

Facilitating collaborative entrepreneurship within an  
SME network

Colin Akhurst

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## ABSTRACT

### Facilitating collaborative entrepreneurship within an SME network

Miles *et al* (2005) describe collaborative entrepreneurship (CE) as an “organisation” composed of firms from different industries, whose collaborative abilities allow them to pursue a joint strategy of continuous innovation. Franco and Haase (2013) define it as “the creation of something of economic value arising out of new, jointly created ideas that emerge from the sharing of information and knowledge” (p. 681).

The success of small and micro businesses is pivotal to the success of the world’s market economies.

The adoption of the CE model in the context of small and micro businesses, who often lack the resources to develop products, would seem logical, but this remains an under-researched field.

The current study used an action research approach with the researcher’s business as a partner organisation in a collaborative venture and the researcher operating as facilitator.

This study used a social capital theory perspective to understand the changing relationships, and how facilitation adapts to maintain knowledge transfer in a network of small and micro owner/managed business, as they use a collaborative entrepreneurial model to innovate products and services for the spray-tanning industry.

The study was conducted in a network of five business based in the UK, USA and India. Three of the businesses were actively involved in a traditional supply chain with the others becoming involved in response to changing market conditions.

Data was collected in a series of field diaries was over a 24-month period with sources including day to day business activities, formal and informal meetings, telephone calls and the researcher’s reflections.

The qualitative thematic analysis revealed different issues at different points in the life cycle of a collaborative entrepreneurship venture alongside insights into how potential challenges were addressed through facilitation.

Phase 1 – transforming – as new members were integrated into the group issues of trust related to the structure of the network and information silos were highlighted. An appreciative inquiry intervention was used to address these issues.

Phase 2 – stabilisation- deals with how the network managed innovation both in and outside the network. Maintaining momentum became a challenge as sales plateaued. Dialogue within the action research group that addressed issues of degeneration highlighted how tensions were managed.

The final phase – addressed issues of readiness and legacy and how the network was maintained as innovation slowed within the network and out-of-network innovation accelerated. Reduced contact among group members revealed differences in individual perceptions of the psychological contract developed during the collaboration and strategies were developed to ensure the network remained ready to collaborate and innovate as market demands dictated.

The study contributes to the theory of collaborative entrepreneurship within a small and micro business context through the use of a dynamic approach to self-facilitation with the role of facilitator rotating among the group members based on relevant skill and knowledge.

The study contributes to current knowledge of facilitation of small business networks and the use of appreciative inquiry methods in small groups.

A model of the dynamic nature of a collaborative entrepreneurship venture among small and micro businesses and the role that action learning can play, was developed.

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## **Declaration**

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification at Birmingham City University or any other institute of learning.

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# Chapter One

## Introduction

## Chapter 1: Introduction

***The corporation as we know it is unlikely to survive the next 25 years. Legally and financially, yes. But not structurally and economically.*** (Drucker, 2000)

Miles et.al (2005) argue that for organisations to flourish in the today's hyper competitive global market place an organisational form needs to exist that encourages continuous innovation. They suggest Collaborative Entrepreneurship as a form that links the "power of collaboration" with innovation to stimulate innovation in a continuous way.

This thesis will document an action research project within a network of entrepreneurs as it attempts to embrace the principles of collaborative entrepreneurship to develop innovative products and services for the spray tanning industry in the UK.

The research project explores, within the boundaries of the small and medium sized businesses (that the network consists of), the effectiveness of an action research approach to network facilitation for the development and management of organisational knowledge.

### 1.1 Background of the Network

The network at the centre of this research project, has been broadly in existence since the middle of 2012. At its inception the network resembled a traditional supply chain network with the five parties involved adopting traditional roles of customer and supplier.

The first company, subsequently referred to as **the brand holder** has been involved in the beauty and tanning industry for over twenty years.

The second company, subsequently referred to as, **the automation manufacturer**, is an Indian based manufacturer of human machine interfaces (HMI) and programmable logic controllers (PLC) and supply a worldwide customer base.

The third company, subsequently referred to as, **the automation supplier**, is a supplier of industrial automation products and services to a UK customer base.

The fourth company, subsequently referred to as, **the booth manufacturer**, is a provider of engineering services predominantly focussed on the industrial automation field within the UK.

The fifth company, subsequently referred to as, **the American customer**, is a manufacturer of spray tanning solutions in the USA and international markets.

To protect the commercial interest of the companies and individuals involved in the network they, with the exception of the researcher, will be identified by pseudonyms, and the table below provides details of their position in their respective companies, age, gender and ethnicity.

**Table 1 – Group Membership**

<b>Pseudonym</b>	<b>Company</b>	<b>Position</b>	<b>Age Range</b>	<b>Gender</b>	<b>Ethnicity</b>
Steve	Brand Holder	Sales Director	45-55	Male	White Scottish
Richard	Brand Holder	Managing Director	55-65	Male	White Scottish
Neil	Brand Holder	Design Engineer	40-50	Male	White British
Mick	Booth Manufacturer	Managing Director	40-50	Male	White Scottish
Badri	Automation Manufacturer	Managing Director	45-55	Male	Indian
Nick	American Customer	CEO	45-55	Male	White American
Colin	Automation Supplier and Researcher	Managing Director	45-55	Male	White British

There were pre-existing relationships between the companies prior to the formation of the network. The booth manufacturer had been a supplier to the brand holder since 2008 and provided engineering services such as electrical design and programming. The director of the booth manufacturer also knew the design engineer of the brand holder when he previously worked for a major tanning brand in the UK.

The directors of the automation supplier and the booth manufacturer had known each other professionally and socially since the early 1990's and have acted interchangeably as suppliers and customers since 2006, with the booth manufacturer purchasing products from the automation supplier on a regular basis and the automation supplier contracting the booth manufacturer for the provision of electrical design and programming on an occasional basis.



The director of automation supplier and the director of the automation manufacturer have known each other since 1996 and the automation supplier has been the UK distributor for the products manufactured by the automation manufacturer since 2006.

The brand holder has been the UK distributor for the American customer since 2009 and the directors of the American customer and the sales director of the brand holder, who have been involved in the tanning market for over 30 years, were known to each other prior to 2009.

The individuals will now be introduced, this is felt necessary as they will be actively involved in both the research project and the business activities described in this thesis.

Richard owns 50% of the brand holder along with his wife who owns the remaining 50% but is not involved in the business. Before buying the business from the previous owner he worked in the Scottish tax office for over 25 years. He was also a world champion in indoor bowling and after leaving the tax office he established a successful business supplying product and service for the indoor bowling market in the UK and Europe.

Steve worked for multiple businesses associated with the tanning and beauty industry and for a number of years owned a sunbed supplier that acted as an importer for a number of major American sun bed brands.

Neil has held various roles related to industrial design and manufacturing in both SMEs and multinational companies. He was also a design engineer for a major tanning equipment supplier and developed patented product used throughout the spray tanning market.

Mick began his career as an electrical controls apprentice for Metal Box (a global supplier of cans for the food industry). After leaving metal box he was a partner in a small engineering firm that developed specialist machine tools to various industries in the UK, Europe and the Middle East. This partnership dissolved in 2002 after which he formed the company, known for the purposes of this research project as the booth manufacturer.

Given the nature of the researcher's involvement within the network it is considered prudent to provide a more detailed background of the researcher's and the professional and personal motivations behind this research.

Colin has worked in the automation and control field for over 30 years and held positions in both UK and multinational businesses. While working for a family-owned SME in West Bromwich, he decided that future career paths were closed due to the lack of a formal business qualification. He embarked on a diploma in management studies at BCU in 2005 and completed his Master is management in 2008.

In 2006 Colin left his employment and stated his own business, in partnership with his wife and the company has customers in a diverse spread of industry both in the UK and internationally. The company has completed project in several countries and Colin regularly works in conjunction with customers to develop products collaboratively.

Badri worked for seven years in the USA developing hardware and software for HMI's (human machine interfaces). He returned to India in 1993 and started his own company that now manufactures a range of automation products, employs approximately 180 people and trades globally through distributors.

Nick was instrumental in diversifying the family business from lingerie manufacturing into the tanning market in the early 1990's when they launched a range of specialised moisturising creams specifically targeted at sun tanning salons. They now manufacture a range of spray tanning solution and distribute manual spray equipment and accessories.

### 1.11 Sunless Tanning

Indoor tanning using an artificial source of ultraviolet light (UV), lamps, beds and booths, have existed since the 1920's, In the late 1990's concerns over the increased risk of cancer through extended exposure to UV, led governments around the world to restrict the use of these to adults. This led to a widely held narrative that UV tanning was unsafe putting the industry under increasing pressure. (<https://www.fda.gov/consumers/consumer-updates/indoor-tanning-risks-ultraviolet-rays> 18/12/2015)

An alternative to UV tanning, in the form of lotions and creams, has been available since the 1960's. These contain dihydroxyacetone that interacts with the dead cells located in the stratum corneum of the epidermis and produces a colour change. Although safer, the application was time consuming and offered minimal revenue to a tanning salon as the self-tanning creams were widely available in other outlets and can be self-applied.

For tanning salons to fill the potential revenue gap, that was on the horizon due to the move away from UV tanning, the market needed to find a way to make the application less time consuming and provide a way for salons to increase revenue from sunless tanning.

The New York Times (7/9/12) stated.

“It all comes down to penetration. As Estée Lauder chemists noted in a 1997 patent, the creams trapped DHA on the surface of the skin, resulting in an “undesirable orange cast” on “fair-

skinned humans.” The trick was to deliver DHA into deep layers so that it could react with more cells. Thus, was born a fake-bake breakthrough: the “atomized droplet.” Nowadays many sunless tanners are spritzed on like spray paint.”

(<https://www.nytimes.com/2012/09/09/magazine/who-made-that-spray-tan.html>)

Once the chemistry to make the active ingredients in self-tanning creams easily sprayable had been developed salons began to offer, on premises and at home air brush spray tanning services.

These hand spray solutions were the pre-cursor to fully automated spray tan booths, the development of which was the primary business aim of the network discussed in this thesis.

## 1.2 Rationale for the Research

“In an uncertain world, where all we know for sure is that nothing is sure, we are going to need organisations that are continually renewing themselves, reinventing themselves and reinvigorating themselves”.  
(Handy, 1992:59).

Small and Medium sized business (SME) are important to the economy of the UK in which they are the most dominate form of business organisation. Fast paced technological change, especially in the field of communication, coupled with a progressive change from a manufacturing to a knowledge-based economy have led to organisations reducing in house technical and manufacturing personnel, resulting in the outsourcing of many of these functions. This outsourcing has led to product knowledge, traditionally held by the market face of the brand, being disseminated throughout a loose network of organisations and in many cases organisations other than the brand holder having more technical and manufacturing knowledge of the product.

This situation potentially leads to the network companies becoming pseudo branches of the brand holder reducing their ability to use the innovative technology or systems they have developed in the wider marketplace leading to stagnation and in respect of the brand holder their ability to innovate is restricted by how much the resources of other organisations within the network make it possible.

This research project will, through the facilitation of the transformation of a supply chain network to a collaborative entrepreneurial network, generate the knowledge required to overcome the barriers to innovation prevalent in traditional organisational networks.

### 1.3 Collaborative Entrepreneurship

Miles et.al 2005 describe their model of collaborative entrepreneurship (CE) as challenging current business practice in several important ways – it is based on positive human characteristics such as trust and collaboration, it is socially responsible, and it serves all stakeholders because it is so versatile (p.2).

Zott et.al (2011) describes CE as similar to open innovation, Miles et.al (2005) describe CE as the creation of something of economic value based on new jointly generated ideas that emerge from the sharing of information and knowledge (p.2).

### 1.4 Research Aim and Objectives

In line with the underlying principles of an action research project the dual objectives of this project are the facilitation of organisational change and to contribute to academic knowledge. The specific objectives that will satisfy these requirements are.

- To facilitate the transformation of the network from a traditional supply chain to one in which all members collaborate fully, input openly in all aspects of the business and are confident of an equitable distribution of wealth generated by the network.
- To examine the Miles et.al (2005) collaborative entrepreneurial network model within a knowledge diverse network.
- To critically evaluate the use of action research as a method of facilitation in a collaborative network.
- To develop a model of internal facilitation for a collaborative entrepreneurial network.

### 1.5 Research Questions

- Does the collaborative entrepreneurship model provide a suitable structure for continuous innovation in a small/micro business network.
- Does internal facilitation provide the support needed to help a group of small/micro business owners/managers navigate the transformation of a traditional supply chain to a collaborative entrepreneurial network

### 1.6 Overview of the Methodological Approach

This research project has as its foundation a desire for change among the directors, owners and managers of three small business. The current market that the network is active within is dominated by large commercial entities that have multi-million- pound marketing budgets and leverage products (tanning solution) to dominate sales of delivery systems (hand or automatic spray machines).

Action research is the methodology chosen for this research project. Action research places the researcher at the heart of the organisational change, and both encourages and requires those involved in the research to be equal participants.

Coghlan and Branick (2006 p.3) offer two definitions for action research, the first from Heron and Reason (2001 p.1) 'action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview. The second, which they describe as being more suited to action research when used by the practitioner/researcher within their own business is from Shani and Pasmore (1985 p.439);

*"Action research is used as a means of implementing organizational change especially in complex social situations where the people whose lives or circumstances are being changed need to be involved in designing and implementing the change that affects them."*

Somekh (2006) further argues that action research methodology overcomes the limitations of traditional methodologies when researching situations, as change in organizations often does not take place as planned. Using an action-reflection cycle helps to keep the implementation of change on track, as far as feasible, by involving the very people who will be affected by the change.

