not, I was giving way to the pragmatic approach I had adopted to foster progress in the firm. The time constraints on the collaborating entrepreneurs stemming from their personal and other professional commitments dictated that I find the most efficient schedule to support the cycles of action.

The participants did not have any questions following my instructions for the sociometric tests and the sociogram. Still, I reminded them that I would be available for any private questions that they might have and that they should not hesitate to ask for any clarifications. I

waited until each participant had settled into a private area at the meeting location before

distributing Test A. Because I staged the environment in an open-concept office with cubicle-

style desk areas, I waited until a given participant gestured that they had completed the first

sociometric test before distributing Test B to them. I followed the same procedure before

distributing the sociogram response sheet and did not collect the sociometric test sheets in

case participants needed to refer to them to support their sociogram drawing. While I did not

think to track the exact elapsed time for the different tasks, the sociometric tests took

approximately fifteen minutes before the last participant gestured for the sociogram response

sheet. I estimated that Test A was completed in approximately five minutes, while Test B took

longer at approximately ten minutes. However, the participants spent noticeably longer on the

sociogram, with the last one being completed approximately twenty minutes after it was

distributed. I could see that the participants were furtively shuffling their response sheets as

they touched and lifted their pens to draw the sociogram. I wondered if they were struggling

with externalising their thoughts on the influence of the other participants or questioning their

perception of the relationships they had with those individuals for the undertakings of the firm.

Nevertheless, I felt content that I had tried to clarify my instructions for the sociogram in terms

of *status* and *influence* as elaborated in Chapter 3 and looked forward to analysing the response

sheets.

I could see that the participants were earnest in their participation because of their

sustained focus on the task. I gathered the response sheets into my briefcase as they were

returned and thanked the participants. I then proceeded to ask the participants what they felt

was an activity that could help in developing our team problem-solving skills. I was hoping for

suggestions that could support the intrinsic motivation of the members of the firm (i.e., to escape the stagnation and possible disintegration of the firm) (cf. Borrego, Fernandez, Blanes and Robles, 2017; cf. Nicholson, 2015), and I was not disappointed. Three suitable options were suggested by the participants: Escape Room, Lego Serious Play, and Spaghetti Tower Building. After some lively chatter, the participants spontaneously demanded that the matter be put to a vote. By a showing of hands, Escape Room was chosen by the majority of the participants. In support of my conceptual framework, Escape Room challenges teamwork skills, lateral thinking, and, therefore, problem-solving (ibid).

At that point, I had work to do apart from booking an Escape Room session for the following week. I had to begin analysing the data that was waiting in my briefcase. This moment was significant in the evolution of my first-person practice. Before this juncture of my DBA journey, I would have expected the answer to the workplace-based problem to lie somewhere in those completed response sheets. However, I had begun to understand that it was what I did with the data that would allow me to generate a signpost by which to consider my next steps. I use the term *signpost* metaphorically to be distinct from either a *statistical report* that might aspire to generalisability or a *dashboard* that could be updated much more frequently. Table 9 is a convenient assembly of the data that served as my signpost from Action Cycle 1, showing the level of social cohesion using the cohesiveness index for Test A and Test B. As well, Table 9 allows consideration of the participants according to their perceived influence as derived from my analysis of the sociograms to inform the roster assignment for the Escape Room session.

Table 9. Signpost from Action Cycle 1

Action cycle 1		Participant									
Cohesiveness index for sociometric Test A	0.93	J49C	6KWW	9V5G	NVC7	PMN7	R8CH	3S4N	JL6F	Q6PD	TV5M
Change from previous action cycle	-	Perceived influence from analysis of sociograms									
Cohesiveness index for sociometric Test B	0.49	High	Mod	Low	High	Mod	Mod	Low	Mod	Low	Mod
Change from previous action cycle	-	Roster assignment for Escape Room session									
		A	B	B	B [a]	A	A	A [a]	B	A	B

[a]Interactions between 3S4N and NVC7 are highlighted for discussion purposes.

The rationale for performing the sociometric tests before the sociogram drawings is well-established as a means to place the respondent in a more contemplative state of mind (cf. Forsyth, 2010; cf. Hollander, 1978). I recognised that the sequencing was important to the meaning I could derive from sociometry (Forsyth, 2010; Hollander, 1978; Salo, 2006). However, in an effort to tell my story in an interesting fashion while demonstrating the rigour of my research, I do not want to encumber this chapter with endless figures and tables. Recalling my conceptual framework shown Figure 3, I wanted to finally make a measurement of the level of social cohesion in entrepreneurial collaboration. For that purpose, I used the cohesiveness index, which used the mutual choices (MC) for a given sociometric test and generated a dimensionless quantity indexed to the number of group members (n) as provided by eq.(1).

In the case of Action Cycle 1, the sum of the mutual choice pairs was 45 and 22 for Test A and Test B, respectively. Therefore, based on the ten participants, the cohesiveness index was 0.93 for Test A and 0.49 for Test B (see Table 9). This finding is not surprising because Test A (*With whom do you like working?*) is inquiring about the general amicability among the group members. However, Test B (*With whom can you solve problems?*) is inquiring about a more

restricted phenomenon where the *chooser* has indicated with which group members criticality abides. The significance of these findings could certainly be challenged in terms of their generalisability given the very small sample size. As an insider action researcher, I was not trying to find causation or universal applicability. I needed a pragmatic method to measure social cohesion that could provide a better understanding of how it might look different to the members of the group when they considered the change in their perceptions according to the critical faculty in their social bonds. Finally, I had it.

Producing the data tables for the sociometric tests and calculating the cohesiveness indices was somewhat tedious but nothing compared to the reflection and iterative consideration required for interpreting the sociograms. As I sorted through the ten sociograms generated in Action Cycle 1, I felt the pattern spotting and code generation skills I developed in the thematic analysis of the semi-structured interviews encroaching my thinking. Initially, I began focussing on the minutiae of the renderings and knew I had to maintain a pragmatic approach if I was going to generate anything worthwhile for the rapidly approaching Escape Room session. I detailed my rationalisation for my approach to this analysis in Section 3.5.2.4 but pointed out that the most salient information was not just whether the size of a circle was small, medium, or large. The influence of a participant as represented by themselves or by another respondent by the size of the circle was also impacted by the strength (or absence) and the number of relationships (cf. Moore Jr., 1968; cf. Simpson et al., 2012). Also, how respondents placed circles spatially was not necessarily indicative of their perception of the firm being hierarchical or flat. I realised late one evening that, apart from penmanship issues, some respondents chose to render their sociogram in portrait mode while others used the

width of the paper-based form. In representing themselves and the nine other participants in the sociogram, it was clear that space constraints might have been a more likely cause for differing representations of the network of the firm. This consideration remained important to me, but I had to let go of it as an initial idea just like I did with certain first-order codes in performing thematic analysis.

I presented Figure 5 in Chapter 3 to clarify the data form of the sociogram. My analysis below of the sociogram submitted by 3S4N in Action Cycle 1 (see Figure 7) shows how I developed the related information presented Table 9 under the heading of "Perceived influence from analysis sociograms." The possible rankings are "High", "Moderate" (abbreviated as "Mod"), or "Low". I was surprised to see that while there were subtle variations in perceptions about relationships, especially as it related to mutuality, the perceptions of status seemed to be well established and uniform across the participants. In Figure 7, 3S4N represented himself as having low influence in the firm with two ongoing relationships that seem to lack mutuality. It seems that he considered PMN7 moderately influential and receives some manner of knowledge or information on an ongoing basis but does not reciprocate or does not have adequate access to do so. They do partner for one aspect of our operational needs during an active project, but it seems that the information is one-way, perhaps more a matter of instruction than an opportunity for sharing knowledge.

However, 3S4N appears to have access to JL6F, whom he also represented as being moderately influential. Having intimate knowledge of the firm and its members, I can interpret the lack of mutuality stemming from the fact that 3S4N is likely either relaying information from PMN7 to JL6F, again without a mutuality in their exchange of information or knowledge.
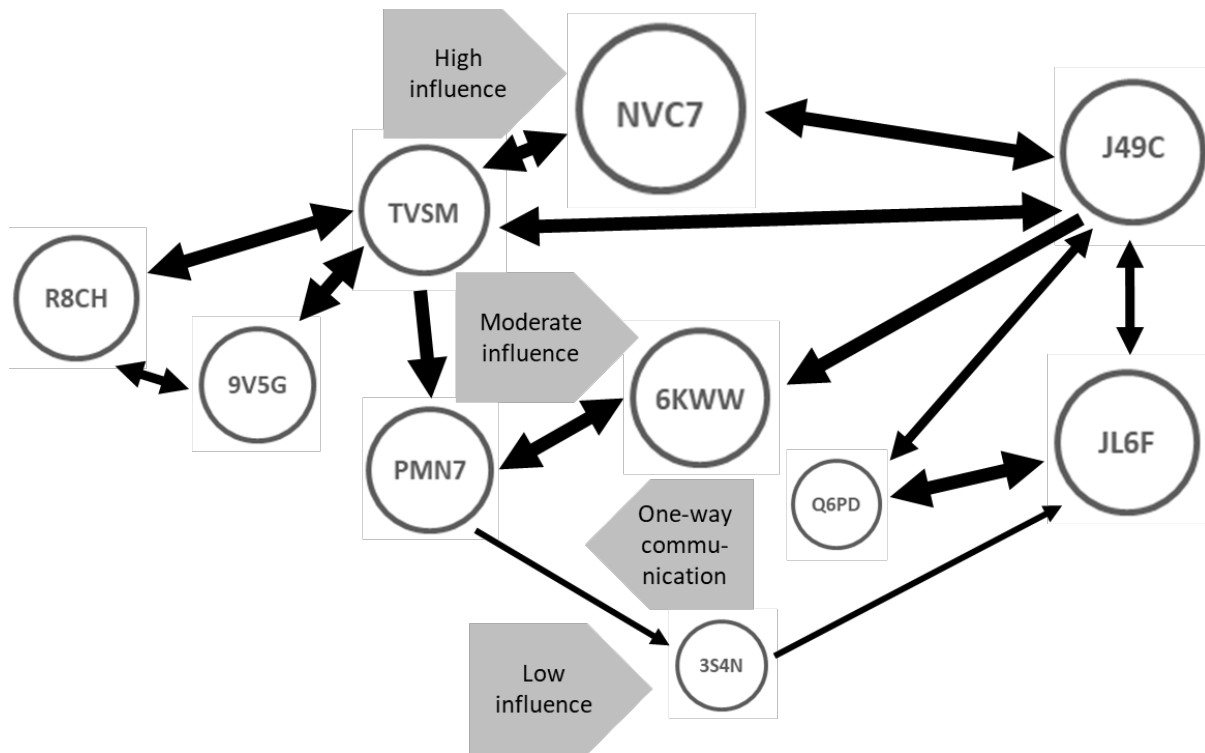
Figure 7. Digitised sociogram (3S4N at entry to Action Cycle 1)

The sociogram may seem like a simple drawing of circles and arrows, but as the

discussion above shows, when placed in the context of the firm, it is a wealth of information for

me as an insider action researcher. One could not discern these dynamics from watching the

social interactions of those same members at, for example, a sporting event attended by the

members of the firm where they might all be engaging in banter and frivolity. I was drawn into

the depth of micro-level interactions within the firm and needed to step back to avoid any

attribution or shift toward blame. Even though I wanted to learn more about the dynamics of

the firm, I needed to develop some rationale for the roster assignment for the upcoming Escape

Room session. The Escape Room facility could accommodate up to twelve participants in one

room, but I wanted to be able to configure the participants into smaller groups that allowed me

to use what the signpost from Action Cycle 1 revealed. With a total of ten total participants, I

decided that I would divide them into two teams of five participants and book two separate

Escape Room puzzles. My rationale for this decision was that I did not want the two teams to

enter into a competition if I was not able to configure the rosters in a meaningful way,

especially if the results of the competition ended up causing further entrenchment within the

clusters of enactment developed by my thematic analysis of the interviews.

As shown in Table 9, I categorised the participants in terms of their perceived influence,

finding J49C and PMN7 to be ranked as "High", 9V5G and 3S4N to be ranked as "Low", and the

remaining participants to be ranked as "Mod" (abbreviated from "Moderate"). While this

seemed contradictory to my approach to avoiding any individual attributions, I maintained the

confidentiality of the data and used it to make a deliberate roster configuration. Using Table 9

as my signpost from Action Cycle 1, I first compiled a sequential list of the four-character

alphanumeric participant identifiers, which I then randomised (cf. Random.org, 2019) so that

no particular ordering would persist in the rosters over the three cycles of action. I distributed

the participants, as I moved down the list, according to their perceived status, ensuring that I

did not assemble any *clusters of enactment* in their entirety on one team and that the "High"

status participants were not on the same team if they already had a strong relationship. I

emphasise here that the helpful clarification between *status* and *influence* for the sociogram

exercise also prepared me for the *clusters of enactment* not aligning with the particular

operational function of key performers. For example, in Figure 7, 3S4N is tasked with the

development functions attended to by the actors surrounding J49C, but his sociogram does not

readily reflect that area of responsibility.

To configure the roster for the first Escape Room session, I distributed the participants such that each team would have three members ranked as "Low" perceived status, with at least one member ranked as "High", and one ranked as "Mod". Therefore, for the first Escape Room session, I had Team A (consisting of J49C, PMN7, R8CH, 3S4N, and Q6PD) and Team B (consisting of 6KWW, 9V5G, NVC7, JL6F, and TV5M). I would revisit these roster configurations following my analysis of the sociometry data at the entry to Action Cycle 2.