This study adopts a participatory appreciative inquiry approach to data collection with the researcher embedded in the network collecting qualitative data. This is in tune with the action process followed by the network as it navigates the organisational change and the researcher as he attempts to make sense of the data collected during the varied interactions of the network.

## 1.7 Chapter Synopsis

The thesis has eight chapters each detailing a specific area of the research process

Chapter 1 is the introductory chapter, detailing the background and rationale for this research and giving an overview of the methodological choice made.

Chapter 2 discusses the literature pertinent to this research study and identifies the gap in knowledge this study addresses.

Chapter 3 outlines the methodological choice made for the study and presents a rationale for the data collection and analysis methods selected.

Chapter 4 describes the data collection and interpretation as the network formed.

Chapter 5 describes the data collection and interpretation as the network begins to transform into a collaborative entrepreneurial network.

Chapter 6 describes the data collection and interpretation as the network stabilised and began to deliver innovate products and services for the spray tanning market.

Chapter 7 describes the data collection and interpretation as the network struggled with lulls in in-network innovation and how to facilitate it legacy.

Chapter 8 presents a summary of the research project.

# Chapter 2

## Literature Review

## Chapter 2: Literature Review

Chapter 1 introduced the network at the centre of this study and set out the rationale for a study focussed on self-facilitated appreciative inquiry to transform a traditional supply chain to a collaborative entrepreneurial network where continuous innovation can thrive.

The objective of this chapter is to review the literature field in which this research study is rooted. It will look at the fields of small and medium sized enterprises (SMEs), how they are defined and characterized and how they operate in networks. The theories that drive entrepreneurship and how entrepreneurs work within small business will be discussed followed by an examination of interfirm alliances and entrepreneurship in the context of the SME before attention is focussed on knowledge management and collaborative entrepreneurship. The final section of the chapter will discuss the literature relating to facilitation and culture.

### 2.1 Definition of a Small and Medium Sized Enterprise

Within the EU a small and medium sized enterprise (SME) is defined by the European Commission as a business or company:

- that has fewer than 250 employees.
- has either (a) annual turnover not exceeding €50 million or (b) an annual balance-sheet total not exceeding €43 million.
- of whose capital or voting rights, 25 per cent or more is not owned by one enterprise, or jointly by several enterprises, that fall outside this definition of an SME. This threshold may be exceeded in the following two cases: (a) if the enterprise is held by public investment corporations, venture capital companies or institutional investors provided no control is exercised either individually or jointly, or (b) if the capital is spread in such a way that it is not possible to determine by whom it is held and if the enterprise declares that it can legitimately presume that it is not owned as to 25% or more by one enterprise, or jointly by several enterprises, falling outside the definitions of an SME.
- A micro business is defined as an enterprise with less than 10 employees, an annual turnover of less than €2 million or an annual balance-sheet total not exceeding €2 million.

[http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm)



SMEs are considered one of the driving forces of the market economy (Philip, 2011) and a major source of economic growth Saunders et.al (2013). The success of SMEs is of significance to continued economic prosperity (Holmes et.al.,2010) Blackburn and Kovalanien (2009) argue that the importance of SMEs has led to them becoming a theoretically distinct category for research purposes.

The Department for Business Innovation and Skills (BIS) reported that in the UK at the start of 2015

- SMEs made up 99.9% of the 5.4 million private sector business in the UK.
- SMEs accounted for 60% of all private sector employment in the UK with 15.6 million employees.
- The combined annual turnover of SMEs, £1.8 trillion, accounts for 47% of all private sector turnover in the UK.

**(BIS Statistical Release Business Population Estimates for the UK and Regions 2015 pub date 14/10/15)**

SMEs are found throughout the UK with southern England having a larger percentage relative to population and they account for at least 99% of the businesses in every main industry sector. They vast majority of SMEs employee less than 20 people, three of the organisations in this research project fall within this group.

### 2.1.1 Characteristics of Small and Medium Sized Enterprise

Gourova (2010) describes SMEs as characterized by simple and less complex structure, managed in most cases by its owner, flexible and adaptable business processes, modest human resources and expertise and a smaller customer base. Singh et.al (2005) describes most SMEs as having simple systems and procedures, which allows flexibility, immediate feedback, short decision-making chain, better understanding and quicker response to customer needs than larger organizations. Gourova (2010) suggests that the organisational culture of SMEs and the flatter structures, and less management systems makes it easier to adapt to change as it normally depends on the attitude of the owner(s) of the company. In contrast less management systems can lead to what Gourova (2010) describes as common characteristic of SMEs “organisational amnesia”. This results in a failure to retain knowledge learned from past experiences and the loss of critical processes and systems knowledge due to employee turnover.

Hong and Jeong (2006) discuss the differences between SMEs and large organisations in the context of supply chain management. In relation to competitive priorities, they state that the SME is more likely to pursue profitable market niches whereas the larger organisation seeks market dominance

through sustaining a large market share. Strategically they find that the large organisation exerts both upstream and downstream influence in the supply chain and forms strategic alliances with both suppliers and distributors. In contrast the SME focuses on specialised markets, builds unique competences and seeks to manage customers and supplies in an effective way to reduce cost.

Wellbourne and Pardo-del-Val (2009) looked at differences related to decisions making between small and large businesses. They found that relational capital was more valued by SMEs than larger enterprises and that contacts and relationships influence strategic decisions making and tend to be pivotal to the success of the small business or can lead to failure if key relationships break down.

Bazerman (2009) posits that the limited resources and time constraints within micro-enterprises result in less formal planning and analysis, and that strategic decision-making tends to be more of an extension of each owner-manager's personal experience, personal limitations, and bias.

Runyan et.al (2008) conducted a quantitative study of 267 small business owners to examine the constructs of entrepreneurial orientation (EO) versus small business orientation (SBO) and their impact on small business performance and longevity. Lumpkin and Dess (1996) describe EO as consisting of processes, structures, and/or behaviours that can be described as aggressive, innovative, proactive, risk taking, or autonomy seeking. The competitive aggressiveness dimension of EO can be defined as the tendency of firms to assume a combative posture towards rivals and to employ a high level of competitive intensity in attempts to surpass rivals (Lyon et.al, 2000). In contrast the characteristics of SBO were described by Carland et al. (1984) as an extension of personality and focussed on furthering personal goals, as well as generating family income.

Runyan et.al's (2008) study found that there were significant differences in the impact of SBO and EO on firm performance depending on the age of the firm. In the younger group, only EO was a significant predictor of performance, while for owners in business that have been in operation for eleven or more years, only SBO was significant. The change in emphasis from EO to SBO suggests that as the business become more established the emotional attachment of the owner/manager changes and it could be argued that as the owner/managers focus changes from establishing the business to maintaining long term success the financial decisions made are designed to maintain a lifestyle for the owner and his/her family.

McCarthy's (2003) study explored the impact of the entrepreneur's character on the development of strategy in small to medium-sized firms. She identified two main types of entrepreneurs, the pragmatist and the charismatic entrepreneur, and found that these resulted in different patterns of strategic behavior. Focusing on the response to and effect of crisis on the owner/managers approach to planning, the study found that both types become more cautious, particularly in areas of financial planning post-crisis. During a crisis the founder becomes more aware of their actions and that post crisis they spend more time, explaining and justifying their actions to key stakeholders (p.167). One of the respondents in the study remarked that.

*"in most entrepreneurial companies, the struggle for survival cramps the opportunities to be innovative. You need comfort and resources." (p.167)*

Crisis such as those discussed in this study could be the triggers to the change of emphasis from EO to SBO discussed earlier as although a crisis could affect a firm at any stage in its development it is likely that as a firm gets older the founder has more to protect both in terms of personal credibility and financial security. The author also concludes that the charismatic type of entrepreneur was more common and that this personality type was 'forced to prioritize planning and reduce the uncertainty of decision-making in order to satisfy stakeholders and safeguard the future of the company' ( p. 336).

In 1998 Brouters et al. conducted a study of a cross-section of firms located in the Netherlands with fewer than 100 employees. They found although smaller firms took a rational approach to the gathering of environmental information, they made limited use of this information and unlike larger firms that have established analytical tools and procedures, the small firm's manager tended to rely on intuition. They also found that personal characteristics played a role in decreasing rationality with the managers of small firms choosing strategies based on their personal desires and backgrounds, as opposed to selecting the best-fit strategy based on rational analysis (p.136).

Mussoa and Francioni's (2012) study within Italian SMEs involved in international trade suggested that if the decision maker usually adopts intuition, they may not always ignore the findings of systematic analysis but when data does not provide a clear answer, the decision-maker has the ability to sense what should be done and acts decisively. Similarly, Child and Hsish (2014) comment that SME decisions tend to be based on personal hunches in response to unplanned developments to a greater extent than those made in multinational enterprises (MNEs).

Libermann-Yaconi et.al (2010) focussed on a subset of the SME category, micro-business, and as such given the nature of the network that is the focus of this research project, their findings are of particular interest. Based on previous studies the authors developed three propositions.

Proposition 1: Data from micro-firms will indicate that micro-firm's owner-managers ways of making strategic decisions will most resemble bounded-rational patterns, rather than a rational pattern.

Proposition 2: Micro-firm managers will report that they generally gather information for their SDM passively and from sources external to the firm via informal business and social relationships.

Proposition 3: Data from micro-firms will indicate that their SDM is infused with idiosyncratic influences.

The qualitative research was conducted in a relatively small data set of 11 micro-firms and the authors found that all three propositions were supported. Based on their findings they state that strategic decisions in the micro-business were initially triggered by an internal or external influence and once triggered it is the owner/managers personal characteristics that guide the SDM. This occurs by influencing the information they absorb, the source of the information, how the information is interpreted and what they considered as valid information.

The literature related to the difference between small and large firms seems to agree that the personality traits and characteristics of the founder or owner/manager plays a key role in how strategic decisions are made. This is considered to be predominately due to the personal investment of the founder and that in many small business, especially micro-businesses, there are fewer internal or external stakeholders. It is also notable that many larger firms have more layers of management and procedures that are likely to reduce the influence of the "gut feeling" approach to strategic decision making.

### 2.1.2 Small Business Networks

Curran et.al (1994) describes a network as a configuration of firms, owner/managers, support agencies, voluntary associations and other bodies through which small firms connect to the wider economy and community.

Caner and Tyler, (2013) state that strategic alliance with external partners significantly contributes to the enhancement of creativity, minimizing risks and improving the quality of innovation outcomes for SMEs.

Business success is usually the outcome of the way of doing business and cooperation. Interfirm cooperation, consultation, performance measurement, and flexibility may play an important role in business success. Inter-firm cooperation contributes positively to gaining organizational legitimacy and to developing a desirable marketplace reputation (Phillip, 2010). Successful SMEs are those that are able to leverage on their resourcefulness, exploit their networks and tap on their niche knowledge of the markets (Wee and Chua, 2013).

Clarke et.al (2016) argues that networks are one of the most widely used forms for small firms to establish suitable contacts, develop a unique set of relationships and create a competitive advantage in their marketplace.

Moller and Rajala (2007) offer a business network typology that suits the network at the centre of this study as it includes the viewpoint of innovation capability. They propose a value system continuum and use capability-based analysis when discussing the value creation potential of different kinds of networks. They argue that the value system and its level of determination plays an important role in understanding strategic networks. At one end of the continuum are the networks that produce and deliver specific products and in which the value activities and capabilities are known. In the middle of the continuum sits networks in which the value systems are well determined but are modified through local, incremental improvements. At the opposite end are the emergent value systems which they describe as future orientated networks, those that require significant changes to their value systems and are characterised by uncertainties related to value activities and the capabilities of the network members.

Valkokari and Helander (2007) state that as the strategic network types identified by Moller et al. (2005) become more complex and require a wider set of capabilities when we move along the value system continuum from left to right and that it is also safe to assume that knowledge management practices within strategic networks also become more challenging when moving from core value production networks towards radical innovation networks. In their study they adopted the terms traditional supply network, enhancing network and innovation network to describe the three stages of Moeller and Rajala's (2007) value system continuum. These terms best describe the majority of SME networks from those that consist of a manufacturer and distributors that are predominately chosen for geographical location, product design companies and their contract manufacturers who offer both scale and expertise to enable a relatively small company to manufacture products for a

global market and smaller scale specialist manufacturers who harness the individual expertise of sub-contractors to develop new products.

Valkokari and Helander (2007) conclude that managers of SMEs have often overlooked the possibilities that strategic co-operation can offer in strengthening the core competencies and strategic opportunities of their firm. Instead of making traditional supply networks over-dependent on their clients, the network members should learn to focus on the creation of knowledge-based competencies and capabilities that result in the development of a sustainable competitive advantage. This appears to be the main aim of SME networks, the need to fill gaps in individual company competences and/or resources to enable the group members to compete with larger organisations.

A common form of SME networks is the business cluster, these tend to be the result of government policy to generate employment in specific areas and take advantage of either a resource or skill base. Schmitz (2000) describes the literature as generally underscoring positive cluster dynamics that generate positive self-reinforcing feedback loops, leading to further growth and higher profitability. This, he concludes leads many governments to promoting the development of regional clusters by offering tax benefits, financial incentives, and infrastructural facilities to encourage foreign multinational corporations and entrepreneurial firms to relocate in favour of their clusters.

Porter (1998) in one of most widely cited papers on business clusters defines business clusters as, a geographical concentration of interconnected companies, specialised suppliers, service providers, firms in related industries and associated institutions in particular fields, that compete but also cooperate. What differentiates the business cluster from the strategic networks discussed earlier is the informal nature of the interconnected relationships among the firms in the cluster. Within a business cluster, roles are not normally as well defined as those in the traditional supply chain network and become flexible as market pressures change.

Rosenfield (1997) uses the case of a business cluster in Mississippi USA and Lombardi Italy to demonstrate the clustering behaviour of SMEs and the systems, services, and infrastructure that support them. At the time of the study the small city of Tupelo in Mississippi had approximately 250 companies employing 22,000 people, 41% of the working population, producing mid-range furniture for the mass market. The region became the second largest producer of upholstered furniture in the nation, and the nation's leader in mid-range recliners and incliners.

Similarly, in the city of Castel Goffredo in Lombardia, more than 200 production companies and suppliers have captured about 30 percent of the entire European market of women's stockings and pantyhose. Firms located in the town annually produce 1.3 million pairs or Italy's total production of 1.9 million pairs of stockings and pantyhose and sell 70 percent of their production outside of Italy.

Lang (2009) states that in addition to the positive externalities of business clusters they can also generate negative externalities. These include rising labour and real estate costs, skill shortages, and over-competition among the firms in the cluster can lead to reduced profit margins leading to a decline in investment in R&D and reduced levels of innovation.

Within the context of the micro-firm, the largest subset of SMEs in the UK economy, Reinl and Kelliher (2010) discuss the ethos of the cooperative learning network as a way to increase innovation, organisational learning, and competitive advantage. They state that there is sufficient prior research to conclude that the micro-firm operates within a learning and business environment that fundamentally differ from that of their large counterparts (p.142).

Their study focussed on the TLN initiative established by Fáilte Ireland (the Irish tourism development agency) in 2006, in order to provide tourism-related businesses with a substantial business development programme, and to cluster small tourism business owners in the hope of future cooperative activity and effective learning.

A key finding of this research was that network involvement appeared to boost the confidence of participants and they began to think more strategically about their learning needs. There was growing evidence of cooperative learning and interaction in the individual learning sets and at the network residential events as participants actively discussed business issues, shared their experiences and worked through shared solutions (p.146.). A limitation of this type of formal program utilising external facilitation is the longevity of the network interaction after the program has ended and the facilitators have moved on. Business cluster such as those discussed earlier in this section, which although started by government initiative such as tax breaks or outsourcing of activities from a government department, normally do not have direct facilitation from an external body and thus the survival of the network and innovation within it are based on commercial need.

### 2.1.3 Summary

The importance of the small and medium sized enterprise to the economy of the UK is undeniable and the future success of this sector is important for future financial health of the country. The success of this sector is considered by a number of contributors to the field to be based on their ability to develop relationships with similar companies and form networks to enable them to share resources and compete on a larger stage. There does however appear to be limitations in the forms of SME networks identified from the literature. Clusters rely on business active in the same markets working in close proximity reducing product and market innovation. In traditional supply chain networks, the success of companies in the lower reaches of the chain depends on the success of those higher up.

### 2.2 Entrepreneurship

It could be argued that any person who starts a business is by definition an Entrepreneur, indeed Cartland et al (1984) used a very simplistic definition when they stated that “an entrepreneur is an individual who establishes and manages a business for the principal purposes of profit and growth” (p.358). However, it could also be equally argued that to be an entrepreneur requires the starting of a business that opens new markets, uses new technology in an innovative way or creates a unique product differentiation within an established market. The pioneers of the low-cost airlines such as EasyJet and Ryanair or technology pioneers such as Steve Jobs at Apple are clearly embracing the ethos of the entrepreneurial spirit.

Most writers on entrepreneurship agree that there are push and pull factors that motivate an individual to “take an entrepreneurial leap” and pursue a business idea by starting their own business (Alsete, 2002; Deakins and Whittam, 2000; cited in McClelland et.al ,2006). The pull factors are considered positive motivations to start a business such as being your own boss, exploiting a market opportunity and independence. In contrast the push factors are considered to be negative events such as redundancy where the individual considers there is no other viable alternative.

Cromie (1987) argued that the man and woman differ how they view particular motives. Deakins and Whitman (2000) suggest that different social groups view the push and pull factors differently. This leads to the conclusion that a push factor for one individual could be consider by another as a pull factor. Therefore, the way the individual considers these factors depends on economic position, social group, culture and personality traits of the individual. It is felt worthy of note at this juncture that the researcher own business was started as a result of redundancy but at the time this was considered a positive motivating factor as it gave him the stimulus to face a challenge he had considered for some



time as being the next logical career step, some of the other businesses in the network were also started for reasons that can equally be couched in terms of push or pull factors.

Schumpeter (1934) presented one of the preeminent economic theories that have been linked to entrepreneurship. A key component of the theory was Schumpeter's belief that innovation was at the centre of economic change. Schumpeter proposed taxonomy of change is based on three stages: invention, innovation and diffusion (Burton-Jones, 1999 cited in Dabic et.al, 2011)

Schumpeter defined innovation as consisting of five type's (Dabic et.al,2005). Two relate to new method of production and the sourcing of raw materials or semi-finished good from new sources, these are categorised as process innovations. The three remaining types can be categorised as product innovations such as a new good or a new quality of good, the opening of a new market and a new industry structure. Modern day examples of these could include innovations within the mobile phone market with the addition of cameras and mp3 players and new mineral and oil markets that have been developed in the former Soviet states in Eastern Europe. The concept of mass customisation which has been made possible by advances in both marketing and computer-controlled manufacturing can be classed as both a process and product innovation. The challenges to traditional business structure that have be made possible through the commercialisation of the internet allow online presence to be achieved by very small companies with both a relatively small investment and short implementation period are clearly product innovations as are the marketing possibilities available to companies through the growth of social networking sites.

Basu (2004) suggests that the economic theories of entrepreneurship assume that the principal economic aspiration of the entrepreneur is profit maximisation. This raises the question of whether the entrepreneurial spirit can be fostered and maintained without the resultant personal gain. It also assumes that the economic theories are correct and that the only form of personal gain considered as acceptable to the entrepreneur is financial gain. This could be seen as limiting the entrepreneur to the private sector.

In addition to economics theories that attempt to offer an explanation as to why entrepreneurs act how they do there are psychological theories which give alternative explanations.

McClelland's acquired needs theory is often used to describe what motivates the entrepreneur. He proposed that an individual acquires a specific set of needs over time and these needs are shaped by

an individual's life experiences. The needs can usually be categorised into three broad groups, achievement, affiliation or power. The theory postulates that an individual's motivation to perform a particular job and their effectiveness in their role is influenced by these three needs. It is clear to see how this theory can be applied to the definition of an entrepreneur. Islam (1998) describes how McClelland himself drew some direct links to entrepreneurship when he suggested that the entrepreneurial class is the mechanism by which the need for achievement translates into economic growth and that if this level is high there will be more people who behave like entrepreneurs.

McClelland's acquired needs theory puts great emphasis on psychological traits of an individual such as the need to achieve and predisposition to risk taking. The concept of traits being indicators as to whether an individual will act in a way considered to match the criteria normally accepted as entrepreneurial is also shared by the locus of control theories originally developed by Julian Rotter in the 1950s. The theories attempt to define the extent to which individuals believe they have control over events that affect them.

An individual who has a belief that their own behaviour and actions are the primary deciding influence on events are considered to have a high internal locus of control. Conversely an individual who believes that events are predominantly beyond their control and are influenced by external forces over which they have no, or little influence are considered to have a low internal locus of control. It can be assumed from locus of control theories that those with a high internal locus of control are more able to control their behaviour and are likely to have a greater self-belief in their own abilities. It could also be assumed that they are likely to be less risk adverse, than individuals with a low internal locus of control, as they are likely to have a greater confidence in the outcome of events as they believe they have greater control over the variables. Individuals with a low internal locus of control are more likely to seek advice from others and more comfortable if they are not directly making decisions as they have less confidence in their ability to control the variables of an event. Low and McMillian (1988 cited in Virtanen 1999) conclude that an entrepreneur is more likely to have a high internal locus of control. It is easy to see how they reach this conclusion as an entrepreneur is likely to need a confidence in their own abilities to complete a task by the simple application of their own skills without the need for external help or fearing that external influences would have an adverse impact on their plans.

Sociology also offers theories that shed some light on what makes an entrepreneur. German Sociologist Max Weber wrote in the *Protestant Ethic and the Spirit of Capitalism* (1992) that

Protestants, particularly Calvinists, were overrepresented among business leaders, successful entrepreneurs and owners of capital. In his study he observed a correlation between being protestant and being involved in business and from this he developed his argument that the protestant faith fosters a culture that led to business success. He further argued that the practices of Calvinism, hard work, thrift and honesty were all aspects of “this worldliness” and that there were in harmony with the skills and social formations required in business. Calvinists believe in predestination, that God has already determined who is saved and damned. As Calvinism developed, a deep psychological need for clues about whether one was actually saved arose and Calvinists looked to their success in worldly activity for those clues. Thus, they came to value profit and material success as signs of God's favour. It can be seen how the characteristics of what is traditionally considered to be an entrepreneurial individual could be fostered within such a culture dominated by what Weber described as, the Protestant Ethic. However, it does raise the question as to whether the entrepreneurial spirit is fostered because of the social climate or do the individuals, with the character traits considered to be entrepreneurial, develop the social climate through the process of being active within a society which in turn develops a culture where entrepreneurship is considered to be a socially acceptable occupation thus making it more possible for others to start their own businesses. This social acceptance or encouragement of entrepreneurial activity is contrasted by Redding's (1990) description of the Confucian ethic (p.124). He states that the interpretation of Confucian general principles was controlled by the Mandarin class who were considered to be the only people sufficiently educated for the task. This, he postulates, left the merchants classes unable to oppose the Confucian ethic and unable to defend their interests by calling upon an alternative code.

Hoselitz (1963) postulated that entrepreneurs were a product of cultural factors, and that cultural minorities are the spark plugs of economic growth in many countries. The evidence from the success of Jewish business around Europe in late 19<sup>th</sup> and early 20<sup>th</sup> century, Chinese owned business domination of the economies of a number of countries in South East Asia and that, as stated by Basu and Goswami (1999), the fact that nearly half of the independent shops in Great Britain are owned by Asian entrepreneurs would seem to prove this theory. Waldinger et al. (1990) suggested that the success of ethnic entrepreneurs cannot be traced to a few personal traits alone. They suggest, based on their observations, that the creation and growth of a new business involve opportunities and ethnic group characteristics. Basu and Goswami (1999) describe this immigrant entrepreneurial theory (Mars and Ward,1984; Waldinger et.al.,1990) as a formal explanation for the emergence and survival of South Asian entrepreneurship in Great Britain in the context of ethnic resources and opportunities created by an enclave economy.

### 2.2.1 Gender as a Determinant of Entrepreneurship

Sullivan and Meek (2012) state that expectancy theory (Vroom, 1964) has been used widely within organisational literature to explain what motivates individuals to engage in certain actions and argue that it is particularly relevant in explaining how and why women engage in the process of entrepreneurship. Expectancy theory suggests that the behaviour of an individual or their engagement in an activity is based on a belief that those actions and behaviours will be rewarded by outcomes that they value.

The previous section discussed the push and pull factors of entrepreneurship (Alsete, 2002; Deakins and Whittam, 2000; cited in McClelland et.al ,2006). Pravin et.al (2012) state for woman, factors including personal attributes, family affairs and external environment are determinants of entrepreneurship. Bianchi et al. (2016) and Patrick et.al (2016) state that the pull factors that draw women to entrepreneurship are predominately independence and the challenge of ownership.

Considering gender as a factor in the reason for starting a business both Gorgievski et.al (2011) and Wach et.al (2016) found no strong correlations to conclude that gender was a specific entrepreneurial driver. In contrast to these studies Parvin et.al (2012) found that, family size, death of husband/earner and desire for higher social status were determinants of entrepreneurship. It should be noted that Pravin et.al's (2012) study was conducted in rural Bangladesh and Gorgievski et.al (2011) in the Netherlands which could indicate that cultural difference had a bearing on the findings.

There are also gender specific reasons for women engaging in entrepreneurial behaviour. Bruni et.al (2004) describe women that are strongly success-oriented, usually without children, who regard their own businesses as an opportunity for professional fulfilment or as a means to overcoming the barriers present in organisations in which they have previously worked. Bosse and Taylor (2012) state that gender inequity in the corporate workplace is seen as key driver for woman to leave the corporate work force and escape the effects of the glass ceiling by starting their own small firms.

Bhardwaj (2017) found that a significant driver for woman to start their own business was a flexible working environment allowing them to devote sufficient time to both their personal and professional lives. Sullivan and Meek (2012) also argue that woman often have a greater responsibility for childcare activities than men and they view entrepreneurship as a mechanism for a more flexible work schedule.

In addition to difficult working conditions (Howard et.al.,2019) that push a woman to start their own business they are also pulled by similar factors to men namely freedom to conduct business on their terms, autonomy and personal satisfaction. In addition, the opportunity to contribute to society through ethical, customer focussed business practices seemingly motivate women more than men (Leitch et.al, 2013). Women entrepreneurs have also cited social motivations such as the desire to build a community spirit or the desire to help other women by addressing economic gender inequalities or providing opportunities for stay-at-home mothers (Fayolle et al., 2014; Minarcine & Shaw, 2016).

The market that the collaboration discussed in this thesis is active within has a clear division between male and female owned enterprises. Empirical evidence gained while engaging with the service supply end of this market indicates that most tanning salons in the UK and USA are owned and operated by women. Whereas the companies that supply products, spray tan hardware, sunbeds, solutions and creams, are predominately male owned and operated.

Coleman and Robb (2016) argue that the under representation of woman in STEM (science, technology, engineering and maths) educational programs is one reason why few women entrepreneurs are present in STEM industries. This underrepresentation of women in innovation-driven business start-ups highlights existing gender biases and systemic disadvantages in social structures, making visible the double masculinity that exists at the intersection of STEM and entrepreneurship (Kuschel et.al., 2020). The participants in this collaboration are all male, which is a not surprising given the age of the participants and that despite the fact that the products will be used in a female dominated market, males are still overrepresented in engineering and chemical companies.