I did not provide any information about the team rosters ahead of the day of the Escape Room session. The participants all showed up on time for an orientation meeting with me twenty minutes prior to the actual Escape Room session. They were certainly excited, and I reminded them to have fun and focus on working together. A few of the members had participated in this type of activity several times with other groups, including those from their own practices, and had a favourable opinion of the activity. I was encouraged by the positive attitude I saw among the participants and wondered if the timing was even an issue for such a cost-effective activity when we could easily allocate funds to promote social cohesion moderation as the social activity of the firm using team problem-solving activities. Both teams solved their puzzles in "excellent times" according to the attendant, although I wondered if he said that to everyone. Predictably, the teams demanded to have me declare a winner, and I refused, stating that because the puzzles were different, it really wasn't possible for me to do so. Clearly, this activity had boosted morale and as the participants enjoyed some post-session banter and pizza in the meeting room of the facility, I encouraged them to explore ideas as to how the firm might confront the market conditions stalling our next project. I did not talk about how the firm had stagnated. I wanted to keep the participants encouraged and motivated. I was

very much influenced by providing them with the *actions* to support their *relationships in entrepreneurial collaboration* in keeping with the aggregated themes that emerged from my thematic analysis of the interviews. It would be three weeks until the next group session as the entry into Action Cycle 2 because that was the earliest available date that none of the participants had a conflict. I booked another Escape Room session with the attendant for the week after that. In the interim, I did not have any increase in the usual frequency of my calls with the participants as members of the firm. I also did not want to assert myself or interfere with what I hoped I had set in motion – a revitalisation of criticality and active knowledge sharing in the firm. Usually, the members call each other once a week, more so if there is an active project. However, in my conversations following the first Escape Room session, the topic of "thinking out of the box" became quite persistent among the participants. They admitted that they were ready to try some new ideas, but nothing specific was offered. One conversation with 6KWW that took place a day after the first Escape Room especially encouraged my continued effort: "I love Escape Room. I could be open [about what was and wasn't working] without offending [the other participants]" (Journal note, 22 Nov 2019). This suggested that the *mutual openness* valued as a second-order concept in my thematic analysis of the interviews was also being supported in our collective *action in entrepreneurial collaboration* through *empowering linkages* which I clustered for that aggregated theme.

5.1.2 Stories and signpost from Action Cycle 2

At the entry to Action Cycle 2, the participants were punctual and quite animated in exchanging ideas about the regional real estate marketplace. Two of the participants asked for us to extend the timing of the debrief session after the Escape Room to allow for more brainstorming because we were nearing the Christmas break. TV5M wanted to "make progress on getting back to work on our projects" (Journal note, 10 Dec 2019). I deliberately allowed the members to continue describing the workplace-based problem as their inability to ratify new projects considering the market conditions. However, that inaction was merely a symptom of the real problem – the stagnation of the firm. Nevertheless, I followed the same process as with the entry to Action Cycle 1 and distributed the sociometric tests followed by the sociogram response sheet. The time elapsed was nearly the same as what I observed in the previous session: approximately five minutes to complete Test A; ten minutes for Test B; and another twenty minutes for the last sociogram to be returned. With the last sociogram returned, I was approached by one of the participants who asked me if I was using this information to figure out how to split up the teams (Journal note for R8CH, 10 Dec 2019). Rather than avoid the question, I acknowledged that the data the participants were providing was helping to understand how and where we are stuck and that we could use some help in getting back to being more open in sharing knowledge and offering constructive criticism. I felt my answer was informative without exacerbating any concerns that I was secretly assigning blame for the workplace-based problem. I felt the participant's response was a small win for my pragmatic approach: "Hey. Whatever works" (ibid). This short response indicated that at least this

member was beginning to see the necessary consideration of individual actions toward

resolving the workplace-based problem and the deleterious effect of one of the first-order

effects I generated in my thematic analysis – *division of labour* – in support of the aggregated

theme of *actions in entrepreneurial collaboration*.

I proceeded with my analysis using the same methods from the previous session to

create a new signpost for Action Cycle 2 (see Table 10). The responses showed mutual choice

pairings increased slightly to 53 for Test A, resulting in a cohesiveness index of 1.18 using eq. (1)

for an increase of +0.25 over the last cycle of action. Test B mutual choice pairings and,

therefore, the related cohesiveness index did not change from Action Cycle 1. I was very

disappointed to see that after the first intervention activity, all I had succeeded at doing was to

increase the generalised level of social cohesion reflected by Test A results. Excessive social

cohesion diminishes critical faculty and the quality of decision-making, thwarting optimal

synergy and stifling innovation (Frigotto, 2016; Goold & Campbell, 1998). Here, the affect of the

participants sustained my effort, even when the preliminary data from the first intervention

showed the opposite of what I had intended. I would need to reflect more with the support of

the literature as I will discuss in Section 5.2.

Table 10. Signpost from Action Cycle 2

Action cycle 2		Participant									
Cohesiveness index for sociometric Test A	1.18	J49C	6KWW	9V5G	NVC7	PMN7	R8CH	3S4N	JL6F	Q6PD	TV5M
Change from previous action cycle	+0.25	Perceived influence from analysis of sociograms									
Cohesiveness index for sociometric Test B	0.49	High	Mod	Low	High	Mod	Mod	Low	Mod	Low	Mod
Change from previous action cycle	0	Roster assignment for Escape Room session									
		B	A	A	A [a]	A	B	A [a]	B	B	B

[a]Interactions between 3S4N and NVC7 are highlighted for discussion purposes.

Undeterred, I pressed on with my analysis of the sociograms from the entry to Action Cycle 2. Having analysed the sociograms from the first cycle of action, I had a baseline for comparison, allowing me to focus on the differences from this session to fulfil my pragmatic approach to roster configuration. While there were subtle changes in several of the submissions, they were more a variation in the spatial placement rather than actual changes to status or patterns of influence. The results from my analysis were unchanged from Action Cycle 1 as shown in Table 10. I was unsure whether I should be disappointed as I had learned not to expect such a change because the *a priori* perceived status held by the members was expected to persist regardless of the task of resolving the workplace-based problem (Moore Jr., 1968; Simpson et al., 2012). I wondered if this applied to the cohesiveness indices I had calculated and will discuss the meaning of this insight in Section 5.2 below.

Using the same rationale from Action Cycle 1, I compiled a randomly ordered list of the ten participants and divided them into two teams as I did for the first Escape Room session. Team A would be comprised of 6KWW, 9V5G, NVC7, PMN7, and 3S4N. The roster for Team B was J49C, R8CH, JL6F, Q6PD, and TV5M. The next Escape Room session was already booked for

the next week. I admit to being very tempted to increase the frequency of my phone calls with the participants. Again, I had to remind myself of any that any misperception of asserting positional leadership could be ruinous to my agency, especially when I was unclear about the liminality of how the affect of the participants was counterintuitive to what the data from the entry to Action Cycle 2 revealed. The participants were clearly active in their information exchanges with one another at our group sessions. Most importantly, I could see that the individuals represented in *clusters of enactment* were beginning to engage in *constructive criticism* with those not represented in their corner of the sociograms they had submitted.

After I had collected all the response sheets, I asked the participants to remain and enjoy some coffee and snacks that I had arranged to be delivered. The exchanges between the participants were not heated, but they were lively around their understanding of the market conditions that had made it seemingly impossible to develop real estate assets to be appealing to potential buyers and profitable for the firm. For example, 3S4N (who was consistently reported as having "Low" perceived status, including by his own assessment) approached NVC7 (who was consistently, reported as having "High" status, including by his own assessment). Of course, I knew they enjoyed amicable social relations in the social gatherings of the firm, but NVC7 was the recognised key performer in the undertakings of the firm when it came to structuring financing and liaising with real estate professionals. While 3S4N was creative in his own right and had an established, successful practice of his own, he was usually tethered to J49C's cluster of enactment for the construction oversight of the firm's projects. This interaction was summarised by my journaling:

3S4N just walked up to NVC7 and asked if he was excited for the next Escape Room session. They cracked a few jokes, and then 3S4N asked if they could maybe talk about why we always structure our financing for short-term flips and purchase most of the assets we develop outright. I couldn't hear the rest of the conversation, but I was glad it was taking place. Remember don't get caught up on the symptom!!! Keep your eye on the prize!!! (Journal note, 10 Dec 2019)

In the context of the firm, "assets" refers to real estate assets which could span everything from a condominium to a detached home or even a parcel of land. Typically, the firm relied on its preferred realtors to provide market intelligence and designated which assets would be developed according to prevailing trends in the marketplace in terms of aesthetics, functionality, and location. Accordingly, the financial resources to support the development of an asset were structured for the scheduled renovation period with an additional three months to allow a buffer for the selling process. The members would contribute the necessary financial resources such that their proportional contribution would be returned and reflected accordingly in their sharing of the profits or, as is at the core of the workplace-based problem, losses. Of course, the capital that individual members contributed for a project was tied up until the asset was sold.

I admit that in all the years I have known NVC7 I had never thought to ask such a question. To explain my journal note further, I used "symptom" to refer to the inability of the firm to ratify a new project for development because of the members' fear of not being able to achieve profitability in light of rising costs across the real estate sector in the region, including labour and material costs. By "prize", I referred to the workplace-based problem from an organisational perspective in terms of what I had to target as an insider action researcher – the

stagnation of the firm. I had to remind myself that revitalising the firm to produce another

successful project would be meaningless if my agency did not help foster the *relationships* and

the *actions in entrepreneurial collaboration* necessary to sustain problem-solving capacity.

Moreover, in the fulfilment of my research aim, I needed to also give my attention to critically

assessing how and when social cohesion intervention should be undertaken to optimise synergy

among the collaborating entrepreneurs comprising the firm. I felt the weight of all these

priorities and realised that maintaining my pragmatic approach also meant that I would have

intervened with the process to assign the team rosters according to the signpost for Action

Cycle 2 (see Table 10). The random listing of the participants and my sorting according to the

process described above did lead to 3S4N and NVC7 being on the same team (Team A).

However, I admit that I would have intervened in my own process to maintain the momentum

of the interaction between them as we wrapped up the group session at the entry to Action

Cycle 2.

The second Escape Session took place on schedule and uneventfully to report. I felt like I

had achieved the balance I had sought in being a resource and a facilitator without constraining

the creativity of the participants. Both teams completed their puzzles and enjoyed a lively

discussion during our debrief session. Again, I noticed NVC7 pull out a chair for 3S4N across the

room. They were referring to web articles on their smartphones and NVC7 was actually taking

notes of his own.

Regrettably, I had somehow ended up at the other end of the room amid of a discussion

between Q6PD and J49C about the firm's approach to procuring materials and securing skilled

labourers. It would not have been appropriate for me to record what was being said, given my

research design and the particulars of participant consent that was in place, and I wondered if

they would talk so freely if they were being recorded anyway. I would have to rely on the Keep

Notes application on my smartphone once I had left the session and was able to park nearby.

Meanwhile, my attention to what was being discussed by Q6PD and J49C was short-lived. I was

intrigued by PMN7, who was talking to R8CH about standardising the enforcement of contracts

to avoid high legal costs arising from every violation being a separate engagement of our

solicitors because of the transactional nature of our projects. My journaling for the entry into

Action Cycle 3 captures my excitement:

> Wow! It was as if they came to the Escape Room to get loose. Finally, PMN7 and R8CH
> are talking about [redacted]. When that … deal blew up, we really spent a lot of money
> to get back on track. I hope everyone can start embracing the continuity of the firm and
> not just show up to make a profit from time to time. (Journal note, 18 Feb 2020)

While this entry is rather candid, it also shows the power of deliberate, reflective practice using

Gibbs' (1998) framework. In this entry I am considering first what was said and how I felt about

it. A project that was undertaken a number of years ago had a deficiency caused by a contractor

with whom the firm had a long-standing and positive relationship. The deficiency was litigated

by the buyer leading to an incredibly stressful and costly remediation process. The firm was

utterly unprepared despite being comprised of seasoned business practitioners who are well-

versed and apply good risk management practices in their respective domains. The

transactional mindset is something of which I have also been guilty as it relates to the projects

undertaken by the firm. Part of *sharing knowledge* is having continuity for *communication in ad*

hoc firm to support the *actions in entrepreneurial collaboration* that emerged as an aggregated

theme in my analysis of the interviews.

These conversations were happening between participants of varied status and across the

clusters of enactment, evident in the sociograms and across the team rosters. The atmosphere

reminded me of the *voice* and *constructive criticism* the member offered to one another when

the firm first started developing real estate assets nearly a decade ago. The affect of the

participants suggested that the intervention activity of Escape Room had provided the

necessary *actions in entrepreneurial collaboration* for them to have *meaningful interactions* in a

supportive environment toward *empowering social linkages*. This behaviour also demonstrated

their willingness to consider *experimentation* through their *relationships in entrepreneurial*

collaboration. As we said our goodbyes at the Escape Room venue, I encouraged the

participants to keep their conversations going and thanked them all individually.

5.1.3 Stories and signpost from Action Cycle 3

Again, I was very tempted to increase the frequency of my phone calls with the

participants after the second Escape Room session. Between the Christmas break and the

family vacation plans of three of the participants, I could not schedule the next session until

two months later. I maintained my usual weekly phone calls with the participants but was

cautious to avoid becoming a knowledge broker where I might inadvertently trigger a trend

towards knowledge centralisation instead of the knowledge sharing that would serve the

structure and recovering dynamics of the firm more suitably (cf. Weick, 1979, 1988, 2002). One striking perspective was offered to me in the midst exchanging wishes for the New Year:

> Q6PD just vented to me after [wishing me] Happy New Year. He was feeling frustrated to have become a cog in what was supposed to be a group of entrepreneurs. He didn't see how he was developing or why he should take financial risk when [the firm] wasn't sure about so many things. (Journal note, 01 Jan 2010)

His sentiment alerted me to how entrenched the issues of *status, resulting patterns of influence*, and *clusters of enactment* had become. This suggested that whether the firm was unable to develop its assets for the marketplace conditions at the time was a lesser issue than the sub-optimal synergy with which they were operating. This insight is elaborated in Section 5.2 below.

With the same methods I used for the first and second cycles of action, I convened and administered the sociometric tests and sociogram exercises. The response sheets were again returned after approximately five minutes for Test A and ten minutes for Test B. However, the last sociogram was submitted to me after thirty minutes instead of twenty as it was at the entry to Action Cycle 1 and Action Cycle 2. I did not observe any behaviour that was different than the participants maintaining sustained focus on the response sheets. I would have to wait until I was able to analyse the sociograms to consider why the submissions took longer in this session. The conversation that followed the session was characterised by members updating one another on their holiday adventures. However, four members approached me to tell me that they were glad to have a bit of time after the second Escape Room session to think and

reconnect with all the members of the firm. The most encouraging comment for my agency came from NVC7:

> NVC7 just pulled me aside to apologise for having been so focussed on making sure financing was being done properly. He meant from an administrative standpoint. He couldn't believe that he never thought of doing [project] financing differently. He has been working with an idea that started when 3S4N asked him why they keep structuring the financing the way we have always done. That was at the last group session [entry to Action Cycle 2]. He wanted to have a few minutes to introduce the idea with 3S4N at this session. (Journal note, 18 Feb 2020)

After I tucked all the response sheets into my briefcase, I thanked everyone and explained that NVC7 and 3S4N wanted to share an idea with everyone. There were no objections from the participants. Rather, they applauded and encouraged NVC7 and 3S4N to share their idea. The participants selected from the tray of desserts I had arranged to be delivered and settled into their chairs with their coffees.