### 2.2.2 Age as a Determinant of Entrepreneurial Behaviour

The participants involved in the collaboration are all older than forty and the four of the five that founded their respective business did so when they were in there mid to late thirties. The fifth joined the family business in his early twenties and was instrumental in diversifying it from lingerie manufacturing to a supplier of solutions and creams for the tanning market.

Azoulay et.al (2020) state that successful entrepreneurs are middle-aged, not young and that all the evidence indicates that founders are more successful when starting a business in middle age or beyond. Parker (2009) describes age as often merely a control variable in entrepreneurship research

even though some studies have found it to be one of the most robust determinants of entrepreneurial behaviour.

Azoulay et.al (2020) argue that despite the perceived advantages of youth in technology and innovation, cognitively sharper, less distracted by family and other responsibilities, more capable of transformative ideas, they are also disadvantaged by age. Older entrepreneurs have greater access to human and social capital built up after years spent working and networking and are more likely to have money in the bank or access to credit lines.

“People of a certain age have already created their networks of possible stakeholders, added to their professional and working experience, and created strong determinants for self-realization”.  
(Păunescu et.al, 2018.p14).

Kautonen et.al (2015) state that an individual’s age-based self-image moderates the entrepreneurial intention-behaviour relationship, if an individual perceives their entrepreneurial potential positively in terms of their age, they are more likely to turn their start-up intention into subsequent behaviour (p.18).

The aeras where young entrepreneurs are overrepresented are technology and health and beauty, Andrew Mason at Groupon, Ben Francis at Gymshark and Camillia Ainswoth at MLKYPLUS, to name a few. These industries tend to be disruptive, and it could be argued that youth is an advantage when launching new technologies or taking on established large companies that dominate a market sector.

As discussed in the introduction the founders of the businesses involved in this collaboration started their respective business for broadly personal reasons, including wealth generation, the desire to be their own boss and in the case of the Automation manufacturer a belief that he could develop better products than were present in the market. All of them had become established in their own fields before starting their own business which enabled them to build networks of supplier and customers and have sufficient financial resources to allow them time to build a business. They were not risk takers in the sense of disruptive entrepreneurs such as Bill Gates and Steve Jobs, but they were like the majority of lesser-known entrepreneurs and business owners worldwide, at an age where they wanted to go it alone and build a better life for themselves and their families.

### 2.2.3 Entrepreneurs and Small Business

Is the small business always an entrepreneur is a question asked by Carland et al (1988), they state that if all small businessmen are entrepreneurs then why are there two terms. This may seem a little too simplistic as the term small business owner is used for a plethora of reasons by companies that engage with the business such as banks and support agencies to differentiate their approach depending on the size of business, they are targeting their respective offering to. They do make an extremely valid point when they raise this question and ask if the entrepreneurial spirit is only consigned to those that have taken the perceived risk of starting out on their own then what are the implications for the corporate sector. Should the term entrepreneur not be applied to a corporate executive who leads his organisation towards a new frontier either in terms of technological advancement, application of a traditional product to a new market or expansion into a new country well ahead of the competition.

Wang and Poutziouris (2010) suggest that owner managers of family business are often entrepreneurs. They base this assertion on a number of characteristics which they attribute to family business owners. Independence and dedicated to the survival and prosperity of the firm are indisputably traits shared by many business owners as the financial security of their family is in most cases directly linked to the prosperity of the firm. They claim that the family firm's organisational hierarchy is often based around a single dominant personality possessing technical and managerial skills. This form of autocratic leadership allows the owner manager to orchestrate resources in an entrepreneurial way to establish and maintain a competitive advantage.

Kaufmann et.al (2012) stress the importance of idea generation which they attribute to entrepreneurs when they state, that in today's globally competitive industry, fresh and original ideas that could generate new technologies, products and services or, even, revolutionize the industry are indispensable steppingstones for economic success, not only for the respective small and medium-sized Enterprises (SMEs) but for the European economy as a whole. Miller (1983) argues that SMEs in order to grow and be sustainable should be oriented towards the "product market innovation", which is followed by being a first in the market and ready to undertake the "risky ventures" (Palalic and Busatlic, 2015).

Entrepreneurial orientation was discussed briefly in the previous section when compared to small business orientation, however given the interest in the subject in recent years it is judicious to discuss it further, particularly in relation to the management of SMEs.

Based on his postulation that an entrepreneurial firm is one that engages in product/market innovation, engages in somewhat risky ventures and is first to come up with “proactive” innovations beating competitors to the punch and that a non-entrepreneurial firm is one that innovates very little, is highly risk adverse and imitates the moves of competitors instead of leading the way, Miller (1983) conceptualised EO as having three dimensions, innovativeness, risk taking and proactiveness. Lumpkin and Dess (1996) who describe EO as referring to top management’s strategy-making process, structures and the behaviour of the firm analysed in relation to the dimensions of EO suggested that competitive aggressiveness and autonomy were also essential components of the entrepreneurial construct.

Rauch et.al (2004) summarise the five broadly acknowledged dimension of EO as.

Innovativeness, the predisposition to engage in creativity and experimentation through the introduction of new product/services as well as technological leadership via R&D in new processes. Proactiveness, an opportunity-seeking, forward-looking perspective characterized by the introduction of new products and services ahead of the competition and acting in anticipation of future demand. Risk taking, involves taking bold actions by venturing into the unknown, borrowing heavily, and/or committing significant resources to ventures in uncertain environments. Autonomy, the independent action undertaken by entrepreneurial leaders or teams directed at bringing about a new venture and seeing it to fruition. Competitive aggressiveness, the intensity of a firm’s efforts to outperform rivals and is characterized by a strong offensive posture or aggressive responses to the actions of competitors.

Having reviewed multiple studies that investigate EO and business performance it is noticeable that the nature of the study appears to dictate which of the five dimensions are used of analysis. Two recent studies conducted in diverse market environments are good examples of how the five dimensions are used selectively to suit the study.

Fairoz et.al’s 2010 study of twenty five manufacturing SME’ in the Hambantota District of Sri Lanka and Lee and Lim’s 2009 study of one hundred and forty Japanese food restaurants in the Seoul metropolitan area of South Korea. The study conducted by Faorioz et.al used interviews as the main method of data collection and utilised qualitative and quantitative methods of data analysis. The Lee and Lim study used questionnaires as the sole method of data collection and utilized only quantitative methods of data analysis.



Fairoz et al's (2010) quantitative analysis, using the EO dimensions of autonomy, Innovativeness, risk taking and competitive aggressiveness, showed a moderate degree of EO in 23 of the 25 SMEs studied and that most of the firms produced incremental innovations rather than radical innovations. They conclude from their qualitative analysis that the most important factor that determines the degree of EO was related to how innovative the owner/manager was and that the government supported owner/managers who possess creative ability, adequate technical skills and industry experience. They also concluded that those managers with awareness of and access to alternative sources of finance were more likely to exhibit a higher degree of EO. This of course could be a result of those owner/managers being able to spend more time on developing new products or seeking new markets. Lee and Lim (2009) conducted a multi regression analysis of four dimensions of EO, autonomy, Innovativeness, risk taking and competitive aggressiveness with organisation size as a control variable. Their results show that organisational size was the strongest factor influencing the performance of the firms studied and that of the four dimensions of EO only competitive aggressiveness had a significant impact on the performance of the organisation.

The context of these results, the food service industry, should be considered in comparison to the study of manufacturing companies conducted by Farioz et.al in (2010) in which innovativeness was the dominate EO dimension. Within the food service industry, it is relatively simple and low cost to introduce new menu items, methods of delivery or ordering methods (online, text etc), whereas in manufacturing the development of a new product requires considerable capital investment costs in new machines or re-tooling of existing machines as well as material costs to bring the products to market. Also, the market for manufacturing companies can be global, which to penetrate involves larger marketing and distribution costs than those of the food service industry where the market is traditionally much closer to home. The one clear distinction for the food service industry is the sheer number of similar outlets that are likely to exist in close proximity, which is the likely reason for the competitive aggressiveness to be the dominate EO dimension.

Lechner and Gudmundsson (2014) describe their study of Icelandic small businesses as contributing to theory by integrating two core concepts, entrepreneurial orientation and competitive strategy. The interesting and possibly unique component of their study is that the sample consisted of mixture of bankrupt firms, 153, and non-bankrupt firms,182. The study used purely quantitative methods of data collection and analysis using a different postal questionnaire with blind returns sent to the bankrupt and non-bankrupt group. Unlike the two previous studies discussed this study directly compared the role of individual EO dimension on two types of competitive strategy, cost leadership and

differentiation, and the effect of competitive strategy on firm performance. They conclude that their findings show that competitive strategy matters for small firms and that both differentiation and cost leadership had a positive impact on performance (p.51). They also speculate that cost leadership has a stronger impact than differentiation and state that differentiation is more appropriate for small firms as it requires lower investment and is more readily accessible. Within the researcher own business differentiation has been the chosen strategy as cost leadership requires more stock holding to benefit from greater discounts from suppliers and it is also believed within the network that “being unique” is a more suitable strategy to grow within and penetrate the spray tanning market as consumers are more drawn to products and services that offer an “experience” rather than just low cost.

The final study reviewed that considered aspects of entrepreneurial orientation was that of Palalic and Busatlic (2015). Based in the SME community of Bosnia and Herzegovina the study used information from 178 firms and analysed fast (gazelles) and slow growing companies (mice) using the EO factors, innovativeness, proactiveness, risk taking and business performance in terms of sales and employee growth. Data collection was achieved using a self-administered questionnaire the findings of which were analysed using only quantitative method.

The research tested the following five hypotheses.

H0 Entrepreneurial orientation dimensions are less present in “gazelles” while more present in “mice” and EO dimensions have no significant relationship with their business performance and growth.

H1 Entrepreneurial orientation dimensions are more present in “gazelles” while less present in “mice” and EO dimensions have a significant relationship with their business performance and growth.

H1a Innovation is more present in “gazelles” while less present in “mice”

H1b Proactiveness is more present in “gazelles” while less present in “mice”

H1c Risk Taking is more present in “gazelles” while less present in “mice”

H1d EO dimensions have a significant correlation and relationship with business performance and growth of gazelles and mice.

The results of the study found that the gazelles outscored the mice in all three of the EO dimensions measured with innovation being the highest scoring dimension. Proactiveness was the lowest scoring dimension among gazelles and the highest scoring among the mice. Risk taking was the lowest scoring dimension among the mice. The authors state that the correlation analysis shown significant low to moderate correlations between independent variables (innovation and risk taking) and dependent

variables (sales growth and employee growth), while proactiveness did not show any correlation towards sales growth and employee growth.

Kreiser et,al (2013) shed some light on these findings with the results of their study using data from SMEs in nine countries. They found that the up-front costs of taking a proactive strategic stance, developing the capabilities to proactively enter new markets, produced negative returns on performance when moving from low to moderate levels of proactiveness and only when moving from moderate to high levels of proactiveness are the returns on performance positive. Similar they found that companies moving from low to moderate levels of innovativeness experience negative returns on performance, though not as pronounced as with proactiveness, and experienced positive returns when moving from moderate to low but lower returns than with proactiveness. Risk taking produced lower negative returns on performance between low and moderate levels but also produced considerably lower positive returns between moderate and high levels. Clearly the costs associated with these strategic stances plays an important part in the returns on performance, and risk taking is normally entered into on a more ad-hoc basis than proactiveness and innovativeness, so the positive returns are likely to be less impressive.

#### 2.2.4 Summary

The common theme of the literature on entrepreneurs and entrepreneurship paints the entrepreneur as product of their environment, driven by a personality that wants to succeed for personal glory, or to provide for the family. They have a self-belief that overrides the doubts of those around them and they are prepared to take risks, to innovate and to act proactively. As Miller (1983) states the activities of a small, centralized firm is predominately influenced by the power, the personality and the information of the leader.

While there are some gender and age-based differences in the push and pull factors that motivate an individual to start their own business, the overriding factor, in the developed nations of the world, are autonomy and the desire to achieve financial security. Younger entrepreneurs are more prevalent as disruptors taking on an established supplier with a product positioned through a better understanding of social media that enables them reduce start-up costs and marketing costs. Female entrepreneurs are more widely represented in markets that address health and lifestyle issues and in social enterprises.

The network at the centre of this study took advantage what Azoulay et.al (2020) and (Păunescu et.al, 2018) describe as the key difference between young and middle age entrepreneurs. All the members had established themselves in their markets and developed networks that could be called upon to overcome resource limitations.

It is difficult to argue against the premise that entrepreneurs are leaders, are focussed and are, to a degree, self-centred, so how then can entrepreneurs fully collaborate. They can work with people to develop a product or a market but predominately this is an end to a means for the entrepreneur who will work with a product or process specialist to get an idea to market or employ local knowledge to penetrate a market but continue to fiercely guard the core business knowledge to ensure he/she can maximise their returns, both financial and personal, on the investment. But to truly collaborate to allow others to take the centre stage is this something that most entrepreneurs are unable to truly comprehend.

The theories of entrepreneurship discussed in the literature reviewed in this section are of importance to the key aim of this research project. It is acknowledged that the drivers that propel an individual to take an entrepreneurial leap have been influential on the individuals within the network and that all the individuals have some of the personality traits seen as key within the entrepreneur. However, what the literature does not fully address is how these traits will aid or hinder the creation of a collaborative community that can accommodate these individuals, who are predominately used to being the leader, the font of knowledge, someone who makes strategic decisions based many times on instinct without the need to consult others (Stacey, 2007).

### 2.3 Interfirm Alliances

Interfirm alliances are widely regarded as important to sustain businesses' development and success. This is particularly true for small and medium-sized enterprises Franco and Hass (2015).

There has been considerable interest in the area of interfirm alliances in recent years, some academics address the area of strategic alliance among companies of similar sizes (Bhattacharjee and Mohanty, 2012, Adobor, 2006) while others focus on alliances between SMEs (Franco and Hass 2012, 2015, Street and Cameron, 2007)

This section will review papers looking at both areas of interfirm alliances to enable a holistic view of the subject to be acquired.

### 2.3.1 Defining Interfirm Alliances

Bhattacharjee and Mohanty (2012) state.

*“In the fast-changing global markets, no company can go alone to gain the competitive advantage and hence long-run survival is an issue. Many of the resources and skills essential for a company’s future prosperity lie outside the firm’s boundaries and outside management’s control.”* (p.124)

Interfirm alliances, strategic alliances or interfirm relationships are considered as an organisational form that addresses the issues faced by firms of all sizes when attempting to develop new technologies or enter new markets. Franco and Hass (2012) define an inter-firm alliance as an organisational arrangement, through which two or more firms acting in isolation manage to overcome their resource constraints. Sompong et.al (2012) defines a strategic alliance as any attempt by firms to realize their objectives through cooperation with other organizations rather than compete with them. Hakanson and Snehota (1995) describe an interfirm relation as a mutually oriented interaction between two reciprocally committed partners.

### 2.3.2 Forms of Inter-Firm Alliances

Nguyen (2011) classifies interfirm alliances as cooperation, competition and coopetition and posits that cooperation is the most important strategy for firms to adopt. He offers the following reasons for this, cooperation reduces research and development and transaction costs, the shared customer base and increased technological base within the cluster enables firms to more easily recognise market opportunities and to make investments in new products and service with reduced risk.

Adobor (2006) identifies four configurations or clusters of cooperative strategies, spontaneous alliances, firm-initiated alliances, orchestrated alliances and imposed alliances. Table 3 below give a useful summary linking the alliance origin to operational dynamics.

**Table 3 Alliance origin to operational dynamic**

<b>Origin of Alliance</b>	<b>Dominant Governance Form</b>	<b>Dominant Ownership Structure</b>	<b>Examples</b>	<b>Dominant Theoretical Actor</b>
Forced Cooperation	Contracts	Shared-Equity Arrangements	McDonald Douglas in China	Transaction Cost theory

		e.g., Joint Ventures		
Orchestrated or Convenor-Facilitated Cooperation	Interdependence, Institutional Trust and Control	Network Forms	SEMATECH, Texas: The Software Engineering Institute, Pittsburgh	Network Theory
Individual Firm Initiated Cooperation	Relational considerations (control or trust depending on actors)	Equity, Non-Equity, Arm's length relations	NUMMI (GM and Toyota); Fuji Xerox; Dow Corning	Relational Theory
Spontaneous or Naturally Occurring Cooperation	High Trust Shared Norms Institutional control	Network Forms. Non-Equity, Arm's length relations; informal cooperation	Various form of interfirm linkages in Silicon Valley	Economic Geography, Theories of Macro cultures

Adapted from Adobor (2006, p.123)

This paper predominately focusses on large business inter-firm alliances however there is some interesting insight into how these relate to SME interfirm alliances. He states that when cooperation among firms emerges spontaneously the alliance is more likely be informal with no shared equity but that overtime these relationships can become more formal and rule based. Drawing on the work of Ibarra (1983) and Krackhardt (1992) who describe networks with informal ties as expressive network and argue that they can be distinguished from networks bound by formal ties often by virtue of the fact that there existed, before the network formed, personal relationships between people and this is likely to lead to higher levels of closeness and trust.

Camarinha-Matos and Afsarmanesh (2006) offer working definitions for four different types of inter-firm alliances.

**Networking** – involves communication and information exchange for mutual benefit. An example of this would be events held by bodies such as the Federation of Small Business where members meet in informal settings and are encouraged to share experiences and hopefully make new business contacts.

With the exception of arranging the venue there is very little external facilitation and there is no common goal or structure among the firms that attend.

**Coordination** – in addition to exchanging information this involves aligning and altering activities so that more efficient results are achieved. Political lobbying is given as an example of coordinated activities.

**Cooperation** – The authors offer the traditional supply chain based on client-supplier relationship and pre-defined roles in the value chain as an example of the cooperative alliance. In this form of alliance each participant shares a common goal and work to a coordinated plan devised by one of the participants and although the value share is not equitable it is dependent on others within the alliance.

**Collaboration** – In this form of alliance entities share information, resources and responsibilities to jointly plan, implement and evaluate a program of activities to achieve a common goal. It is clear that this form of alliance will require an organisational form where traditional hierarchies and relationships are discarded to be replaced with a more open and equitable one in which all entities can pursue their own business aims while still working toward a common goal for the alliance.

Lehoux et al. (2010), states that international competition, development of new technologies and increase in production and energy costs has made it necessary for enterprises to improve their supply chains and change their ways of doing business. Nguyen (2011) suggests cooperation between firms can do this as it promotes knowledge sharing and innovation. Traditional supply chains are reliant on individual entities within the chain having specialist knowledge, geographical, market or technical and this is often jealously guarded, especially for smaller entities lower down the chain as it is normally their sole reason for being in the chain. Collaboration however could go some way to making the relationship more equitable and help manufacturers or IP owners to work differently with suppliers, distributors and retailers to better respond to market demand while making them feel more involved and able to input back into the chain, aiding innovation.

This move from the cooperation alliance as defined by Camarinha-Matos and Afsarmanesh (2006) to the collaboration model is at the centre of this research project and as such the collaboration model of interfirm alliance requires further investigation.

### 2.3.3 Collaborative Interfirm Alliances

Zacharia et al. (2009) stated that collaboration has become a critical component for the smooth functioning of an efficient supply chain. For example, when Harry Potter books published by Stochastic Inc. in the USA are launched, Stochastic Inc. collaborates with their printers, logistics providers and customers for over 6 months to ensure success. They state that collaboration should be reserved for

those projects where firms do not have the knowledge or capabilities required and are able to identify firms who can fill these gaps and with whom they are familiar and have a deep understanding into how they operate. This concept of short terms need based collaboration is not taken up by other writers who appear to be more focussed on a longer-term relationship. Smith et.al (2007) for example argue that a well-defined supply chain is founded on the essence of collaborative behaviours on which a mutual decision-making process is established toward achieving common goals across participants. Mohanty and Augustin (2014) state that collaboration between strategic partners is becoming incredibly important in generating value with collaborating partners both tactically and strategically whereas. Beyerlein et.al (2003) posit that creating collaborative organizations is a long-term process and that although most organizations have pockets of excellent collaboration found in specific internal teams, with specific customer groups, or even within large project endeavours, there are few that can boast of excellent collaboration across the dynamic cadre of relationships that form their world of work

Beyerlein et.al (2003) offer the principles that support building the collaborative organization are 1. Focus collaboration on achieving business results. 2. Align organizational support systems to promote ownership. 3. Articulate and enforce “a few strict rules.” 4. Exploit the rhythm of convergence and divergence. 5. Manage complex trade-offs on a timely basis. 6. Create higher standards for discussions, dialogue, and information sharing. 7. Foster personal accountability. 8. Align authority, information, and decision making. 9. Treat collaboration as a disciplined process. 10. Design and promote flexible organizations.

Focusing collaboration on business results is about providing a common context, fuelled by education and communication ensuring that all members of the organisation understand and are committed to the specific business goals and strategies of the organisation. They argue that this focus empowers participants in both formal and informal collaborative activities, to act in the best interest of the organisation. Within the context of this research, with the participants being the key member of their own individual businesses on which their personal livelihood and in some cases the livelihood of other are dependant, maintaining focus on the aim of the collaboration will be important. This will be attempted by linking, where possible, the collaborative aims to the aims of the individual businesses by ensuring that innovations are positioned within the strategic product offering of the individual businesses.

At first sight the principle of articulating and enforcing rules would seem an optimistic ideal for a network of entrepreneurs without a traditional hierarchy. However, as the authors argue it is important for the members of the network to define the overall values and competitive approach of the network. It is



considered that these will provide a consistent direction for the network and ensure the cohesion necessary for a productive collaborative effort.

The authors state that divergence and convergence are core processes for all collaborative activity and that without them real collaboration does not take place. They describe convergence as the process members use to reach agreement, and divergence the process by which participants surface the different perspectives that need to be considered. Although in larger firms' divergence and convergence can be managed by specific tool and processes including agreeing on decision making perspectives (values, goals, tasks, trade-off criteria), analysing data using previously agreed on approaches, using criteria to sort through options, making plans as explicit as possible, and clarifying decision-making responsibility. The size and makeup of the network studied in this research project limits the tools and processes available and it is considered that attention will have to be paid to ensure that convergence and divergence can occur in a controlled manner to avoid the risks of overlooked information or perspectives or delays in decision making, both which the authors state are results of poor divergence and convergence management.

Creating higher standards for discussions, dialogue, and information sharing does, in the authors view, builds a capacity within the organisation to manage the increasing complexity characterising business today. The transformation of the network under study from a traditional supply chain to a collaborative entrepreneurial network will require a change in relationship between the members. This will involve a change in the discourse from one where knowledge is protected as it brings with it power, to one where information can be freely shared as it will benefit the network equitably. To bring this transformation about discussions, dialogue and information sharing will need to take on a more equitable, less hierarchal nature than is currently in place.

The final principle considered relevant to small firm collaboration is to treat the collaborative process with discipline. Again, as with the majority of principles put forward by the authors much of what they suggest is designed for collaborative units or teams working across departments in large organisation with traditional hierarchies in place further up the chain of command, such as;

*“Treating collaboration as a disciplined process requires attention to the design and execution of collaborative activity. It doesn't mean that one process or way of work is followed for all collaborative work, but it does mean that the process is always conscious. In addition, such organizations and teams are as concerned about the processes used (including the information considered) in collaboration as they are about the results. As a result, upper management is much more able to rely on the decisions and*

*recommendations of subordinate collaborative units. In addition, those same units are more able to provide decisions and rationales in a form that communicates to and is supportive of the goals and objectives of upper management and other collaborative units.” (p.59).*

Clearly within the network being researched reporting to upper management is not required however being disciplined about the collaborative process is important because the members have their own businesses to run, and the collaborative process will formally take up only a portion of the members working week. It is therefore important that a culture is fostered where collaborative interactions take place in a disciplined fashion to enable meetings not to become “bogged down” in detail but to allow innovation to flourish and ensure that information is captured and shared to allow future meetings to build on previous interactions without unnecessary time spent going over old ground.

Having looked at forms of interfirm collaboration in their broader sense and with the view that many of the works in this field relate to large firm collaborations and cross department collaboration with large organisations the next section will look more specifically at collaboration between SMEs.

#### 2.3.4 SME Collaboration

In the context of SMEs business networks are particularly important for enhancing innovative capability. This is because SMEs are typically not endowed with significant internal resources for innovation (Tomlinson and Fai 2013).

Camarinha-Matos and Olivera (2014) state that SME collaboration in manufacturing and services industries have focussed on sharing competencies and resources to both create new competitive environments, as well as achieve agility to rapidly answer market demands. They suggest that working in collaboration implies sharing the opportunities and gained profits as well as sharing the risks and losses, which in turn increases the survival chances of SMEs.

Mattessich et al (2001) identified the following factors as being essential for successful collaboration.

- Environment: history of collaboration, collaborative group seen as a leader in the community, favourable political and social climate.
- Membership Characteristics: mutual respect, understanding and trust, appropriate cross section of members, collaboration viewed by members as in their self-interest, ability to compromise.
- Process and Structure: members share a stake in process and outcome, multiple layers of

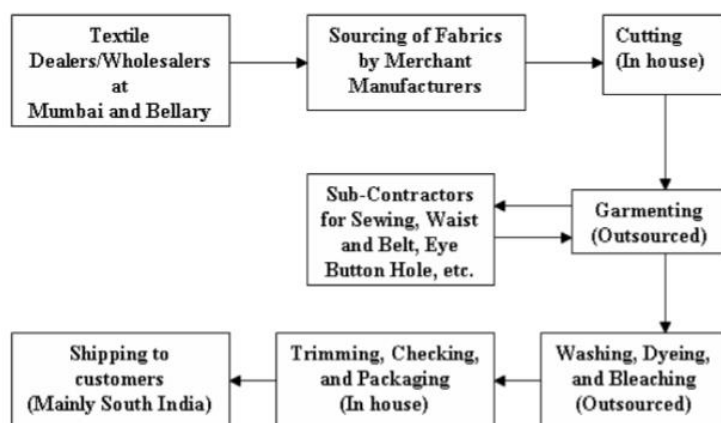
participation, flexibility, development of clear roles and policy guidelines, adaptability, appropriate pace of development.

- Communication: open and frequent communication, established informal relationships and communication links.
- Purpose: concrete, attainable goals and objectives, shared vision, unique purpose.
- Resources: sufficient funds, staff, materials and time, skilled leadership.

A number of writers (Biswas et.al 2007, Cumbers et.al 2003, Novelli, et.al 2006) have studied SME clusters a network type that appears to make good use of the factors suggested by Mattessich et al (2001). Biswas et.al (2007) describe one key factor for the cluster success as the specialization of small firms in the same or complementary phases of the production process, they suggest that this enables each firm to use its limited resources in its core competency and its operation is complemented by other specializing firms in the supply chain within the cluster, this helps both the individual firms to excel and the cluster to flourish.