3S4N explained how he wanted to find a way that we could develop assets profitably by connecting directly with motivated, qualified buyers through our realtor network instead of developing assets to appeal to the general market. He felt that this approach could enhance the probability that a completed project would fetch a good price regardless of the market conditions and with a better assurance of profitability for the firm's members. NVC7 then addressed the frustrations he frequently heard from the members of the firm when their capital was tied up, waiting for a completed project to sell on the open market. In summary, NVC7 and 3S4N proposed adapting the firm to bespoke building by using the market

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intelligence and client pools accessible through the firm's preferred realtors, including past clients. In this way, the firm could structure each project using construction mortgages held by the bank on behalf of the buyer. Funds would be released according to satisfactory completion of pre-determined phases of the development. However, the capital of the firm's members would not be tied up as most of the development could be leveraged against the owned asset being prepared for the specification of the client.

I sat back and saw the participants visibly relax in their chairs and look at one another reassuringly, nodding their heads. I started wondering if I should cancel the Escape Room booking I had made for the following week. At that point, J49C interjected jovially: "Listen, everyone, I think this Escape Room is great. But do we really need to go again right now?" (Journal note, 18 Feb 2020). Clearly, the sentiment expressed by J49C affirmed the selection of a team problem-solving activity, particularly Escape Room, to support the moderation of social cohesion. Just like with their selection of Escape Room as the intervention activity, the participants called for a vote. They unanimously voted to continue brainstorming on the idea developed by NVC7 and 3S4N instead of participating in another session of Escape Room. I excused myself to call the attendant at the Escape Room facility and cancel the booking I had made.

I would like to remind the reader that I developed the signpost over several days following the brainstorming session at the end of each entry to a cycle of action. In this section, I have deliberately delayed the reporting of the signpost for Action Cycle 3 (see Table 11) so that I could convey the sense of how the story unfolded. Notwithstanding, the development of the signpost for Action Cycle 3 is still significant to my research as it will serve my

understanding of key points and meaning, as discussed in Section 5.2 below. The mutual choice pairings for Test A summed to 56, giving a cohesiveness index of 1.24, showing another small increase in general social cohesion of +0.06 over Action Cycle 2. For Test B, the sum of the mutual choice pairs was 24, increasing by 2 mutual choice pairings that, most interestingly, represent a change in the selections of NVC7 and 3S4N.

Table 11. Signpost from Action Cycle 3

Action cycle 3		Participant									
Cohesiveness index for sociometric Test A	1.24	J49C	6KWW	9V5G	NVC7	PMN7	R8CH	3S4N	JL6F	Q6PD	TV5M
Change from previous action cycle	+0.06	Perceived influence from analysis of sociograms									
Cohesiveness index for sociometric Test B	0.53	High	Mod	Low	High	Mod	Mod	Low	Mod	Low	Mod
Change from previous action cycle	+0.04	No roster assignments were made because the participants reached a consensus to continue brainstorming instead of another Escape Room session.									

This change cannot be substantiated as being statistically significant, let alone generalisable. However, I did not develop the signpost for my sociometric data for the purpose of establishing causality. As the insider action researcher, the signpost has served its purpose as a tool to guide my roster assignments for the Escape Room sessions in the first two cycles of action. In Action Cycle 3, the same signpost is helping me to make sense of the data and triangulate (favourable) changes in the critical faculty and problem-solving capacity of the group, even though the general social cohesion (i.e., Test A mutual choice pairings) still increased slightly. I expand on this issue in Section 5.2 below.

Considering the arguments of Moore Jr. (1968) and Simpson et al. (2012) for the persistence of perceived status, I was not as disappointed as I was after analysing the sociograms in Action Cycle 2. I expected *a priori* perceptions of status to remain unchanged regardless of the task being defined and confronted by the firm (ibid). However, my analysis does shed some light on the possible reasoning for the additional time it took for the sociograms to be completed by the participants. Again, apart from some spatial variations, the sociograms were unchanged in terms of the perceived status or the patterns of influence. However, as is shown in Figure 5 as the digitised sociogram for NVC7 at the entry to Action Cycle 3, NVC7 was attempting to represent a newly developed avenue of discourse within the firm between himself and 3S4N using a dotted line. 3S4N did the same thing except using a dashed line. Both participants represented that new operational (as opposed to purely social) relationship with a double-headed arrow. This suggests they were honouring the *mutual openness* that had been revitalised in their relationship by their *actions in entrepreneurial collaboration* that were made possible by the Escape Room as an intervention activity to moderate social cohesion.

5.1.4 Summary of findings

In using sociometry to support the cycles of action, I found that the general level of social cohesion actually increased when bringing the participants together for a team problem-solving activity intended to serve as an intervention to moderate social cohesion. This finding was counterintuitive to my intended and expected outcome. Meanwhile, the promotion of the

level of criticality lagged behind and was not represented in the data until the entry to Action

Cycle 3, despite the affect of the participants clearly demonstrating a revitalisation of their

mutual openness in their *relationships* and *knowledge sharing* in their *actions*. Additionally, the

perceived status of the participants among one another remained unchanged throughout the

cycles of action, extending to the patterns of influence in a manner that did not always show

clusters of enactment aligning with the operational functions of sub-groups. I discovered that

the entrenchment of these clusters of enactment was not only defining the perceived status of

individuals but also dictating the patterns of influence. Despite noticeable and positive progress

in the resolution of the workplace-based problem, the patterns of influence did not change

except to reflect new channels of *mutual openness* developing because of the intervention

activity fostering *organising communication*.

5.2 Key points and meaning

Sociometric technique aligned with my philosophical stance and provided an apt

framework for the cycles of action, including the Escape Room activity that was chosen for

intervention. Three key points arose from this process with respect to social cohesion in the

promotion of critical faculty, perceived status and patterns of influence, and clusters of

enactment. Based on my findings, I argue that the measurement of social cohesion, instead the

calculation of cohesiveness index using eq. (1) cannot explain how or why social bonds were

formed, nor should they be used for decision-making without consideration of the context of

the group (cf. Forsyth, 2010; cf. Salo, 2006).

Secondly, the perceived status of the participants among one another was expected to persist along with patterns of influence even if the understanding of the task of the workplace-based problem was becoming better defined over the course of the cycles of action (cf. Moore, 1968; cf. Simpson et al., 2012). However, I argue that patterns of influence can change without necessarily changing the perceived status of an individual in the entrepreneurial collaboration (cf. Salo, 2006) because of new channels of mutual discourse being fostered by using an intervention that targets the moderation of social cohesion. Thus, what I have conceptualised as excessive social cohesion leading to sub-optimal synergy may be subject to non-linear change as the micro-level interactions of the collaborating entrepreneurs continue to be supported toward reaching a tipping point (cf. Marion, 2009; cf. Muhlenhoff, 2016; cf. Najmaei, 2016; cf. Stacey, 2011).

Finally, the *clusters of enactment* that I generated as a second-order concept in my thematic analysis of the interviews play a significant role in the stagnation of the firm, not necessarily as a site of resistance but of deep entrenchment in task performance. The impact of identifying such loci within the firm is a gateway to unravelling the dynamics of the firm toward optimising synergy (cf. Weick, 1979, 1988). These finding invite further questions and permit cogent responses to the insights from my data as discussed in Section 5.3 below.

5.3 Recommendations and next steps

I set out to curtail the level of social cohesion among the collaborating entrepreneurs and seemingly did the opposite. The cycles of action represented the activities I facilitated for the

effective implementation of knowledge (Greenwood, 2007; Greenwood & Levin, 2007). More

specifically, the knowledge I was trying to implement was to address the stagnation of the firm

by revitalising criticality and *mutual openness* among the firm's members. However, the

knowledge I was trying to generate was the plausible and pragmatic strategy to confront the

market conditions and return the firm to active practice. My effort hinged on liberating the

collaborating entrepreneurs from a state of sub-optimal synergy to enhance their problem-

solving capacity. How could I routinely foster the *relationships* and *actions in entrepreneurial*

collaboration that emerged as aggregated themes from my analysis of the semi-structured

interviews?

While scholars posit that the social bonds between entrepreneurs are the very site of

entrepreneurship, these bonds can also become the site of inaction and excessive risk taking

when overloaded with a sense of belonging and familiarity (cf. Chen et al., 2017; cf. Najmaei,

2016; cf. Wise, 2014). For the firm's members, the reactivation of their active interactions

anchored in a problem-solving activity was a necessary step. However, I was naive to think that

revitalising the connectedness of the members in problem-solving would not, at first, manifest

as an increased sense of belonging conflated with their inclusion. This would be especially likely

in the individuals with "Low" perceived status and is represented in their mutual choices for

Test A, but not Test B. This trend suggested that, initially, members with "Low" perceived status

viewed their inclusion favourably but still had not established *voice* toward *mutual openness*

with individuals that had "High" perceived status. This pattern played out quite vividly in my

tracing of the interactions and exchanges between NVC7 and 3S4N in the cycles of action.

Nevertheless, the recommendation arising from my understanding of the findings is that I do

not need to adopt more complex mathematical modelling to measure social cohesion for my

purposes, but rather I need to monitor the critical faculty in the social bonds of the

collaborating entrepreneurs as a priority to guard against sub-optimal synergy.

Regardless of the task confronting the collaborating entrepreneurs, they maintained

their *a priori* perceptions of one another's status within the firm (cf. Moore Jr., 1968; cf. Salo,

2006; cf. Simpson et al., 2012) – until new, active channels arose through intervention. Those

channels contributed to the resolution of the workplace-based problem by creating an

opportunity for individuals to demonstrate *commitment* and *follow-through* to bring *credible*

knowledge and *build legitimacy* to support *their relationships in entrepreneurial collaboration*

as developed in the thematic analysis of the interviews. This must be supported by creating

access to communication by which the entrepreneurs improve (or even resume) *sharing*

knowledge through their *actions in entrepreneurial collaboration*. Furthermore, the perceived

status of firm's members, the resulting patterns of influence, and related clusters of enactment

had become so entrenched that the entrepreneurs were not behaving entrepreneurially at all

in their approach to the undertaking of the firm. They were simply attending to their assigned

task in each project and ensuring that they did it properly according to the expectation of past

transactions.

The *clusters of enactment* present a significant area of necessary focus for my ongoing

practice in the firm because they entail status hierarchies and impact the organisation of

collective action (cf. Weick, 1979, 1988). Neither my intent nor my purpose involved disrupting

the structure of the firm. Rather, in showing deference for individual sovereignty, I could offer

team problem-solving activities as social interactions to break down in-groups arising from

division labour and the resultant clusters of enactment that seemed to be anchored on key performers within the firm (Graen & Uhl-Bien, 1995; Uhl-Bien & Marion, 2009).

For the messaging with the firm, I need to use my agency to keep the members focused on their collective problem-solving capacity, not just their success or failure in solving a particular problem. To that end, I must continue to emphasise to the firm's members that sustaining their *relationships* and *actions in entrepreneurial collaboration* take precedence over a dedicated focus on task performance or a lapse in their efforts because they resumed active practice after a period of stagnation. Further to my analysis above, the main outcomes and actionable knowledge are summarized in Table 12 as the results of the sociometric technique.

Table 12. Results of sociometric technique

Main outcomes	1. Measurement of social cohesion cannot explain how or why social bonds were formed. 2. Patterns of influence can change without necessarily changing perceived status of a collaborating entrepreneur through mutual discourse. 3. *Clusters of enactment* play a significant role in the stagnation of the firm.
Actionable knowledge	1. Social bonds between entrepreneurs are the site of innovativeness but also inaction without criticality. 2. Perceived status of individuals entrenches *clusters of enactment* without active support of communication channels.

Having tasted a modicum of success in my role as an insider action researcher, I still wondered what would have happened if my research design did not work. I was motivated to gain better insight into the effect of the intervention process that I had facilitated and embarked on the necessary learning to design, administer, and analyse a post-study survey, specifically a retrospective pretest-posttest survey (cf. Little et al., 2020). In the next chapter, I discuss how I assessed the firm's members in terms of their perceptions of changes in their knowledge, skill, attitude, or behaviour at particular time points in the cycles of action as described in Table 4.

6 Retrospective pretest-posttest survey data

I presented my interest in the post-study survey at a meeting of the firm that took place to review potential development projects. The firm was no longer stagnant and had begun a new practice of meeting several times throughout an active project - not just before. The excitement from the Escape Room sessions had transformed into a cultural shift. The members met to do more than coordinate a ratified project regarding its component transactions and tasks. There was a new emphasis on encouraging the constructive criticism of decisions and procedures instead of just doling out tasks in setting about the *division of labour*. After engaging the firm in action research through semi-structured interviews and sociometry, I was hesitant to oblige the members with yet another component of my research. However, the participants were supportive and unanimously approved.

Moreover, I wanted to go further in my development as a scholar-practitioner, especially considering my curiosity to know what exactly made the intervention work. My mindset was not to generalise the findings to every entrepreneurial cadre. Instead, I wanted to know what I could continue to do through my agency to sustain optimal synergy in the firm.
I also felt unclear about the paradoxical increase in generalised amicability over the course of the cycles of action – despite the resolution of the workplace-based problem. At this point, I began thinking more of my third-person practice and how I needed to reflect more meaningfully to share my action research experience and findings with other practitioners.

To administer the survey, I conducted private, one-on-one sessions with each participant at their respective offices. I required ten minutes after arriving to set up my laptop

and orient the participant, emphasising the importance of reflecting on the time point being queried (cf. Little et al., 2020). The sessions lasted forty-five minutes to one hour in total. As discussed in the next section, my post-study survey incorporated Likert scales and open-ended questions to further my understanding of the participants' perceptions over the course of the intervention experience.

6.1 Making sense of the data

I entered my DBA journey thinking of qualitative and quantitative data as more dichotomous than complimentary. Indeed, I had no frame of reference to consider how they might be recursive. Although I discussed my philosophical stance, data collection plan, and data analysis plan for the post-study survey in Chapter 3, I want to emphasize the impact of this undertaking on my first-person practice. I applied Gibb's (1998) framework to my analysis of the statistical report of the Likert scale responses and the thematic analysis of the typed responses to open-ended questions. In doing so, I synthesized the insights into a better understanding of what happened to spark the resolution of the workplace-based problem. Below, I report on the data from the post-study survey and how I used it pragmatically to reflect on the intervention undertaken through the cycles of action.

6.1.1 Likert scales

The descriptive statistics generated by the analysis of the post-study survey were extensive. As a matter of rigour, Appendix J tabulates the entirety of that data for each of the eight items used in the Likert scale portion of the survey (see Table 5) across the five time points described in Table 4. Any mention of *p-value* in my analysis was not an attempt to generalise the response level analysis or the repeated measure ANOVA. I made the comparisons within and across time points according to the given survey item. This approach was essential to maintaining my philosophical stance and avoiding any attribution to an individual participant.