Their example of the Bellary supply chain (Fig1) gives a good example of how informal networks develops into a more collaborative form of networking. The authors suggest that this is due to not all activities being end-to-end and that various activities had to be outsourced which requires networking and some form of sharing. They further describe how the businesses thrived on the strength of these informal networks and relations they shared with each other despite the lack of any formal fixed relation between supply and manufacturer. (p.3). They describe how the informal network began to develop into a more collaborative form due to enquires from Europe where scale and quality are concerns for the individual businesses. This has led to merchant manufactures setting up joint manufacturing units enabling them to reduce equipment, premises and labour costs and ensure better control on the quality of goods being manufactured.

**Figure 1: Bellary Supply Chain**



In a similar vein, but in a different geographical and industry setting, a premise of Cumbers et.al (2003) study of SMEs in the Aberdeen oil industry is that interfirm relations within local business networks provide better conditions for innovation than hierarchal relationships within larger firms because interfirm relations tend to remain more open and flexible.

Their study involved sending questionnaires to 192 firm described by the authors as SMEs, which they describe as firms with fewer than 500 employees. This definition is different to the that used by the EU but it can be considered that given the large multinational firms involved in the oil industry and the wide scale use of subcontractors that varies widely depending on the oil price and subsequent levels of drilling and exploration activity, 500 employees was a considered a suitable point to ensure a large enough sample. Quantitative and qualitative stratification of the returned questionnaires led to a sample of 34 firms selected for face-to-face interviews.

In common with the study conducted by Biswas et.al (2007) the interviews revealed that the possession of specialist knowledge and skills allowed the SMEs to develop a more balanced relationship with customers, typically through having an input into the design of projects and in some cases resulting in the SME becoming involved in joint venture arrangements (p.1698).

The interviews also highlighted the importance that trust plays in underpinning collaboration with one respondent emphasising the importance of a long-term personal relationship with a manager of a US owned firm.

*“We've worked together, and we've got to know each other, and I think there's a good level of trust as well. I trust him enough to give him my ideas; and he trusts me enough to give me his ideas” (p.1699)*

Novelli et.al (2006) argue that the majority of academic interest in SME collaboration has focussed on manufacturing and technology firms and that given the importance of tourism SMEs to the development of local economies more attention should be paid to this sector. The experience of SMEs in this sector is of interest to this project as it focuses purely on services, the development of which is one of the stated aims for the network being studied.

They state that since operators often regard each other as competitors and not colleagues, issues of “trust”, “ties” and “social capital” influence business willingness to cooperate, create alliances and actively work towards the long-term benefits deriving from a collaborative use of resources.

A review of the drivers to collaborate in a service industry, such as tourism compared to a technology/manufacturing industry, such as the oil industry, shows that they share a common factor, specialist knowledge. However, within the manufacturing/technology sector there is a likelihood that the life cycles of the products that are the outcome of knowledge sharing will be longer than those of the tourism sector, which are more based on location knowledge, leading to more sustainable collaborations.

### 2.3.5 Networks and Innovation

Konsti-Laakso et.al (2012) argues that traditional network research, that focusses on the concept of a value chain is useful in production-based industries but that it fails to capture the value creation logic of service industries and that the value chain concept is not a suitable description for companies searching for innovative solutions. They offer the concept of value network as suited to networks whose aim is innovation.

Alee (2000) describes a value network as generating economic value through complex exchanges the currencies of which are knowledge value and intangible value or benefits. (p.1). Examples of knowledge exchanges include strategic information, planning knowledge, process knowledge, technical know-how and collaborative design. Intangible benefits go beyond actual services and include a sense of community, customer loyalty, image enhancement or co-branding opportunities. (P.3). The innovation network, which was described in an earlier section of this chapter, was described by Moeller et.al (2005) as a future-oriented value network.

Harwick et.al (2013) state that for small firm's innovation plays a key role in maintaining competitive advantage and due to resource constraints, most have to collaborate to acquire the information required to innovate. Chiaroni et al. (2009) argue that network, or open, innovation has replaced the old model of a closed internal system. Carlile (2004) explains that innovation happens when the boundaries of knowledge domains are crossed. Indeed, Taatila et al. (2006) propose that networked knowledge has pushed aside labour and capital as sources of value (Harwick et.al 2013).

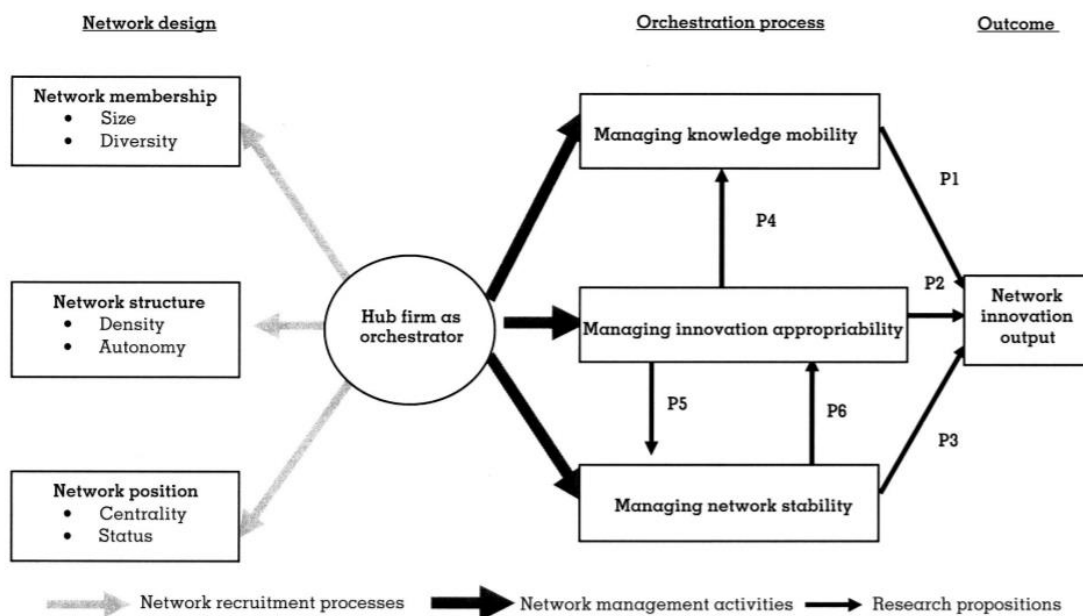
Neito and Santamaria's (2007) empirical quantitative study of data collected by a Spanish government department which analysed 6500 observations from 1300 firms concluded that collaborative networks that had a greater diversity of type of partners, clients, suppliers, research organisations and competitors, are more likely to produce greater levels of innovation novelty than those with a single type of partner.

Zeng et.al's (2010) quantitative study of 137 manufacturing SMEs in China empirically explored the relationship between different types of networks and innovation performance. Their findings confirmed, what Neito and Santamaria (2007) concluded that, the diversity of the network matters to the innovation output and that vertical cooperation with suppliers and other firms plays a more distinct role in innovation for SMEs than horizontal cooperation, with research institutes and government agencies. It is possible that these finding have more to say about how easy it is for SMEs to access research institutes and government agencies rather than, and as the authors state not all government policies are conducive to innovation.

Dhanaraj and Parke (2006) describe innovation networks as, often loosely coupled organisations that are responsive to each other while retaining separateness and identity and they argue that hub firms orchestrate network activities. They define network orchestration as the set of deliberate, purposeful actions undertaken by the hub firm as it seeks to create value (expand the pie) and extract value (gain a larger slice of the pie) from the network. And network hub firms as those that possess prominence and power gained through individual attributes and a central position in the network structure, and that uses its prominence and power to perform a leadership role in pulling together the dispersed resources and capabilities of network members.

Figure 2 show their proposed framework for orchestration in innovation networks based on the premise that the hub firms acts to, 1. manage knowledge mobility, 2. manage innovation appropriability or 3. manage network stability.

**Figure 2: A Framework for Orchestration in Innovation Networks (Dhanaraj and Parke ,2006)**



They argue that the hub firm manages knowledge mobility by acting as a source of a common identity, a firm that other network members can look to for their place in the network, a crucial dynamic to motivate members to openly share valuable knowledge. Hub firms, they argue, can mitigate innovation appropriability concerns by focussing on trust, procedural justice and joint asset ownership. Given the uncertainty of the innovation process the authors state that a crucial element of network orchestration is the role of building trust and communicating clear, pre-established sanctions, for trust violation (p.663). This paper focusses on the network hub taking a controlling position in the commonly loose hierarchy of an innovation network and creating a stability where it can control knowledge movement and innovation to create value and extract value from the network to achieve its stated aim. It is acknowledged that in some innovation networks especially those involved in high value goods such as technology, pharmaceuticals and automotive, large firms will be at the centre of the network and will be controlling innovation for their own purpose. However, in networks where the size of the companies and the knowledge they have is more equal the need for a network hub orchestrating the innovation process is considered to be less relevant.

In a similar vein Gausdal and Nilsen (2011) agree that although Dhanaraj and Parke's framework fits the network of independent SMEs, they argue that the SME network needs a somewhat different approach to orchestration mainly due to their different structures, size, resources, as they have to be selective about what to participate in.

The subject of champions, innovation champions and innovation brokers are pervasive in the literature related to the orchestration of innovation networks, Howell et.al (2005), Gupta (2006), Fichter (2009), Batterink et.al (2010) and Klerkx and Aarts (2013).

Howell et.al (2005) define innovation champions as "individuals who informally emerge in organisations and make a decisive contribution to innovation by actively and enthusiastically promoting its process through the critical stage" (p.642). Fichter (2009) describes four types of champions which are particularly relevant to innovation networks, the power champion, the technology champion, the process champion and the network or relationship champion. Gupta (2006) argue that in the new venture process a number of different champions may emerge at different stages in the creation process. Batterink et.al (2010) argues that for the SMEs the role of the innovation broker is key as the SME rarely has the resources to act a network hub and thus an independent person acting for the good of the network rather than on behalf of a dominant company helps to ensure a more equitable relationship.

For their study of innovation brokers in the agri-food sector Batterink et.al (2010) conducted a series of in-depth qualitative interviews with four innovation brokers. From these interviews they developed three main functions of the innovation brokers when orchestrating innovation networks, innovation initiation, network composition and innovation process management. Considering three different stages of innovation networks they concluded that at the initiation stage, innovation is orchestrated by incorporating the actual innovation needs of the SME in the innovation project and by being strongly embedded in the social and business network of the SMEs. The maintaining of a large and diverse network enables the innovation broker to connect with complementary actors and take the lead in setting up conditions and mechanisms required during the network composition stage. Finally, the innovation process is managed due to the brokers role in enhancing network transparency and facilitating interaction between network members.

In the case studies discussed by Klerkx and Aarts (2013) there are multiple innovation intermediaries brought in at various stages to champion specific innovation. This led to issues of both role coordination and demarcation and direct conflicts in innovation process when innovation brokers begin to identify themselves too closely with projects they facilitate. They conclude that innovation communities as teams of champions are dynamic entities which lack stability and although essential to the innovation process, they are not automatically beneficial.

#### 2.3.6. Summary

Interfirm alliances are beyond doubt a necessity for growth and survival in today hypercompetitive online world and supply chains have moved through networks, to coordination and cooperation models to what, in its perfect form all interfirm alliances desire to be, collaborative. This form enables, especially the SME, to fill resource gaps and take advantage of opportunities, without large capital or human investment, while remaining independent.

When we look beyond simple resource sharing for specific projects, initiating and maintaining innovation within networks the role of the champion, broker or hub firm as orchestrator the literature points to a tendency among the members of business networks to bring in specialist orchestrators from external sources. This could be considered as a natural response to the issue of conflict observed by Klerks and Arts in their 2013 study, when innovation champions were recruited from within the network. The use of hub firms as orchestrators appears to favour the larger firm in a network as they will invariably be the firm that takes this role as they are normally the instigator of the innovation with the SME contributing specialist knowledge.



It is clear from the literature reviewed that trust is key to successful collaboration and is it difficult to state that the current models of collaboration foster a culture of trust and encourage innovation in networks. There also appears to be a lack of literature that relates to networks where all members are of equal size and when the innovation has been initiated by group consensus, where specialist knowledge is held by all group members and, most importantly to this project, all members fit the broad definition of entrepreneurs.

## 2.4 Collaborative Entrepreneurship

The models of interfirm alliances discussed in the preceding chapter show that collaborative relationships are possible for the majority of organisations regardless of size. However, as Miles et al (2005) argue for collaboration to truly succeed each organisation must accept responsibility for its own inputs and seek an equitable share of the returns from the output of the collaborative process.

If we consider the norm for forms of interfirm alliances discussed in the preceding chapter, specifically clusters and supply chains. These are commonly made up of originations that are active within a common market sector and in the case of clusters they also share a geographical proximity. In the traditional supply chain, which is still the most dominant form of interfirm alliance in most industry sectors there remains a large company that owns the intellectual property rights and controls the marketing.

Miles et.al (2005) offer collaborative entrepreneurship as an organisation composed of firms from different industries, whose collaborative abilities allows them to pursue a joint strategy of continuous innovation. An organisation that harnesses the power of the entrepreneurial spirit and provides what Schumpeter (1934) described as the primary driver of economic development.

Franco and Haase (2013) define collaborative entrepreneurship as.

**“the creation of something of economic value arising out of new, jointly created ideas that emerge from the sharing of information and knowledge” ( p. 681)**

Ribeiro-Soriano and Urbano (2008) argue that the two essential characteristics of collaborative entrepreneurship are (1) collaborative relationships are voluntary and (2) collaborative relationships facilitate knowledge creation and in turn continuous innovation.

### 2.4.1 Business Models and Innovation

Business models have engaged academic debate for a number of years and recently the debate has been re-ignited by the discussions as to what constitutes a business model and how they equip organisations to compete in today’s constantly changing market landscape.