In looking back at the entire process of intervention, Table 13 presents the summary response level by time point. Paying attention to the mean values, there was little difference across the time points, ranging from 2.30 to 2.80, with a relative mathematical error of 0.11 to 0.13 (i.e., SE_M). However, the tight range in the skewness (from -0.11 to 0.68) and kurtosis (from -1.14 to 0.16) indicated that the comparisons between time points were normally distributed within the group of participants (Field, 2018). Of course, within that generality was also the story of 3S4N and NVC7 discussed in Chapter 5.

Table 13. Summary response level by time point

Time point	M	SD	n	SE_M	Min	Max	Skewness	Kurtosis
1	2.30	0.39	10	0.12	1.75	3.12	0.68	0.16
2	2.34	0.33	10	0.11	1.88	3.00	0.52	-0.37
3	2.45	0.35	10	0.11	1.88	3.00	-0.02	-0.87
4	2.67	0.35	10	0.11	2.12	3.12	-0.46	-1.05
5	2.80	0.41	10	0.13	2.12	3.38	-0.11	-1.14

At this point, I still wanted to know how closely related the individual survey items were. The answer was provided by calculating Cronbach's alpha (α). Using a 95% confidence interval for the upper and lower bounds, Cronbach's α was 0.94, indicating high internal reliability for the statistical data (Field, 2018). With this understanding, I could address the question of whether there was an overall statistically significant effect of the intervention on participant perceptions across the five iterations of survey administration (i.e., time points 1, 2, 3, 4, and 5). I used the partial Eta squared (ηp^2) to calculate the effect size throughout my repeated measures ANOVA analysis, applying the Greenhouse-Geisser correction to adjust for the violation of sphericity in the data (Field, 2018; Sawilowsky, 2009). With this conservative approach, the magnitude of effect for the overall intervention was 0.62, which is considered "huge" by Sawilowsky's (2009) classification of effect spotting. This finding was reassuring for my practice and agency because it meant that my efforts did bear fruit and that the spark that led to resolving the workplace-based problem was not a matter of luck. I had not forgotten my frustration in watching general amicability rise over the course of the intervention, despite enjoying success in confronting the stagnation of the firm. I would have to continue my exploration of the data generated by the post-study survey.

Therefore, I wanted to know which of the eight survey items (see Table 5) reflected statistically significant intervention effects across the five iterations of the study. The analysis revealed that Items #1, #4, and #7 stood out for having shown the most effect over the course of the intervention (see Table 14).

Table 14. Repeated measures ANOVA for significant item effects

Source	df	SS	MS	F	p	η_p^2
Item #1 – I like working with everyone in our group.						
Within-Subjects						
Within Factor	4	2.32	0.58	5.12	.002**	0.36
Residuals	36	4.08	0.11			
Item #4 – Our group solves problems as a team.						
Within-Subjects						
Within Factor	4	12.92	3.23	27.17	< .001	0.75
Residuals	36	4.28	0.12			
Item #7 – Our group should spend more time on team-building activities.						
Within-Subjects						
Within Factor	4	10.68	2.67	25.84	< .001	0.74
Residuals	36	3.72	0.10			

The effect size for Item #1 represented the extent to which the perceptions of the participants changed (favourably) for the statement "I like working with everyone in our group." It was found to be between" very large" and "huge" (η_p^2 = 0.36). This finding is significant to the seeming paradox of general amicability increasing despite my intention to reduce excessive social cohesion and informed my effort to derive meaning, as discussed below. For Item #4, as shown in Table 14, the effect size was considered "huge" (η_p^2 = 0.75). Similarly, the effect size for Item #7 was also "huge" (η_p^2 = 0.74) and was very meaningful for the future social gatherings of the firm. I considered supplanting all the firm's future leisure-based activities with team problem-solving games. Still, I decided to weigh my instincts against what I would learn

from the responses to the open-ended questions. I continued to reflect on the insights

developed in this section as I analysed the participants' typed responses using thematic analysis

as reported in Section 6.1.2. My rationale was to allow for a recursive process supported by

Gibb's (1998) framework to enrich the key points and meaning that would inform my

recommendations and next steps.

6.1.2 Open-ended questions

For the post-study survey, I used the same approach and tools for my thematic analysis

as I did for the semi-structured interviews (see Section 3.5.1). However, there was one big

difference. The patterns I spotted and used to generate first-order codes from the interview

data were clustered into second-order concepts and aggregated themes which were now part

of my knowledge base. My decision-making process had already been informed and influenced

by those findings. I could not pretend they were not there. I had to consciously resist the

convenience of developing a data structure tainted by *a priori* themes and sub-themes.

Therefore, I reminded myself of the context of my post-study survey throughout each iterative

analysis session to challenge this bias. I wanted to improve my understanding of the

intervention from the participants' point of view and what addressed my research objectives in

that process. From that effort, I aggregated *transforming relationship* and *transforming activity*

as distinguishable yet recursive themes arising from the participants' experiences across the

cycles of action, as shown in Figure 8 below. I did prefer the use of gerunds over nouns for

naming interconnected processes (cf. Weick, 1979). However, this naming convention did not

form an *a priori* notion of what I might discover in the participants' typed responses to the

open-ended questions posed in the post-study survey.

Looking back at the intervention experience and with an intimate knowledge of the firm,

I could see that without structured and targeted interaction, the members tended toward
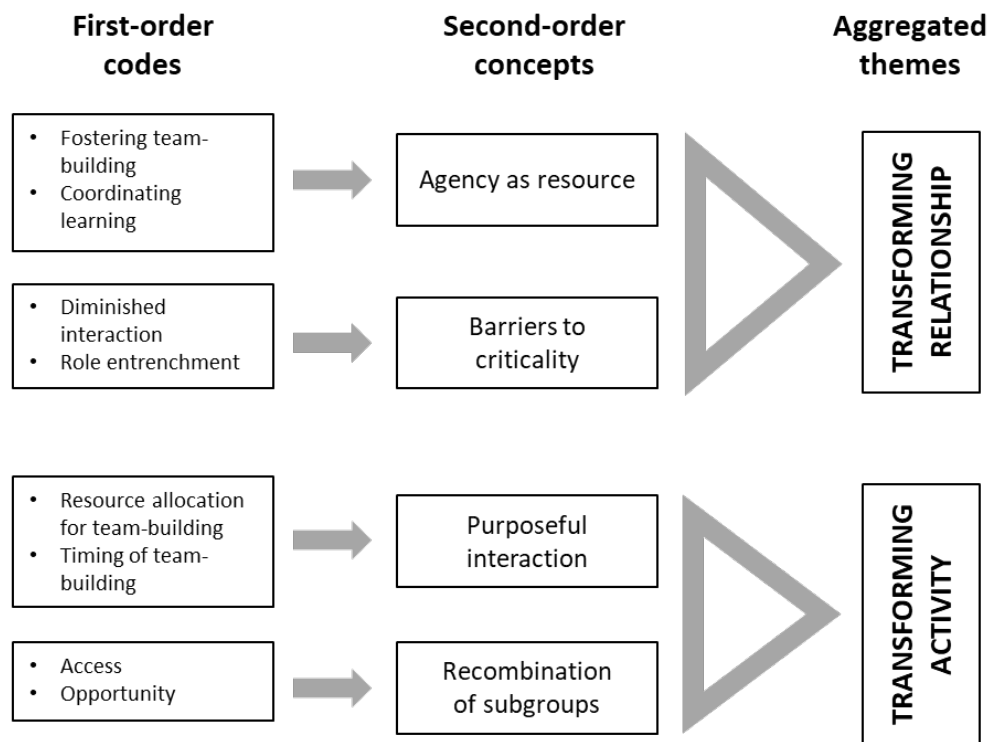
leisure-based activities when connecting.

First-order codes

- Fostering team-building
- Coordinating learning

- Diminished interaction
- Role entrenchment

- Resource allocation for team-building
- Timing of team-building

- Access
- Opportunity

Second-order concepts

Agency as resource

Barriers to criticality

Purposeful interaction

Recombination of subgroups

Aggregated themes

TRANSFORMING RELATIONSHIP

TRANSFORMING ACTIVITY

Figure 8. Textual data structure for post-study survey

However, without support for the development of their interconnected communication

processes, their social bonds could not generate the spark of innovation for which

entrepreneurs are known (Chan et al., 2007; Chen et al., 2017; Covi, 2016; Mulunga &

Nazdanifarid, 2014; Najmaei, 2016; Weick, 1979). The amount of textual data generated by the

post-study survey was much less than that of the semi-structured interviews. Nevertheless, as discussed in Chapter 3, the resulting data form required no less scrutiny, reflection, or effort to analyse the participants' perspectives over the course of the intervention experience. In several instances, I needed to clarify the meaning of the typed responses, which I have indicated with square brackets. I made these clarifications during the one-on-one, in-person sessions or a private, follow-up phone conversation. Several participants verbally offered additional information about the intervention experience during the survey administration or in the debrief conversation I had with them at the end of the session. I preserved this information in journal notes, referencing them where used in my discussion. The post-study survey also supported my ongoing agency in the firm, and I do not wish to obscure that political dimension of my undertaking. I wanted to promote optimal synergy among the collaborating entrepreneurs, so they could continue to see the stagnation of the firm metaphorically as an illness and their inability to operate in unfavourable market conditions as a symptom of that illness (cf. Argyris et al., 1985; cf. Stacey, 2011).

6.1.2.1 Transforming relationship

In this section, I discuss how I developed the aggregated theme of *transforming relationship* by generating first-order codes, which were clustered into two second-order concepts: *agency as resource* and *barriers to criticality*. The illustrative quotations contributing to that analysis are presented in Table 15 below.

Agency as resource was a crucial second-order concept as its development from the

data was indicative of the participants recognising that an organisational actor could assume

the role of facilitator to support relationships in the firm. Without exception, every salient

response to the question of positional leadership prompted commentary about *fostering team-*

building and *coordinating learning*, which are the two first-order codes that I clustered for that

second-order concept. *Agency as resource* conveyed that the participants wanted an agent of

change, but perhaps some did not understand how that role could be fulfilled without

constraining their creativity.

Table 15. Transforming Relationship

Second-order concepts	Illustrative quotes Transforming relationship	First-order codes
Agency as resource	"I don't think anyone in this group wants a leader ... I don't mean that particular people can't take the lead on putting together our group activities." (NVC7) "I do not want to have a boss for our group. At the same time, we have to do better at sharing information and ideas instead of the same people always doing certain tasks for every project by themselves." (6KWW) "I am against anyone in our group trying to be a manager. But, ... we need to start leaning on each other more and allow different people to coordinate the information." (JL6F) "Nobody in this group wants to be managed. We need to be OK with somebody coordinating what we do and share." (TV5M)	Fostering team-building Coordinating learning
Barriers to criticality	"We are not as comfortable challenging each other like we would years ago. We don't really interact ... where we can receive input and feedback." (JL6F) "I'm not critical [because some group members are just accepted as being good at a particular task and do not check with anyone else anymore] and that is making it harder to build on each other's ideas and get to the next level." (NVC7) "... we can[have to be] be more open with constructive criticism [to people that are now responsible for particular tasks]." (3S4N) "Basically I can go to some of the people in our group to talk to them about a problem I have in my work but I don't feel that way about talking to them about how they deal with what they do for our group projects." (JL6F) "We are too comfortable [in our roles] and don't challenge one another like we did before our first few projects." (J49C) "I could do better [to challenge the way we do things] but I always worry that [my input] will upset someone if I [constructively] criticise them in this group [because they have been designated to perform certain tasks]." (PMN7)	Diminished interaction Role entrenchment

Fostering team-building emerged as a first-order code quite readily. For example, NVC7 echoed the unanimous disdain among the firm's members for positional leadership, but he showed how to encourage the collaborating entrepreneurs toward being sustainably innovative through their relationships. He acknowledged that he didn't "think anyone in this group wants a leader [telling them what to do or with whom to brainstorm]." He confirmed that particular people could "take the lead on putting together our group activities." This revelation showed that even as an organisational actor of "High" perceived status (see Chapter 5), NVC7 was desirous of having someone coordinate group activities that would not micromanage the collaborating entrepreneurs or govern their relationships.

Adding to the salience of *agency as a resource*, 6KWW offered some further details as an example of *coordinating learning* as a first-order code. He acknowledged, "We have to do better at sharing information and ideas instead of the same people always doing certain tasks." This suggested that participants understood that knowledge sharing in the firm was not a passive process and needed an agent for its facilitation. This sentiment also presented the notion that the enactment within the firm hindered the coordination of learning. "We need to start leaning on each other more and allow different people to coordinate the information" (JL6F) demonstrated the interrelatedness of both the first-order codes that I clustered for *agency as resource*. This statement encouraged the consideration of team-building as integral to coordinating the firm's learning. Additionally, "We need to be OK with somebody coordinating what we do and share" (TV5M) reinforced the understanding that the successful

facilitation of knowledge between the firm's members could not be passive and did require an agent.

Barriers to criticality was the other second-order concept I developed under the aggregated theme of *transforming relationship*. While *agency as resource* appeared to be a more recent consideration in the firm, the participant's memories seemed to trigger *barriers to criticality* as they went through the cycles of action. To develop this sub-theme, I clustered diminished interaction and role entrenchment as first-order codes. Illustrative quotations such as "we are not as comfortable challenging each other like we would years ago" (JL6F) suggested that the firm's members had grown complacent in challenging one another compared to when they first began collaborating. This first-order code was a frequent pattern in the data. Similarly, "We don't really interact … where we can receive input and feedback" (JL6F) puts forward the notion that *diminished interaction* is not necessarily related to physical proximity but possibly indicative of a breakdown in the openness of the relationships in the firm.

Several quotations suggested that some participants were deeply entrenched in their roles as part of a pattern of influence or a sub-group that had devolved within the firm because of a *division of labour* for projects. Seeing this trend in the data repeatedly led me to create the first-order code of *role entrenchment*. Recognising how he has acquiesced to *diminished interaction* with the firm's members, NVC7 offered, "I'm not critical [because some group members are just accepted as being good at a particular task and do not check with anyone else anymore], and that is making it harder to build on each other's ideas and get to the next level." This is an explicit statement of his frustration with the stagnation of the firm. On follow-up, NVC7 emphasised his frustration with the disappearance of criticality from the operational roles

of key performers. Again, a desire for intervention that could overcome *barriers to criticality* in *transforming relationship* within the firm emerged. In the next section, I develop the second aggregated theme in my analysis of the responses to the open-ended questions: *transforming activity*.

6.1.2.2 Transforming Activity

I developed the aggregated theme of *transforming activity* by clustering four first-order codes into the second-order concepts of *purposeful interaction* and *recombination of subgroups*. The Escape Room served as the supporting activity for the intervention process, and the participants' experience of playing this team problem-solving game was reflected in recurring patterns within their typed responses. Using thematic analysis, I could encapsulate the participants' perceptions of the activity supporting entrepreneurial collaboration across the cycles of action. I present the illustrative quotations that contributed to my analysis in Table 16.

Table 16. Transforming Activity

Second-order concepts	Illustrative quotes Transforming activity	First-order codes
Purposeful interaction	"Time is always going to be more important to get this team working better [than money]. We need to figure out how to make that happen without taking up more of our time." (Q6PD) "We don't have to spend more money, but we need to spend more time on building our team to get better at solving problems than just socialising." (J49C) "We need to use our time together to build common ground and cool the edge so we can talk about whatever problems we are having." (3S4N) "Team building should happen throughout the year whether we have a new project or not." (J49C)	Resource allocation for team building Timing of team building
Recombination of subgroups	"I need to talk to [a group member that I don't usually work with on a particular task] about things during a project." (3S4N) "I am comfortable and depend on certain people to just do particular things. In this group … I'm not as open as I used to be even though we work on projects together." (NVC7) "I need to talk to [key performers] about things during a project instead of what happened on projects that we did before." (3S4N) "I think during a project is the best time to see different perspectives … that is different than the usual people who look after particular tasks for every project." (NVC7) "We all need to share more [with people we do not always work with on particular tasks]." (TV5M)	Access Opportunity

I derived the second-order concept of *purposeful interaction* by clustering two first-order codes: *resource allocation for team building* and *timing of team building*. While these concepts represented persistent patterns in the data, they also aligned with my research objectives. In querying the perceptions of the study participants across the five time points, I was also mindful of any further insights I could gain regarding the timing and resource allocation for moderating social cohesion. *Resource allocation for team building* combines time, money, and technological assets. However, the participants consistently pointed to time as the principal resource necessary for activity to fulfil the purpose of supporting entrepreneurial collaboration. For example, Q6PD stated, "Time is always going to be more important [than money] to get this

team working better. We need to figure out how to make that happen without taking up more of our time." This suggested that the time constraints of the firms' members necessitated group activities to be purposeful and foster interaction. The understanding that I derived from the semi-structured interview clarified that the firm's members did not require extravagant excursions to address problem-solving. Again, in the data from the post-study survey, I found similar sentiments concerning the perceptions across the intervention. J49C offered, "We don't need to spend more money, but we do need to spend more time on building our team at solving problems [more] than just socialising." This recurrent theme of valuing time as the principal resource to be allocated contributed to the first-order code of *resource allocation for team building*.

However, I also frequently encountered patterns regarding the *timing of team building* in the data. "Team-building should happen throughout the year whether we have a new project or not" (J49C) encouraged the consideration of incorporating purposefulness into all the group meetings of the firm. Here, the respondent was not dictating that group interactions should happen before, after, or during a project. Instead, he indicated that *purposeful interaction* should be an ongoing consideration and practice for the firm. Additionally, "We need to use our time together to build common ground [whenever we meet] and cool the edge, so we can talk about whatever problems we are having [or seeing, throughout the project]" (3S4N) encouraged the notion that *purposeful interaction* should not be limited to a particular phase of a project and should be a matter of practice or even organisational culture.

Recombination of subgroups is a second-order concept clustering two first-order codes that I generated: *access* and *opportunity*. *Access*, in particular, echoes a dominant first-order

code from my thematic analysis of the semi-structured interviews, and I was concerned that I was not staying grounded in the data of the post-study survey. I discovered that access was persistent in the data of the post-study survey. I read and re-read the related textual data. I reminded myself of the context of the post-study survey in that I was trying to understand more about the participants' perceptions of the intervention.

In contrast, in my analysis of the semi-structured interviews, I focused on learning more about the dynamics of the firm. For example, 3S4N explained, "I need to talk to [a group member that I don't usually work with on a particular task] about things during a project." Initially, I wondered if 3S4N was offering insight into when *purposeful interaction* should occur (i.e., *timing of team building* to be clustered in *purposeful interaction*). However, during my session with 3S4N, he shared some frustrations which helped me decipher and code his comments over several iterations of thematic analysis:

> 3S4N is <u>really</u> relieved that everyone can talk to everyone again. He was thinking of pulling out before the intervention. He thinks everyone should shadow everyone else … maybe in a rotating fashion. Not to take over anyone's area of expertise but to see <u>how</u> and <u>why</u> they do <u>what</u> they do. He made a good point that we all see things being done in our business away from the group, and maybe one of us saw something different or thought about something different that could help. He was fired up … "It isn't going to happen on its own!" (Journal note, 20 Apr 2022).

This clarification was an important instance of the intersection of my second and first-person practices. In collaborating with a participant through my action research, I created a data form (i.e., a journal note) that would help me confront my concerns about the validity of my analysis.

The totality of this information suggested that 3S4N intended to build on his observations of *role entrenchment* contributing to *barriers to criticality* by sharing his perceptions about the *access* to key performers. Consequently, I moved forward with coding 3S4N's statement as *access* in my data analysis for the post-study survey. More importantly, this clarification touted the continued promotion of *mutual openness* and *organising communication* in entrepreneurial collaboration. This additional information supported my decision to cluster *recombination of subgroups* as one of the second-order concepts I used to develop the aggregated theme of *transforming activity*. The first-order code of *access* was also evident in the typed response of NVC7, "I am comfortable and depend on certain people to just do particular things. In this group … I'm not as open as I used to be, even though we work on projects together." While NVC7 begins with an admission of his reliance on key performers within the firm, he recognises that despite having contact and proximity, he is not availing himself of that *access* for *sharing knowledge*, let alone engaging in *constructive criticism*.

Access frequently paired with the need of the participants to engage with other members that had settled into a particular operational role for the projects undertaken by the firm. For example, "I need to talk to [key performers] about things during a project instead of what happened on projects that we did before" (3S4N). This was a reminder of a common practice of the firm before the intervention. Members would gather before a new project to clarify financial structuring and operational details that changed or proved to be deficient based on what happened in a previous project. The key performers gave these reports for a given operational task. They were very transactional, with little time for members to ask questions. 3S4N's response conveyed that members needed an *opportunity* to avail themselves of any

benefits that arose from *access* to the other members of the firm, especially key performers.

Adding to the presence of *opportunity* as a first-order code in the data is "I think during a

project is the best time to see different perspectives … that is different than the usual people

who look after particular tasks for every project" (NVC7). This statement suggests that actively

engaging key performers with other members would allow, at the very least, for a more

informed approach to the undertaking of the firm, by subjecting operational decisions and

actions to *constructive criticism* as an ongoing process. Again, this notion encourages the firm

to be mindful of *transforming activity* as an *opportunity* for the *recombination of subgroups*.

This perspective developed from my analysis sets the context for coding TVSM's response as

opportunity: "We all need to share more [with people we do not always work with on particular

tasks]." This encouraged a vital caveat to *opportunity* as a first-order code because TVSM

alerted me to consider the necessity of its bi-directionality. In other words, the firm should not

confine *opportunity* to the processes it develops. The firm's members also need to champion

opportunity as a matter of organisational culture.

6.1.3 Summary of findings

In making sense of the data from the post-study survey, I used statistical analysis of the

Likert scale responses to gain insights into what aspects of the intervention had the most effect.

I confirmed that the intervention overall was effective and not a stroke of luck. More

specifically, items #1 (I like working with everyone in our group), #4 (Our group can solve

problems as a team), and #7 (Our group should spend more time on team-building activities)

had the most significant effect out of the eight survey items across the five time points. The

data structure shown in Figure 8 emerged to have similarities to what I developed from the

thematic analysis of the semi-structured interviews. The participants' perceptions of the

intervention process provided insights about recurring patterns to show the importance of

transforming relationship and *transforming activity* as aggregated themes. This analysis also

contributed to my research objectives regarding insights into the timing and resource allocation

for the moderation of social cohesion. Participants preferred moderating activity as an ongoing

occurrence in the gatherings of the firm. They also valued time as the principal organisational

asset to be allocated for that purpose - albeit judiciously. I discuss the key points and meaning

derived from these insights in Section 6.2 below.

6.2 Key points and meaning

Four key points arose from the post-study survey data. First, the spark that led to the

resolution of the workplace-based problem was not a matter of luck. The statistical analysis

confirmed the effect of the intervention to have been significant. This finding validated my

agency and was manifested in the appreciation of the firm's members for my efforts. The

success of the intervention hinged on my avoidance of asserting positional leadership in the

firm. This was achieved by the inherently collaborative nature of action research, particularly in

my role as an insider action researcher (cf. Greenwood, 2007) and through consistently framing

my agency as a resource. However, I could not continue doing action research in the firm

indefinitely. While the intervention had remedied the stagnation of the firm, I could not assume

that the reinvigoration of critical faculty would persist in the post-change environment just because the members had found a solution to confront market conditions (cf. Argyris et al., 1995).

The second key finding was that the effect size for Item #1 (I like working with everyone in the group) was found to be significant despite an even larger effect being found for Item #4 (Our group solves problems as a team). Although the participants reported an increased level of team problem-solving capacity over the course of the intervention, their level of social cohesion also increased. This finding was contrary to my expectations developed using the systematic literature and was disappointing to me initially because excessive social cohesion is said to diminish problem-solving capacity (Dyaram & Kamalanabhan, 2005; Wise, 2014). At the same time, the general amicability comprising the social cohesion of collaborating entrepreneurs is held to be the site of their innovative potential (Chan et al., 2007; Chen et al., 2017; Covi, 2016; Mulunga & Nazdanifarid, 2014; Najmaei, 2016). I argue that my findings do not represent a paradox. My analysis suggests that social cohesion will increase during intervention as a matter of inclusivity, especially with the firm having been stagnant.

Consequently, the targeting of excessive social cohesion is called into question because the challenge of curtailing the strength of the linkages between collaborating entrepreneurs is rife with possible missteps, including violating their disdain for positional leadership, especially as a constraint on their *individual sovereignty*. Therefore, I argue that the repair of deficient critical faculty is as, if not more, important than the moderation of social cohesion.

Thirdly, activity to moderate social cohesion and promote criticality should not be restricted to any particular part of the lifecycle of a project. Rather, it should be a vital

ingredient in the design of any meeting of the firm. The timing of social cohesion intervention is an important objective of my research. According to my findings, I argue that any time is the right time to moderate social cohesion. In other words, whether social cohesion activity as a moderating process occurs at the start, middle, or end of a project is not as important as having *purposeful interaction* on an ongoing basis. The issue of timing also overlaps with time as a resource of the firm. Its allocation was the fourth key point from the post-study survey data.

No participant touted extravagance as a necessary component for the interactions of the firm's members. They consistently pointed to the need to spend more time on restoring criticality among the firm's members in the statistical and thematic analyses. The literature presumes that time would be wasted because its allocation in the pursuit of synergy would likely be underestimated (cf. Goold & Campbell, 1998; cf. Lawford, 2003). In the context of the firm, I argue that time was wasted because the gatherings of the members were geared towards reporting on transactions rather than exploring the approach to a project or creating *opportunity* when members had *access* to one another for *constructive criticism*. I argue that the support of *purposeful interaction* with the resources of the firm, particularly time, is crucial because the risk created by not doing so leaves the firm vulnerable to undesirable and potentially more costly phenomena like poor decision-making that can threaten sustainability, resulting in a significant waste of organisational resources, including time and money (Goold & Campbell, 1998; Huczynski & Buchanan, 2013). In Section 6.3, I discuss the recommendations and resultant actions arising from the four key points of the post-study survey.

6.3 Recommendations and next steps

Prior to the intervention, the stagnation of the firm had escalated to a crisis event because it threatened the sustainability of the firm (cf. Carmeli & Schaubroeck, 2008). While the members generated a resolution to the workplace-based problem, I needed to use my agency for translating the interconnected communication processes fostered in the intervention to the dynamics of the firm. By doing so, the firm could sustain optimal synergy for adaptation, problem-solving, and growth (cf. Weick, 1979, 1988). To do this, I had to develop a better understanding of my findings from the post-study survey.

Of course, I was genuinely relieved to see the genesis of the resolution for the workplace-based problems develop in the cycles of action. However, this solution addressed a symptom of the stagnation of the firm. The inability of the firm to operate in unfavourable market conditions was the focus of the firm's members, but the real problem was one of communication and learning. The intervention activity recombined the participants to unsettle their entrenchment in their operational roles within the firm and engage them in a team problem-solving activity (cf. Nicholson, 2015). Although several participants had clearly been aware of the real problem that had resulted in stagnation, they had been hindered by their excessive social cohesion to speak out, especially because they did not want to assert themselves as a positional leader. Given these circumstances, I needed to make the differentiation of the symptom and the underlying problem clear to the firm's members. Moreover, the reliance of the firm's members of my agency could ambiguity in the process of support, given their resistance to positional leadership and hierarchical constructs (Dickel &

Graeff, 2016; Frigotto, 2016; Kempster & Cope, 2010; Oketch, 2004; Namjoofard, 2014; Wong, 1992).

There are three resultant actions that arise from this understanding. First, I must make the analogy of the stagnation of the firm as the illness and the inability to operate in unfavourable market conditions as the symptom explicit. Second, I must re-evaluate my theoretical framework considering my findings to develop a framework for practice that can be shared with the firm's members and elevate the communication and learning processes of the intervention as matter of cultural value. In doing so, I must resist the urge to present critical faculty as a norm for universalisation (cf. Habermas, 1990). I must allow for its translation into the milieu of the firm to be an emergent process whereby the members co-create their boundaries, implementation, and promotion of this concept. The implication to the social cohesion of the members is that the promotion of critical faculty is vital to optimizing synergy. Third, the data structure of the semi-structure interviews and the post-study survey needs to be amalgamated and reported similarly to the firm's members.

The increase in social cohesion despite my intended efforts to moderate it was frustrating for me to see. At the same time, positive developments were enabling the members to conceptualise a resolution to the workplace-based problem. The linkages between them comprise their social cohesion and are the locus of their innovativeness (Hoigaard et al., 2006; Najmaei, 2016; Quince, 2001). However, the qualities of those linkages are not defined in terms of what particular characteristics support criticality and trust alongside the sense of belonging (Muhlenhoff, 2016; Najmaei, 2016; Stacey, 2011). To restart operations in the face of unfavourable market conditions, the members had to adapt collectively and generate novel

solutions such that they performed collectively to exceed their capabilities, achieving optimal

synergy (Dundon, 2002). Therefore, my understanding changed to reflect a need to repair

deficient critical faculty through intervention as opposed to curtailing excessive social cohesion.