Zott et.al (2011) state that despite in excess of 1100 articles being published in peer reviewed journals since 1995 there is still a lack of consensus as to what a business model is. Teece (2010) argues that despite links to much earlier times, recent economic changes including, the rise of the knowledge economy, the growth of e-commerce, outsourcing and the restructuring of the financial service sector have been the factors that have brought business models to public attention.

In addition to the lack of an agreed definition Zott et.al (2011) identified two additional themes in the literature. The first relates to the areas of interest that the literature focussed on, namely e-business and the use of technology in organisations, strategic issues and innovation and technology management. They also found widespread acknowledgement that the business model is a new unit of analysis distinct from product, firm, industry or network, that the business model is centred on a focal firm but extends beyond the firms boundaries, that the focus of the business model is explaining how firms “do business”, the activities of the focal firm and its partners is central to the various conceptualizations of business models and that business models seek to explain value creation and value capture (p.1020)

The overview of business model literature conducted by Writz (2011) identified three streams which shared some common ground with that of Zott et.al (2011). The first stream was that the study of business models focussed on e-commerce contributed to the majority of the papers reviewed, due, he argues, to the need to find new ways to make money from web-based products and services. The second stream was the use of business models as a strategic management tool to improve a company’s value chain. The strategic focus of the second stream is extended in the third stream that focussed on the business model being used as a source of competitive advantage by means of business model innovation.

In a similar review but specifically targeted at literature on business models focussed on innovation, Boons and Lüdeke-Freund (2013) found that innovation was a dominant topic in the literature and state that two roles of business models can be distinguished. The first is the role of the business model in the support of strategic marketing of innovative process, products and service and the second is the innovating of the business model itself to provide competitive advantage by changing the terms of competition.

The idea of innovating the business model is of specific interest to this project and to the researchers own business. When the company was formed in 2006 it adopted a traditional model for the market sector. Trading as a systems integrator the company’s primary business activity was writing programs for the automation of machines and factory process control projects. While highly profitable it soon became clear

that given the limited resources available within the business this model would limit growth. The decision was made in 2008 to change the business model, at the time the market had two clearly defined business types, (1) the distributor who acted as the sole supplier of a manufacturer for a specific geographical territory, these companies offer limited technical support, and in many cases they distribute competing products, (2) the systems integrator, these companies have a high level of technical expertise and work directly with original equipment manufacturers (OEM's) and end users building and programming control panels for automation projects, they have limited product loyalty and will use which ever product is specified by the customer. The business model adopted by the company was a hybrid of these in which the company acts as a master distributor for overseas manufacturers but only those that they can provide a high level of technical support for, with the mantra adopted of **“if we don't know how to use it we don't sell it”**. In addition to the distribution function the company also act a pseudo systems integrator only taking on projects when the customer is prepared to use the products distributed by the company and actively works with their customer's engineers so they can eventually take control of their automation requirements. This business model modification has seen sales growth of in excess of 20% per year since 2010 and also seen the profile of the main brands distributed become firmly established within the UK automation sector.

#### 2.4.2 The Open Innovation Model

Chesbrough (2003a) argues that many innovative firms have adopted a model of 'open innovation' that makes use of a wide range of external actors and sources to help them achieve and sustain innovation. Laursen and Salter (2006) state that at the centre of the innovation process lies a search for new ideas with commercial potential and that firms often invest considerable time, money, and other resources in the search for innovative opportunities.

Chesbrough et.al (2006) define open innovation as the antithesis of the traditional vertical integration model where internal R&D activities lead to internally developed products that are then distributed by the firm (p.2). Zott et.al (2011) describes the open innovation model as a mode of innovation in which firms, rather than relying on internal ideas to advance business, look outside their boundaries in order to leverage internal and external sources of ideas.

Lausen and Slaters (2006) statistical analysis of the UK innovation survey, that explored the innovation process in a sample of 2707 manufacturing firms, was designed to empirically test Chesbrough's (2006) work on the open innovation model. Their work developed the concept of breadth and depth as two components of a firm's openness towards external search strategies. Breadth relates to how widely firms

accessed external sources of knowledge such as, supplier and customers, trade organisations, universities, and technical standards. Depth is defined as the degree of use of a particular source of knowledge. They state that the results of their quantitative analysis strongly suggest that a high degree of breadth and depth across search channels produces ideas and resources that help firms gain and exploit innovative opportunities. They also found that there appears to be a tipping point where the cost of the innovation search outweighs the benefits and can negatively affect innovative performance. They also found that the degree of breadth and depth of openness in the search differs during the product life cycle with greater depth required to produce radical innovation in the early stages, as more is required from a smaller pool of expertise but as the product matures the expertise is spread among a greater number of actors, so the breadth of the search become more important to maintain innovative momentum.

The Open Innovation Models is described by Chesbrough et.al (2006) as one in which projects can be launched from internal or external knowledge sources and in which new technology can enter into the process at various stages. The output of the open innovation models also differs from that of closed innovation in that the product of the innovation can go to market both through the sales channels of the company but also through other methods such as licensing and spin off ventures.

An example of this is taken from one of the businesses involved in this research. During 2009 the company was approached by the European division of an American chemical company who were looking to develop a machine to automatically dose an additive, manufactured by the company, to small diesel tanks. The concept was that the machine would not be sold but would be used to leverage additive sales and give a competitive advantage, the product would initially be added to the product portfolio available to in excess of 2000 sales reps across Europe. The product required a human machine interface (HMI) with a specific set of capabilities that were unique in the marketplace including, a power supply suitable for solar energy, an operating temperature range of -40 to +60C, to accommodate the needs of end user throughout the whole of Europe, and a GSM modem to enable usage data and faults to be automatically sent to a UK monitored database.

The product presented some technical challenges but eventually a product was delivered that met the requirements and proved a success for the American company. In addition, there were lessons learnt in overcoming the technical challenges and knowledge gained in respect of marketing and sales channels, specifically in the solar energy field. These lessons were disseminated among both the engineering team of the business and its global sales channels, this has led to a range of solar powered products being produced with a number of local variants from the product initially developed to suit specific market requirements. The innovation that occurred was a result of inputs from multiple

sources and developed as the product was developed and has continued to develop long after the original product concept has become firmly established in the market.

### 2.4.3 The Collaborative Entrepreneurship Model

Miles et.al 2005 describe their model of collaborative entrepreneurship (CE) as challenging current business practice in several important ways – it is based on positive human characteristics such as trust and collaboration, it is socially responsible, and it serves all stakeholders because it is so versatile.

Zott et.al (2011) describes the collaborative entrepreneurship (CE) model as similar to open innovation, Miles et.al (2005) describe CE as the creation of something of economic value based on new jointly generated ideas that emerge from the sharing of information and knowledge (p.2). Ribeiro-Soriano and Urbano (2009) posit that knowledge creation and utilization leads to innovation and that effective knowledge management is dependent on a company's ability to collaborate, both inside and outside the organization and they argue that the knowledge generation and sharing process needs to be opened up considerably. Miles et.al (2009) claim that the principal business model emerging in knowledge intensive environments is one of knowledge exploitation that aids the pursuit of opportunities generated by intersecting markets and technologies. However, they argue that effective market exploitation requires the development and use of community based organisational designs and facilitative management approaches that enable firms to collaborate with their customers as well as with one another.

Ribeiro-Soriano and Urbano (2009) while acknowledging that, collaborating to create and apply knowledge for the purposes of continuous innovation is very sophisticated, describe three factors, strategy, structure and management philosophy as elementary dimensions. They argue that for CE to be successful members need to buy into a strategy of the "common project" (p.423). This requires a degree of openness, which is common among colleagues and teams inside an organisation, to be extended beyond the boundaries of the organisation.

Heckscher and Adler (2006) state that the strategy in a collaborative community requires.

1. The boundaries of solidary groups to be far less fixed than in traditional communities and easier to be bridged and merged.
2. It must accommodate a high-level technical division of labour and diversity of knowledge and skills.

3. It must allow for authority based on knowledge and expertise not on status and that people must be accountable to peers rather than their formal superiors.
4. It must put values into the realm of public discussion enabling them to become common orienting and motivating elements for all the members of the community and find ways to build a shared commitment and understanding.

Accepting that the main characteristic of a CE network is the voluntary nature of the membership it is clear that the structure has to be flatter than traditional networks or organisations. Miles et.al (2005) propose that the network should take the form of a limited liability partnership with a number of temporary affiliates adapting their roles and responsibilities to ongoing ventures. The key differentiating feature of a CE network is that the members remain operational in their own markets and share ideas in some form of an “innovation catalogue” to alert potential allies to opportunities for collaboration.

The authors consider trust as the overriding management philosophy required for CE describing it as the bonding agent enabling networks to realise and achieve their full potential. They argue that it eliminates the barriers that hinder knowledge-sharing and continuous feedback essential for creativity, innovation and competitiveness.

#### 2.4.4 Collaborative Entrepreneurship in Practice

In their book *“Collaborative entrepreneurship: How communities of networked firms use continuous innovation to create economic wealth”* Miles et.al (2005) use a fictional case study of an organisation named OPWin Global Network to develop their idea of a multi-firm collaborative network where participants freely share resources and trust in the equitable distribution of resultant wealth.

The OPWin business model is designed to create and exploit both planned and unplanned innovations. To not only create value by providing new products and services to existing markets but to also create value from unanticipated product and service ideas that may or may not have value in existing markets.

Snow et.al (2011) discuss Blade.org a collaborative community of firms established in 2006 by IBM, Intel and six others.

An IBM press release on the 26<sup>th</sup> July 2005 stated

*“This organization is aimed at spurring development and innovation around blade technology and will enable BladeCenter ecosystem partners to test and interoperate their products on BladeCenter. This will drive the development of this rapidly growing community and innovations in Voice over IP, industry specific solutions, security and many other technologies.”*

(<http://www-03.ibm.com/press/us/en/pressrelease/7806.wss>)

Snow et.al (2011) offer this as designed community that has contributed significantly to the development of the I Form organisation, a form that that is the practical realisation of the theoretical CE business model. The authors describe how the community grew rapidly with over 100 member firms involved, that in less than two years produced more than 60 solutions. They explain how solutions are explored through a knowledge sharing processes including, the posting of previous solutions on a dedicated web site, the work of technical committees and community wide member events including quarterly meetings.

Fjedstad et.al (2012) suggest that the strategic role of Blade.org’s organisational design is that it was a departure for IBM whose normal approach would be to create a dedicated business to partner with select suppliers and lead users to develop commercial applications for the blade business. However, they decided to form a collaborative community, an organisational design enabling relevant firms to focus on accelerating the development and adoption of blade server solutions.

What the paper fails to mention is routes to market for the output of the community, it is assumed that given the market position of the members the solutions are all used by the larger founding firms, IBM, Intel etc, making the community a type of innovation platform for the main players in the market. It is debatable whether this was really the aim of CE when the concept was developed however this is a commercial reality when the effective paymasters of the community have a vested interest in the outcome. Blade.org ceased operation in June 2011 stating that its mission had be accomplished.

Other than the Blade.org, which is the most cited example of a collaborative community, there are very limited examples of CE being used as the model of alliances, outside those that involve academic establishments and private organisations.

One notable study is that conducted by Pohopien (2013), during a two-year observation of food truck entrepreneurs in Los Angeles, Orange and San Bernardino counties of Southern California. This study of the owners as entrepreneurs found that a collaborative community is a primary factor that has led to the sector becoming established as a legitimate new market in the culinary field.

Pohopien (2013) states that a very telling aspect of her research and observations was that the food truck owners work together much more than she had either thought or personally experienced in the hospitality industry and that unlike the image of a “lone wolf” normally associated with entrepreneurs, those involved in her research had many opportunities to work on their own but instead they chose to work with other food truck owners in this emerging business model

#### 2.4.5 The Drivers of Collaborative Entrepreneurship

Franco and Haase (2013) conducted a cross-sectional study among 84 Portuguese firms, of which 36 were involved in interfirm alliances, to investigate the factors that drive collaborative entrepreneurship.

Their study was based on two sets of hypotheses, the first considered the availability of tangible and intangible resources and the second the firm’s entrepreneurial orientation. The authors state that their results in relation to tangible resources show that,

*“financial resources seem to play a fundamental role in the alliance decision, as this stands for a greater tendency to form alliances as a mechanism for developing collaborative entrepreneurial activities”* (p.689).

In relation to intangible resources the studies result show that commercial and administrative know how rates highest with the human aspects of prior alliance experience and experience in entrepreneurial activities rating among the least important. This appears to allude to the fact that simply being entrepreneurial is not sufficient currency when negotiating an alliance, but that specific knowledge in the field is important as it is likely to fill a resource gap among the members.

Ratten (2014) study of the financial and non-financial reasons for collaborative entrepreneurship examined the challenges faced in developing countries and how CE differed dependant on the country’s level of economics and social development. The premise of her argument is that other academics begin with the assumption that cultural, historical and government attitude towards entrepreneurship in developing nations differs from that in developed countries, leading to research about entrepreneurship in developing countries closely following that in the developed world and misses the important role that collaboration plays in developing countries where it involves accessing the role of collective action.

She argues that in developing nations CE involves creating partnerships between community and social endeavours and creating relationships between institutions to carry out common projects. The drivers of CE in developing nations seem to be resource based, as they were in the study by Franco and Haase (2013) but that the resources limitations differ and there is a cultural need for entrepreneurs to remain



engaged with society and for government and private businesses to work together for the good of the community.

Miles et.al (2005) postulate that a key driver is the external collaboration that comes with CE provides a rich source of information about competitors, as well as customers and shapes the potential for future projects and opportunities and that organisations that benefit from external collaboration often have well-functioning internal collaboration and integration of knowledge and information which processes the additional information to create value.