In this case, I also saw the development of a framework for practice and the amalgamation of

the data structures as beneficial next steps to the learning of the firm's members and my third-

person practice.

Finally, the issue of timing and time as the principal resource for activities to moderate

social cohesion overlap. Further to my analysis above, the main outcomes and actionable

knowledge are summarized in Table 17 as the results of the retrospective pretest-posttest

survey.

Table 17. Results of retrospective pretest-posttest survey

Main outcomes	1. Effect of intervention to moderate social cohesion was significant. 2. Group problem-solving capacity increased over course of intervention along with social cohesion. 3. Repair of deficient critical faculty at least, if not more, important than moderation of social cohesion. 4. Intervention to moderate social cohesion should not be restricted to any particular part of project lifecycle.
Actionable knowledge	1. Metaphor of symptom and illness to describe operational inaction vs. stagnation of firm. 2. Elevate communication and learning processes of intervention as a matter of emergent culture. 3. Prioritize repair of critical faculty over curtailing excessive social cohesion.

The likelihood of time being wasted in the pursuit of optimal synergy is challenged by my

findings where the study participants consistently expressed the need for more purposeful

interaction. Where the literature presupposes wastage of organisational resource in sub-

optimal synergy (cf. Goold & Campbell, 1998; Huczynski & Buchanan, 2013), the participants

saw the loss of *opportunity* when *access* was possible to engage critically with others in the firm

as wastage. They were clear about their own time constraints and wanted purposeful

interaction in their group meetings. Again, by developing a framework for practice and

amalgamating the data structures as the resultant actions from my understanding of the

findings, I can promote criticality as a cultural value in the closing phase of my agency.

6.3.1 Framework for practice

In fulfilling the next steps proposed in the section above, I set about to reconsider the

conceptual framework that I developed using systematic literature review (see Figure 3). I

wanted to encapsulate my understanding of the concepts following the post-study review into

a framework that could inform my practice, the firm's members, and my third-person practice

for the consideration of others overseeing entrepreneurial collaboration. The most salient,

actionable knowledge arising from my mixed methods research is that through a collaborative

agency, the manager of entrepreneurial collaboration must elevate communication and mutual

learning as a matter of emergent culture for the entrepreneurial cadre. However, where

excessive social cohesion may be manifesting as sub-optimal synergy, managers must give

primacy to the repair of critical faculty over curtailing excessive social cohesion, especially in an

established group of collaborating entrepreneurs. Figure 9 represents my framework for

practice as the next step after my conceptual framework without dictating specific methods

(Given, 2008). This framework encourages the active support and facilitation of discourse,

especially where *clusters of enactment* may minimize channels for mutual discourse between the members of an entrepreneurial cadre.

This framework is not intended as a reductionist representation but rather a revisited drawing of the related concepts in the context of my real-world practice as it now informs my approach to the oversight of the firm. Oversight is deliberately used to describe the process and the agent to avoid any conflation with other descriptors, such as manager, which might connote constraints on the *individual sovereignty* of the collaborating entrepreneurs. *Transforming activity* is not necessarily a team problem-solving game, although that may help start the necessary repair to deficient critical faculty in the social bonds of the firm's members from time to time.
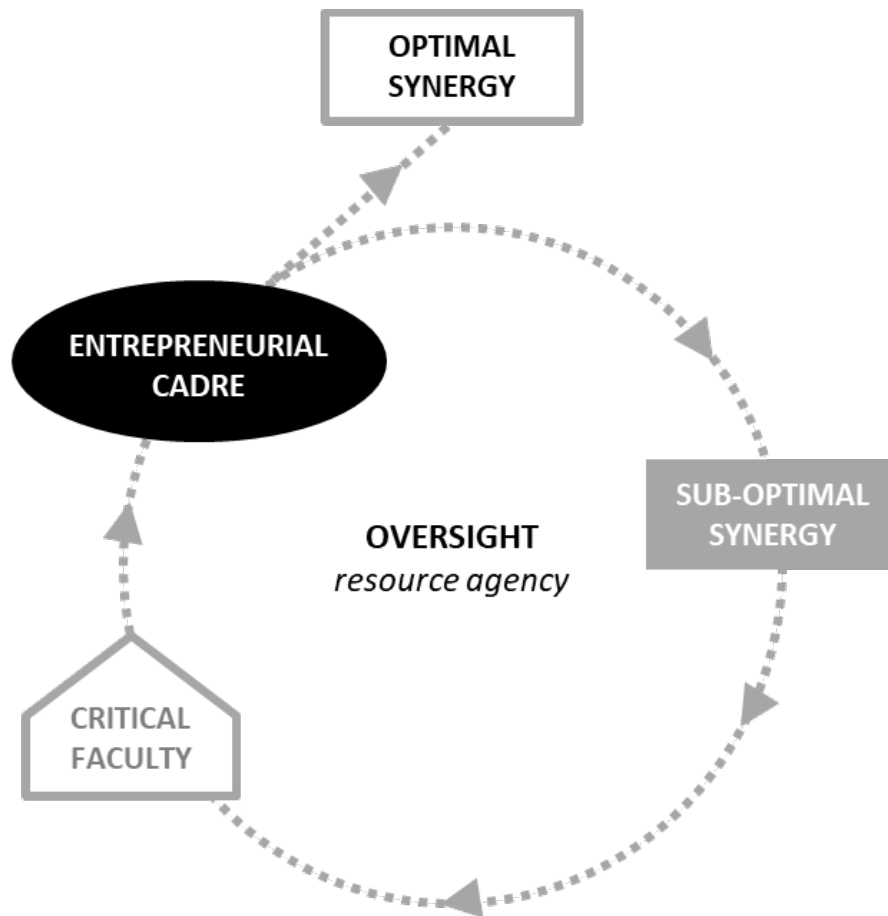
Figure 9. Framework for practice

Instead, *transforming activity* is a process that can be enabled as needed to include an activity like Escape Room if needed to promote criticality for the *relationships in entrepreneurial collaboration* toward *transforming relationship*. The positioning of sub-optimal energy in the framework is symbolic of its persistence without active facilitation of the actions in *entrepreneurial collaboration*. The oversight indicated in this framework is the *agency as resource*. This permits the engagement of the entrepreneurial cadre without constraining the creativity of the members toward optimising synergy in the pursuit of innovation.

6.3.2 Amalgamation of data structures

The second step recommended by my understanding of the findings is to amalgamate the data structures developed in my study as shown in Figure 10 below. By engaging in social network analysis that leverages my own collaborative agency within the firm, I can extend the theoretical implications of my research to the applicability of agency theory in the context of entrepreneurial collaboration (Eisenhardt, 1989; Lee, 2014). By integrating the aggregated themes developed from the thematic analysis of the semi-structured interviews and the post-study survey, it becomes possible to conceptualise *criticality as a cultural value* for the firm. Rather than a process, a value can become ingrained not only into the practice of each member, but to their identity as a collaborating entrepreneur. Just as relationships in entrepreneurial collaboration and their supporting and enabling actions in entrepreneurial collaboration arose from the thematic analysis of the interview data, transforming relationship and transforming activity emerged as important processes represented in the data from the post-study survey. Clustering these four themes to promote their overarching, potential impact on the dynamics of the firm leads me to suggest *criticality as a cultural value* to represent the amalgamated theme for the data structures of my research.
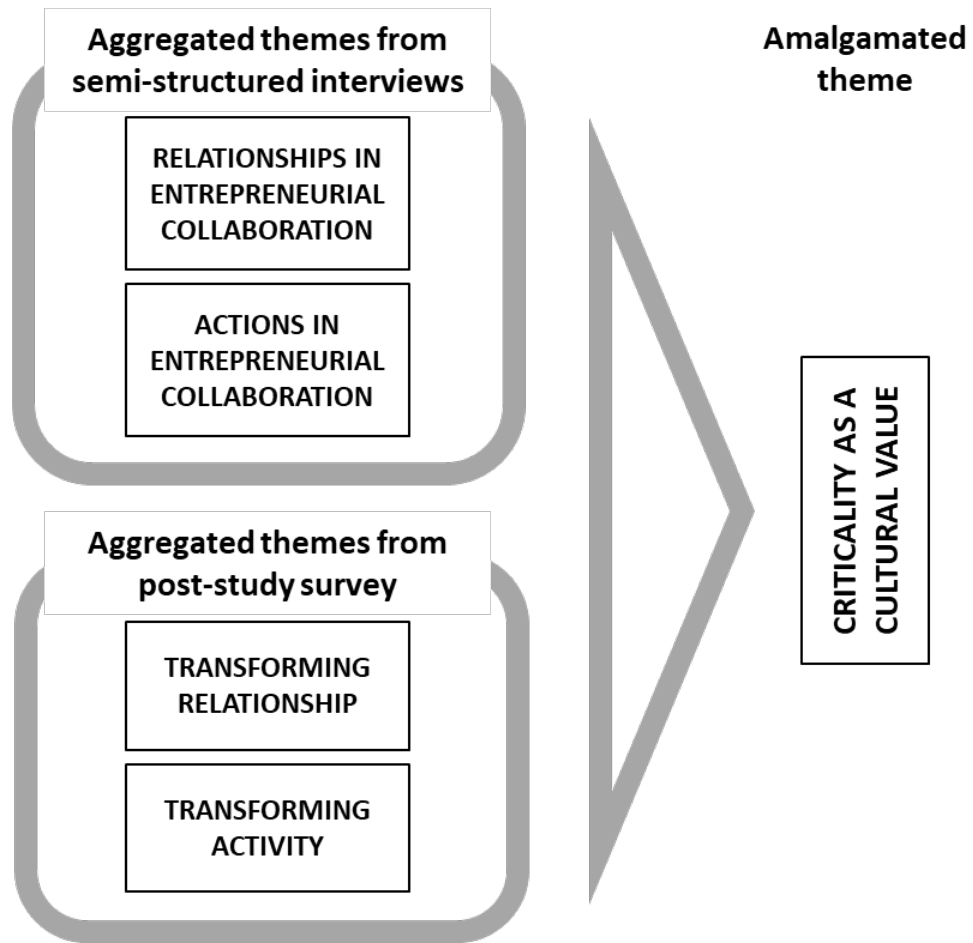
Aggregated themes from semi-structured interviews

Amalgamated theme

RELATIONSHIPS IN ENTREPRENEURIAL COLLABORATION

ACTIONS IN ENTREPRENEURIAL COLLABORATION

Aggregated themes from post-study survey

TRANSFORMING RELATIONSHIP

TRANSFORMING ACTIVITY

CRITICALITY AS A CULTURAL VALUE

Figure 10. Amalgamated theme

In Chapter 7, I summarise my action research journey to report on my development as a scholar-practitioner, the fulfilment of my research objectives and the resolution of the workplace-based problem. In addition, I discuss my contribution to knowledge and practice as well as my personal and professional transformation. I close with the limitations of my study and suggestions for future research.

7 Conclusions

I started this action research journey deeply concerned for the disintegration of the *ad hoc* firm I comprised with eleven other entrepreneurs. For the first time since its inception, this cadre of innovators was unable to overcome the market conditions challenging its habitual operations. I realised that we had become too familiar and were not challenging one another as we did when our long-standing social network first delved into small to medium-scale real estate development nearly a decade ago. This journey was more than an effort to overcome a pressing organisational crisis. It required my development as a scholar-practitioner to competently and credibly attend to the facilitation of the research as an insider action researcher. I discuss my personal and professional transformation in that process below. Although this workplace-based problem manifested as our inability to overcome market conditions and remain operational, the real issue was the stagnation of the firm. I developed my research topic as the *Implications of Social Cohesion in Entrepreneurial Collaboration*. In this chapter, I summarise the main points of my research, stating their significance to first report the fulfilment of my research objectives. I then discuss the resolution of the workplace-based problem, followed by the contribution of my research to knowledge and practice. Given the small sample size and the context of my research, I explain the limitations of this study, concluding with suggestions for future research.

7.1 Scholar-practitioner development

Early in my DBA journey, I readily accepted the definition of a scholar-practitioner as someone who is dedicated to generating new knowledge that is useful to practitioners (Schein, 2007 as cited in Wasserman & Kram, 2009). I did not consider the challenges of navigating the permeable boundaries of that integrated role (Wasserman & Kram, 2009). At the outset of my research, I felt overwhelmed by the prospect of resolving my workplace-based problem while balancing my operational role, not to mention my personal relationships with the members of the firm. My development as a scholar-practitioner has been arduous and rewarding. I relied on reflective practice to foster a valid, considered, and thoughtful engagement of the firm's members to face the tensions intersecting my first and second-person practices (Anderson et al., 2015; Schön, 2016). I became more deliberate as a matter of ethical conduct in re-evaluating and confronting the role of my values, views, and biases in my research. By persisting with reflective practice, I evolved my third-person practice to challenge the body of knowledge with disconfirming data from my research, particularly as it relates to the hands-off approach to managing entrepreneurs.

However, for all the new skills I acquired to work with qualitative data and navigate my dual role within the firm, I cannot consider myself to have merely cleared an obstacle and never look back. My foray into action research has taught me that I must embrace this learning experience as part of an ongoing, iterative process rather than the end of a meaningful journey. The success of my intervention was deeply satisfying. Through my agency, I moved from simply addressing minor errors to confronting the defensive routines of my fellow collaborating

entrepreneurs, especially by tackling my own bias and assumptions. Hence, my experience also fulfilled my main motivation for undertaking the DBA journey at the University of Liverpool – double-loop learning. In the next section, I discuss the fulfilment of my research aim and objectives.

7.2 Fulfilment of research objectives

I had four research objectives within the overall aim of my research to critically assess how and when social cohesion interventions should be undertaken to optimise synergy in entrepreneurial collaboration within the firm. The first research objective was to critically examine the exploitation of social cohesion for the optimisation of synergy in entrepreneurial collaboration. My findings showed that moderating social cohesion as means to promote critical faculty did promote the optimisation of synergy but not as I had expected based on my systematic literature review. My efforts to moderate excessive social cohesion by engaging the members of the firm in a team problem-solving game actually increased the level of social cohesion while improving group dynamics. I argued for this phenomenon as being representative of the necessary enhancement repairing its deficient critical faculty, rather than a paradox.

The second research objective was to make recommendations for ascertaining the level of social cohesion in entrepreneurial collaboration. While I was able to benchmark and gauge social cohesion using eq. (1), the exercise reinforced what I learned through the fulfilment of the first research objective as discussed above. Therefore, sociometry was an excellent, cost-

effective choice for this purpose, but my understanding of the process evolved to consider monitoring the firm for evidence of excessive social cohesion while actually focussing on measuring the critical faculty in the social bonds of the firm's members.

The third research objective was to make recommendations regarding the timing of social cohesion interventions for the optimisation of synergy in entrepreneurial collaboration. This objective was definitively fulfilled by my analysis of the post-study data, which suggested that any time was the right time for the moderation of social cohesion. Again, the caveat was that I should focus my efforts on repairing deficient critical faculty rather than attempting to curtail the level of social cohesion.

Finally, the fourth research objective was to make recommendations concerning the allocation of organisational resources (i.e., time, money, and technological assets) for the optimisation of synergy in entrepreneurial collaboration. Following the post-study survey, my analysis of the data clearly showed that the participants valued time as the principal resource to allocate for such activity and did not require expensive outings. However, the concept of time being wasted was elaborated in the data to represent lost *opportunity* when *access* to other members was possible for the purposeful interaction to take place. In the next section I discuss the resolution of the workplace-based problem using an analogy of symptom and illness.

7.3 Resolution of workplace-based problem

The workplace-based problem was seen by the study participants as the inability of the firm to maintain its operations in the face of unfavourable market conditions. However, this perspective only considered the symptom of the underlying illness which was the stagnation of the firm. Through the cycles of action, a powerful spark was generated to fuel the brainstorming of the members. Without disclosing exact operational details, the resolution was to promote the dynamic capabilities of the firm to holistically address the financing, development, and consumer approach of each project. I did caution the members to consider the stagnation of the firm moving forward so that they would sustain the positive impact of the intervention. I also promoted *criticality as a cultural value* of the firm in my conversations with the members as discussed in Section 6.3.2.

While the resolution of the workplace-based problem through my facilitation and intervention is personally exciting, I must resist the urge to promote the findings of my action research project as being universally applicable. Rather, I offer the actionable knowledge and learning created by my research for the consideration of any stakeholder in the field of entrepreneurial collaboration as discussed in Section 7.4 below.

7.4 Contribution to knowledge

In reporting the findings of my research, the terms of reference are a key component of the context. The clarification of the term *entrepreneurial collaboration* and the

appropriateness of the term *social cohesion* to describe the sense of belonging in this context

are discussed in Section 7.4.1. Section 7.4.2 reports on the reconfiguration of my theoretical

framework for the exploration of entrepreneurial collaboration.

7.4.1 Clarification of terms

Through the process of systematic literature review, I discovered persistent

inconsistencies with the meaning implied by the term *entrepreneurial collaboration*, making

literature searches inefficient and confounding the advancement of the topic. Therefore, I

argue that *entrepreneurial collaboration* be standardised to mean *individual entrepreneurs*

working with one another to innovate.

In this context of entrepreneurial collaboration, problem definition is often part of

participants' remit such that they are not attending to a sense of belonging with a predefined

notion of what they will be doing or confronting. For that reason, I developed the argument

that *social cohesion* be used to refer to the sense of belonging in *entrepreneurial collaboration*,

especially in light of newer, helical models of mode 3 knowledge creation that integrate all

spheres of society into the innovation process (cf. Carayannis et al., 2014; Carayannis &

Rakhmatullin, 2014).

7.4.2 Revised theoretical framework

Where the linkages between entrepreneurs comprise their social bonds, the site of their innovativeness, and the site of their economic impact, it is the strength and not the component qualities within this sense of belonging that are elaborated in the literature (cf. Chan & Chan, 2007; cf. Chen et al., 2017; cf. Covi, 2016; cf. Mulunga & Nazdanifarid, 2014; cf. Najmaei, 2016). Continuing with my adoption of pragmatism in the resolution of the workplace-based problem, it is not my intention to discourage the use of team problem-solving activities or other forms of intervention in promoting criticality in entrepreneurial cadres. However, the findings of my research support the utility of critical faculty as an apt and efficient moderator of social cohesion toward optimising synergy in the pursuit of innovation. Therefore, in my original theoretical framework (see Figure 2) that I developed using systematic literature review, the representation of "Moderation of Social Cohesion" as a theoretical concept is replaced by "Critical Faculty" to identify the inter-related phenomena (see Figure 11 below). This contribution to knowledge draws directly from the cycles of action undertaken in this study. The revitalisation of critical faculty among the members of entrepreneurial cadre showed a significant effect toward remediating the stagnation of the firm, more so by the active facilitation of discourse than a particular intervention activity.
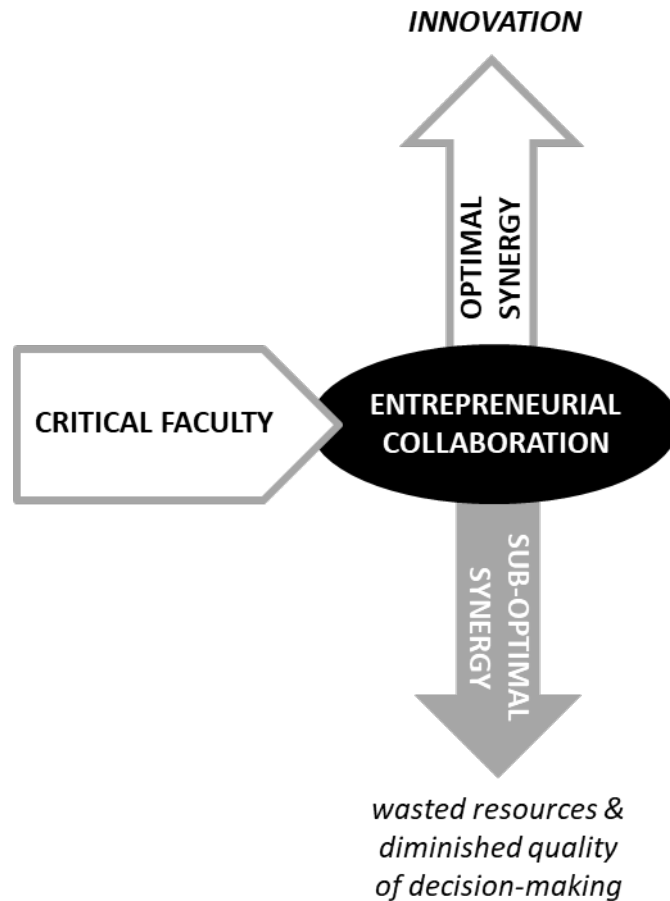
Figure 11. Updated theoretical framework

7.5 Contribution to Practice

In my agency as an insider action researcher, I was able to reflect on the engagement

and oversight of collaborating entrepreneurs with an intimate knowledge of the firm. The

disdain of the members for being managed is tied in with their esteem of *individual sovereignty*.

While these boundaries may seem limiting for any form of oversight, I discuss below how I

framed my agency and enhanced the meaning I was able to derive.

7.5.1 Organising Entrepreneurs

The process of organising the actors within an entrepreneurial cadre requires tools and a map by which to consider their use. While the particular mixture of methods I used in my research may not suit every context or researcher's preference, I argue for the consideration of my framework for practice (see Figure 9). This framework can serve as an aid to navigating an entrepreneurial cadre. Furthermore, it represents an updated conceptual framework from that offered in Figure 3 following my systematic literature review. Specifically, Figure 9 represents an update framework of *where* researchers should target their inquiry as well as *how* managers can approach the oversight of entrepreneurial cadres. By establishing their collaborative agency as a matter of resource for the entrepreneurial cadre, managers can avoid the perception of constraining *individual sovereignty* and sustain optimal synergy through the promotion of *critical faculty* as a cultural value.

7.5.2 Rethinking oversight

In attempting to clarify data throughout this study, I had to engage with participants either during data collection or afterwards, typically by phone. By framing my agency as a resource to support the sharing of knowledge in the firm and being steadfast in my commitment to confidentiality, I was able to access deeper meaning from the participants for their data without coercive measures. As an insider action researcher, my positionality was inherently collaborative, but framing my involvement as a resource and not a constraint was

received positively by the firm's members. Again, as discussed in Section 7.5.1, practitioners are well-served to consider their sensitivity to sub-optimal synergy through access, as opposed to intrusive monitoring. In so doing, it becomes possible to enhance sensemaking and meaning-making in the oversight of an entrepreneurial cadre as discussed in Section 7.5.3 below.

7.5.3 Enhancing sensemaking & meaning-making

I was initially disappointed by the finding that social cohesion increased over the course of my intervention. However, upon realising the improvement in team problem-solving capacity to be a matter of the repair of deficient critical faculty, I switched my sensemaking efforts to remain sensitive to signs of suboptimal synergy, particularly groupthink and risky shift in decision-making while creating data forms that looked for improvements in critical faculty. I developed a signpost used throughout Chapter 5 to tabulate the relevant data to support my reflection-in-action (e.g., Table 9). In deriving meaning from key points in the data I synthesised qualitative and quantitative data continuing to use the signposts, applying Gibbs' (1998) framework. However, the practical implication of my experiential learning is that the sensemaking approach of managing entrepreneurial collaboration should give primacy to agency and access to the thoughts of individual members through discourse and safe dialogic space as opposed to, for example, intrusive monitoring. Again, such an approach supports the manager in avoiding a perception of constraining the individual sovereignty of the members of the entrepreneurial cadre or the assertion of positional leadership. As a result, managers can, in

turn, help entrepreneurs understand what is happening and what it means for the problem being confronted.

7.6 Limitations

As an action research project, my study is inherently limited in its universal applicability because of the duality of my role as an insider action researcher and a member of the firm. Moreover, the small sample size cannot be used to represent trends in the larger population.

7.7 Future research

Through my systematic literature review, I learned about new, remote technologies that allow researchers to track interactions and even analyse conversations without human intervention. As these technologies evolve and supplement the traditional sociometry methods I used, it can become possible to go deeper into the meaning and constitution of social bonds. For example, where my conceptual framework encouraged me to curtail excessive social cohesion, its moderation was shown to be a matter of repairing deficient critical faculty instead. Future research projects must target greater exploration of the ingredients of the social bonds that link entrepreneurs to support better designs for their engagement and to sustain optimal synergy. Additional, important considerations for research into entrepreneurial collaboration were excluded from the scope of my study because of the key limitations I faced in gaining access and agency within my firm. In constructing an inquiry that avoided blame to any

individual or individuals within the firm required my investigation to remain at the group level

in terms of the shared, lived experience of entrepreneurial collaboration. Future studies would

benefit from deeper analysis into the individual constituents of an entrepreneurial cadre

including but not limited to their gender, level of entrepreneurship, Goldberg's Five Factors of

Personality (OCEAN), and financial literacy. In this way, firms engaging entrepreneurial cadres in

the pursuit of innovation might be better equipped to assemble suitable rosters to support

their sustainable, problem-solving capacity.

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Appendix A. Number of academic resources per concept
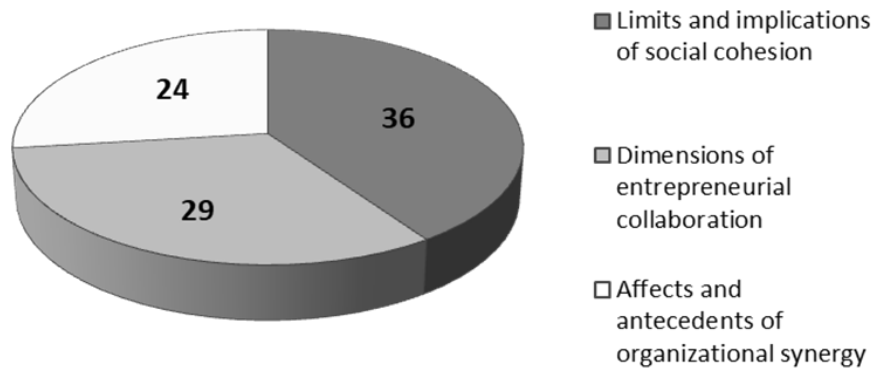
NB: A given academic resource can examine more than one concept as summarised in Table 1.

## Appendix B. Frequency of subject area/category
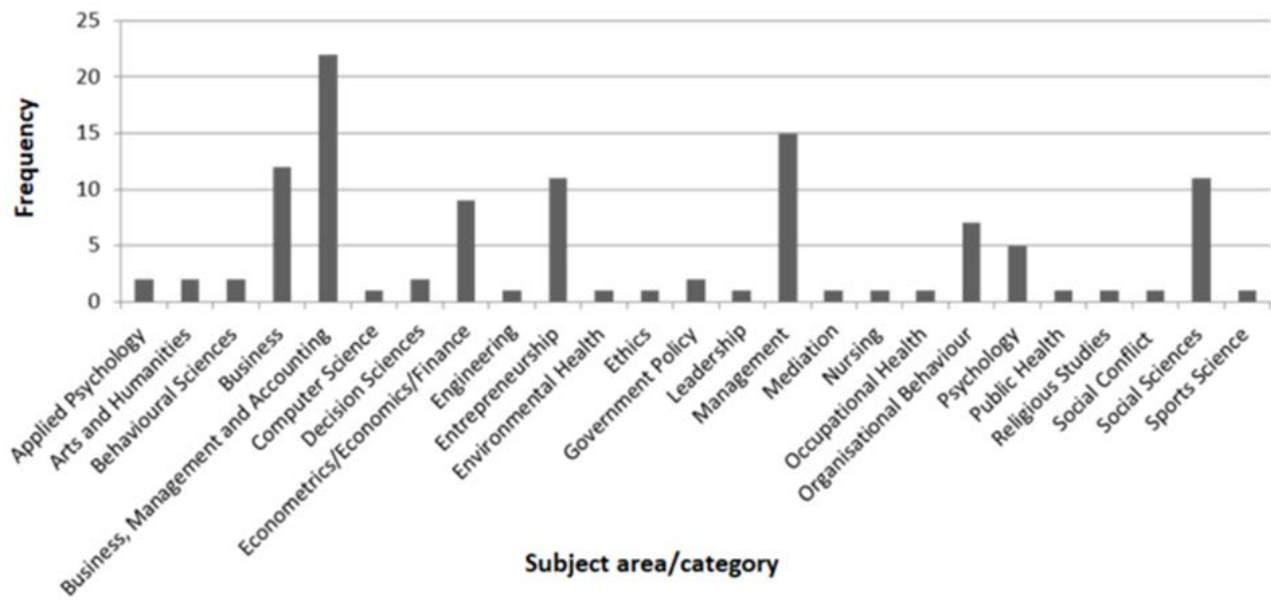
Appendix C. Number and type of academic resources per year

Year	Number of relevant publications	PRJA	BOOK	EXPO	CONF	DOCT
2022	1	1	0	0	0	0
2020	2	2	0	0	0	0
2018	2	1	1	0	0	0
2017	2	2	0	0	0	0
2016	10	1	9	0	0	0
2015	5	2	3	0	0	0
2014	6	5	0	0	1	0
2013	2	1	1	0	0	0
2012	1	1	0	0	0	0
2011	1	0	1	0	0	0
2010	3	2	1	0	0	0
2009	1	1	0	0	0	0
2008	3	3	0	0	0	0
2007	2	1	1	0	0	0
2006	2	2	0	0	0	0
2005	2	0	1	0	0	1
2004	2	1	1	0	0	0
2003	1	1	0	0	0	0
2002	3	1	1	0	0	0
2001	2	1	0	0	1	0
2000	2	1	1	0	1	0
1998	1	0	0	1	0	0
1993	1	1	0	0	0	0
1992	1	0	0	0	1	0
1990	1	0	1	0	0	0
1989	2	2	0	0	0	0
1985	1	1	0	0	0	0
1982	1	1	0	0	0	0
1974	1	0	0	0	0	1
1973	1	1	0	0	0	0
1950	1	0	1	0	0	0
%	100	53	35	3	6	3

Appendix D. Methodology of academic resource
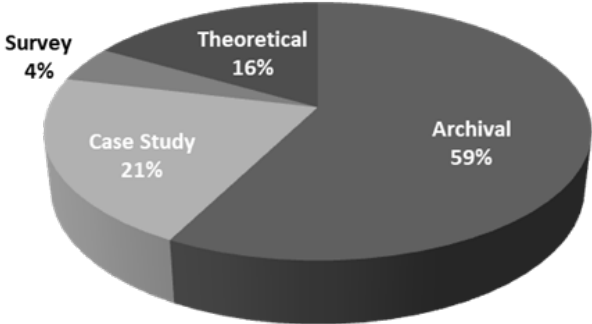
Appendix E. Type of academic resource
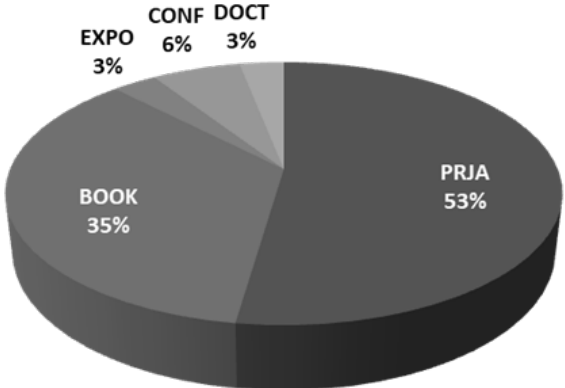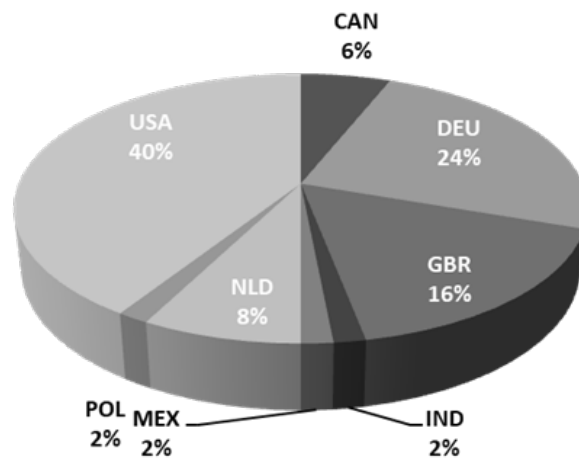
Appendix F. Type of academic resource by year
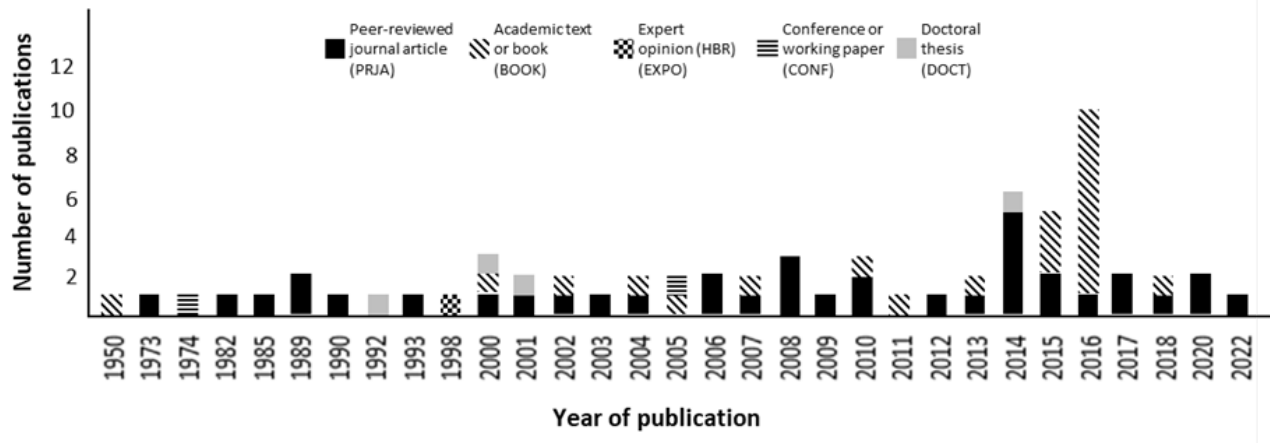
Appendix G. Country of publication

Country of publication	Number of academic resources	Percentage
CAN	4	6%
DEU	16	24%
GBR	11	16%
IND	1	2%
MEX	1	2%
NLD	5	8%
POL	1	2%
USA	27	40%
TOTAL	66	100%

Appendix H. SJR for ranked journals
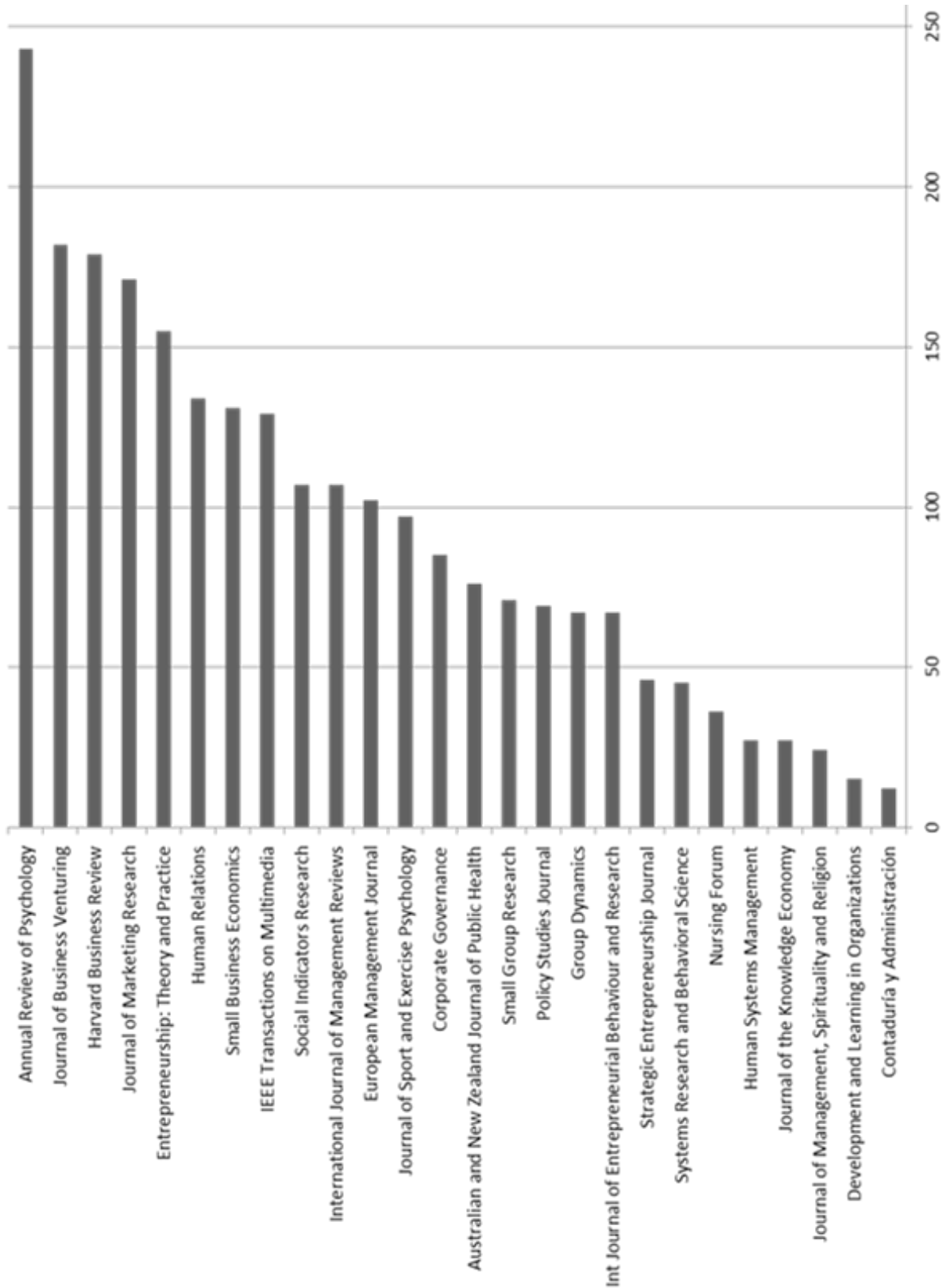
Appendix I. Support sheet for semi-structured interviews

UNIVERSITY OF
LIVERPOOL

Semi-Structured Interview Sheet

social cohesion . . . willingness to work & prosper together with sense of belonging
collaboration . . . when you work with other entrepreneurs

Why?
Why do you believe/feel that?

How do you feel social cohesion *affects you* when you work with other entrepreneurs?

How does social cohesion affect your *openness to share your ideas* when you work with other entrepreneurs? *How does it affect your willingness to try something new?*

How do you feel about the *success or failure of a project* when you work with other entrepreneurs?

How do you feel *group activities* affect social cohesion when you work with other entrepreneurs? *What activities help you work better with other entrepreneurs?*

When should these activities take place in your projects when you work with other entrepreneurs? **Before, during, after, always?**

What do you feel about what you have **spent** on creating a sense of belonging when working with other entrepreneurs? *Would you change anything?*

Does social cohesion help you *get more* out of working with other entrepreneurs? *Does it make them more willing to try something new?*

Are there any *risks* to your sense of belonging in trying to get more out of the entrepreneurs with whom you work?

How do you feel about doing something good for the community at large when you work with other entrepreneurs?

Appendix J – Descriptive statistics for post-study survey

Descriptive statistics	*M*	*SD*	*n*	*SE$_M$*	Min	Max	Skewness	Kurtosis
Item #1 – I like working with everyone in our group.								
Time point 1	2.40	0.97	10	0.31	1.00	4.00	0.69	-0.56
Time point 2	2.60	0.84	10	0.27	2.00	4.00	0.84	-0.92
Time point 3	2.80	0.79	10	0.25	2.00	4.00	0.34	-1.15
Time point 4	2.90	0.74	10	0.23	2.00	4.00	0.14	-0.96
Time point 5	3.00	0.67	10	0.21	2.00	4.00	0.00	-0.50
Item #2 – I can solve problems with everyone in our group.								
Time point 1	1.80	0.42	10	0.13	1.00	2.00	-1.50	0.25
Time point 2	1.80	0.42	10	0.13	1.00	2.00	-1.50	0.25
Time point 3	1.80	0.42	10	0.13	1.00	2.00	-1.50	0.25
Time point 4	2.10	0.57	10	0.18	1.00	3.00	0.08	0.30
Time point 5	2.10	0.57	10	0.18	1.00	3.00	0.08	0.30
Item #3 – I can share my ideas with everyone in our group.								
Time point 1	2.20	0.63	10	0.20	2.00	4.00	2.67	5.11
Time point 2	2.20	0.63	10	0.20	2.00	4.00	2.67	5.11
Time point 3	2.50	0.71	10	0.22	2.00	4.00	0.99	-0.22
Time point 4	2.70	0.67	10	0.21	2.00	4.00	0.37	-0.71
Time point 5	2.80	0.63	10	0.20	2.00	4.00	0.11	-0.44
Item #4 – Our group solves problems as a team.								
Time point 1	1.80	0.42	10	0.13	1.00	2.00	-1.50	0.25
Time point 2	1.90	0.32	10	0.10	1.00	2.00	-2.67	5.11
Time point 3	2.10	0.32	10	0.10	2.00	3.00	2.67	5.11
Time point 4	2.90	0.32	10	0.10	2.00	3.00	-2.67	5.11
Time point 5	3.00	0.47	10	0.15	2.00	4.00	0.00	2.00
Item #5 – Our group should have a leader.								
Time point 1	1.40	0.52	10	0.16	1.00	2.00	0.41	-1.83
Time point 2	1.40	0.52	10	0.16	1.00	2.00	0.41	-1.83
Time point 3	1.50	0.53	10	0.17	1.00	2.00	0.00	-2.00
Time point 4	1.50	0.53	10	0.17	1.00	2.00	0.00	-2.00
Time point 5	1.60	0.52	10	0.16	1.00	2.00	-0.41	-1.83
Item #6 – Our group should spend more money on team-building activities.								
Time point 1	2.60	0.52	10	0.16	2.00	3.00	-0.41	-1.83
Time point 2	2.70	0.48	10	0.15	2.00	3.00	-0.87	-1.24
Time point 3	2.70	0.48	10	0.15	2.00	3.00	-0.87	-1.24
Time point 4	2.70	0.48	10	0.15	2.00	3.00	-0.87	-1.24
Time point 5	2.70	0.48	10	0.15	2.00	3.00	-0.87	-1.24
Item #7 – Our group should spend more time on team-building activities.								
Time point 1	3.60	0.70	10	0.22	3.00	5.00	0.66	-0.63
Time point 2	3.50	0.53	10	0.17	3.00	4.00	0.00	-2.00
Time point 3	3.60	0.52	10	0.16	3.00	4.00	-0.41	-1.83
Time point 4	4.20	0.63	10	0.20	3.00	5.00	-0.11	-0.44
Time point 5	4.70	0.48	10	0.15	4.00	5.00	-0.87	-1.24
Item #8 – Our group should do team-building activities just before deciding on a project.								
Time point 1	2.60	0.70	10	0.22	1.00	3.00	-1.40	0.61
Time point 2	2.60	0.70	10	0.22	1.00	3.00	-1.40	0.61
Time point 3	2.60	0.70	10	0.22	1.00	3.00	-1.40	0.61
Time point 4	2.40	0.70	10	0.22	1.00	3.00	-0.66	-0.63
Time point 5	2.50	1.35	10	0.43	1.00	5.00	1.27	0.07