#### 2.4.6 The Barriers to Collaborative Entrepreneurship

If we agree with the premises that in today's hyper competitive economy continuous innovation is vital for long term organisational success and sustainability (Miles et.al ,2005, Franco and Hass, 2012, Ribeiro-Soriano and Urbano 2008, Webb et.al, 2014) It is difficult to argue against all firms, especially SMEs who are more likely to suffer from resource deficiencies, not pursuing a collaborative community structure.

However as discussed earlier in this chapter there are limited examples of the CE model being operationalised leading to the conclusion that there are barriers to its implementation among privately owned businesses.

Letaifa and Rabeau (2013) make an argument that initially seems counter intuitive, that close geographical proximity among partners can hinder collaboration. They state that an individual's social proximity, the level of relationships based on trust, friendship, kinship and experience, facilitates communication, knowledge transfer and collaboration as the individuals develop social relationships based on trust a mutual commitment. However social proximity coupled with geographical proximity can lead to interpersonal and inter-firm rivalries as members feel that they are competing with those they are supposed to be collaborating with. This however is a by-product of clustering where the majority of the organisations involved are competing for a share of the same market. CE as proposed by Miles et.al (2005) is designed to facilitate collaboration between companies that compete in different markets, offering different products and services, but to innovate collaboratively to create products and services that can be sold in the different markets occupied by the collaborators.

This raises the issue of trust as a barrier to collaboration, one of the respondents in Letaifa and Rabeau's (2013) study stated that:

*"trust is easier to build with foreigners as partners do not feel threatened in their local markets"* (p.7)

Mehta (2012) argues that new social ties are economically beneficial as they provide access to new resources and create large networks and that, as social capital is based on trust a symbiotic relationship exists that encourages greater cooperation among those with strong social ties leading to the generation of economic capital.

The idea of relational capital was also discussed by Welbourne and Pardo-del-Val (2008) whose study of CE in SMEs was based on the premise that successful collaboration requires a different kind of company, one that places high value on relationships because high quality, trustworthy and long-lasting relationships are important in order to innovate across organizations. They concluded that smaller companies valued relational capital above that of larger firms and that SMEs and high performing companies place high value in relational capital and are able to negotiate with others and develop collaborative agreements.

The issue of trust and relationships was pervasive in the study conducted by Pohopien (2013), one of the participants in response to a question regarding her personal entrepreneurial characteristics, said.

*“I like the process of building my brand, but I have a hard time trusting others outside of my family to guard my recipes.” (p.78)*

Another spoke about how she is happy to talk to other food truck owners for help and advice but adds only those she trusts (p.83), a third participant stated she enjoyed collaborating with fellow truck owners she trusts (p.109).

Within micro business, where the collaborative relationships will most likely be between the founders and owners of the business, trust is more relevant than in larger companies. This is due to the personal investment these individuals have in the knowledge which they see as their personal capital that defines their position within the network.

#### 2.4.7. Organisational Ambidexterity and Collaborative Entrepreneurship

O’Reilly and Tushman (2013) describe organisational ambidexterity as the ability of an organization to both explore and exploit. And that based on the ideas forwarded by other authors that different structures are required for long term survival they argue that to be truly ambidextrous firms need to explore and exploit simultaneously.

Being skilled at organisational ambidexterity would appear to be a pre-requisite for any organisation adopting the CE model as they are involved in relationship where they explore innovation by combining resources towards a common goal and then take the resultant product or service innovation and exploit individual opportunities in their own markets. Simultaneous management of exploration and exploitation involves considerable skills because as Wadhaw and Kotha (2006) explain exploitation requires the harnessing of current capabilities and continuous improvement of product offerings which in turn requires efficiency and convergent thinking. Whereas exploration involves search, variation and experimentation to generate unique combinations of knowledge. Similarly, Yigit (2013) argues that firms need to be able to reuse and configure their assets and change their structure to adapt to a rapidly changing environment characterised by new products, markets and technologies, again the CE model would seem eminently suited to these challenges.

Schreyögg and Sydow (2010) argue that in response to increasing complexity and environmental turbulence organisations will have to become highly flexible fluid forms and they propose that organisational ambidexterity is a way to help them to deal with the conflicting demands placed on them. However, they do raise concerns regarding the idea of a dual structure promoted by O'Reilly and Tushman (2008) who propose a synchronous pursuit of adaptable fluidity and efficient stability by designing organizational subunits intended to be either efficient *or* innovative. They state that strict separation is likely to result in sharp interfaces, ambiguous priorities, and a lack of common orientation they also question the idea that some subsystems can remain stable while others are fully flexible, and they question how it is feasible to expect some subunits within the organisation not to respond to a change in their market while others are expected to be fully adaptable and ignore institutional constraints.

It could be argued that collaborative entrepreneurship, which as Miles et.al (2005) illustrated with the theoretical OpWin and IBM, Intel and others brought to life in the form of Blade.org, can, with careful consideration and facilitation, overcome issues of separation and enables organisations to simultaneously be active in different configurations to deal with the demands of different markets while remaining focussed on a common goal.

#### 2.4.8 Summary

This section has discussed business models that are intended to optimise innovation and has made the argument that the collaborative entrepreneurship model is, in essence, the best model to foster a climate of continuous innovation. This is made possible by a flexible organisational structure that allows the

member firms involved in a collaborative community to apply their individual resources and knowledge to collaborate on the development of innovative products and services but remain independent, allowing them to utilise the output of the collaborative community within their own markets.

The drivers of CE are similar to those in more traditional interfirm alliances, especially when considering the need of small and micro business who seek collaboration to “fill a resource gap” and to upscale their profile in an increasingly competitive global market environment.

Where CE fundamentally differs from other interfirm alliance models is in the level of trust required among the community members and a failure to build and maintain trust is possibly the most fundamental barrier to the long-term success of a collaborative network.

The ability for the firms involved in a collaborative entrepreneurship community to be organisationally ambidextrous would seem to be a fundamental prerequisite, but as Raisch et al. (2009) argues there are cognitive limitations at the individual level that need to be considered.

The following two sections of this chapter will discuss knowledge management and facilitation both of which are considered to be key to the success of collaborative entrepreneurship, as these enable issues of trust and the individual’s perception of their position within the network to be managed by the network members for the ultimate good of the network as a whole.

## 2.5 Knowledge Management

The preceding sections of this chapter framed collaborative entrepreneurship within the wider narrative of entrepreneurship, small business and interfirm alliances and has argued that it is the most suitable business model to generate continuous innovation within a network of small owner managed businesses.

For a collaborative community to thrive it requires unfettered knowledge exchange between the members and confidence that this knowledge, which they consider as a personal currency that defines their position within the community, will be used to produce innovations from which they will benefit.

### 2.5.1 Organisational Knowledge

Nonaka and Takeuchi’s (1995) seminal work was based on the premise that two types of organisational knowledge exist, tacit and explicit.

They describe tacit knowledge as experienced based, context specific and as such difficult to explain in words. It includes, mental models, beliefs, intuition and technical knowhow gained by performing

a particular task for a prolonged period. Stewart and Ruckdeschel (1998) describes tacit knowledge as local and stubborn, it is, he argues oral and shared informally.

Unlike the subjective nature of tacit knowledge, explicit knowledge is objective, rational and easier to express in words or on paper. It includes, theoretical approaches, problem solving, manuals and databases.

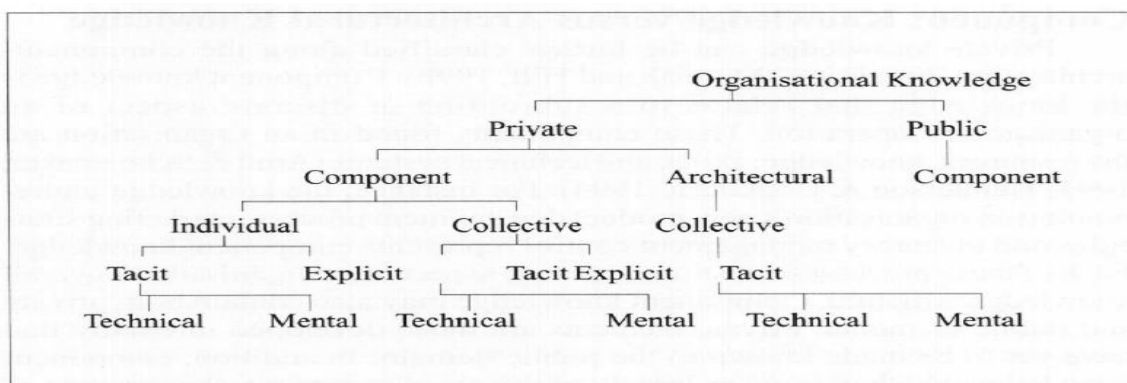
Stewart and Ruckdeschel (1998) describe organisational knowledge using the term intellectual capital, which they define as a capital asset consisting of intellectual material. He argues that for knowledge to be considered intellectual capital it must be able to be used to create wealth. He suggests three forms for intellectual capital namely, human capital, structural capital and customer capital.

Human capital, similar to tacit knowledge, includes the intangibles held within individual in their work-related experience and skills developed over time and is *“the capabilities of the individuals required to provide solutions to customers”* (p.76). Structural capital shares similarities with explicit knowledge in that it includes items such as patents, copyrights, process, methodologies and administrative systems. Customer capital is the value of relationships with supplies, customers and allies, such as brand equity and customer loyalty, the sales adaptation of Pareto 80/20 rule that 80% of an organisations business comes from 20% of its customers, is a good example of the importance of customer capital. As Stewart and Ruckdeschel (1998) state, although it is difficult to attach an accurate monetary value to customer capital it is the relationship between the organisation and the customers where intellectual capital is turned into wealth.

Wang et.al (2014) summarises Nonaka and Takeuchi (1995) and Stewart and Ruckdeschel (1998) definitions of knowledge as information processed by individuals, including ideas, facts, expertise, and judgments relevant for individual, team, and organizational performance.

Based on the works of Matsuik and Hill (1998), Nonaka and Takeuchi (1995) and Spender (1996) Chua (2002) offers a useful taxonomy of organisational knowledge (Fig 3).

**Figure 3: Illustrated Taxonomy of Organisational Knowledge (Chua, 2002)**



Private knowledge which is clearly the main emphasis of the taxonomy is described as a source of competitive advantage for an organisation as unlike public knowledge it cannot be easily copied by competitors. The component and architectural sub-divisions of private knowledge are differentiated by their scope, component level knowledge relates to individual process such as marketing strategies and inventory management processes and architectural knowledge is organisation wide, and is used to coordinate the various components of the organisation.

The discussion regarding individual and collective knowledge is couched in the context of larger organisations with Chua (2002) making the case that knowledge harboured by an individual risk's adversely affecting the organisations' ability to expand its knowledge base with the consequential impact on its competitive advantage. When shared with other members of the organisation individual knowledge becomes collective knowledge, expands the organisational knowledge base and mitigates the risk of losing key component and architectural knowledge in the event of key staff members leaving.

Framing the knowledge that will be present in the network, as it is currently constructed, using this taxonomy, it is evident that private knowledge held by the individual members will be the most important. The owner/managers of the separate businesses have a wide range of knowledge gained by working in various fields and with a variety of organisations ranging from small family owned to multinational corporations. This tacit knowledge will be the currency with which these individuals have negotiated their position within the network and what, for the long-term success of the network needs to be transformed into collective tacit and explicit knowledge both at a component and architectural level.

### 2.5.2 Knowledge Creation and Conversion

Drucker (1995) commenting of changes to the business landscape stated that, knowledge is the only meaningful economic resource. Sparrow (2001) argues that there can be little doubt that effective leverage of knowledge will be key to business success in the future. Quintas et.al (1997) state that for organizations, individuals and society, the processes by which knowledge is created or acquired, communicated, applied and utilized must be effectively managed.

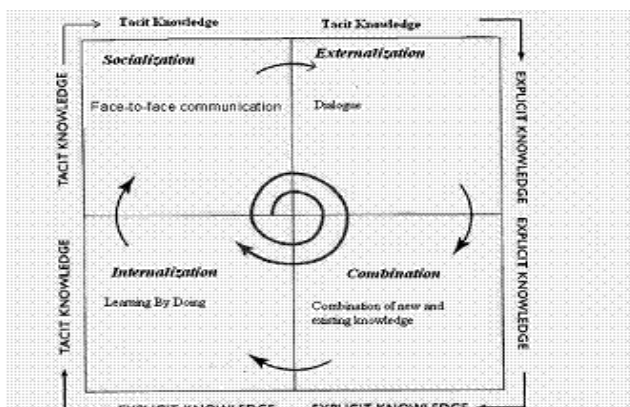
Strategies, processes and systems that facilitate the capture and transformation of knowledge from tacit individual to explicit collective have been the subject of a large body of literature since the end of the last century.

Rastogi (2000) describes knowledge management as a systematic and integrative process of coordinating organisational-wide in pursuit of major organisational goals. However, before a process to manage knowledge can be designed and implemented the knowledge that needs to be captured and managed and where this knowledge resides must be identified. Stewart (1998) states that the idea of formalised, captured and leveraged knowledge is easy to understand when it is a patented invention of a sheaf of economic data or when real or arbitrary deadlines provide obvious boundaries for knowledge, but it becomes more difficult when dealing with softer knowledge when no familiar constraining vessel exists (p.68). This issue has been experienced by the owner/managers of two of the businesses involved in this research. The programming of programmable controllers is a field that lacks formal college-based training and as training by manufacturers is specific to their own products it is becoming increasingly difficult to employ young programmers with a sufficient breadth of knowledge. The knowledge held by the owner managers is project specific and difficult to transfer to others as it is invariably obtained in high pressure situations when project deadlines are looming. This invariably means that when the next project is started there is a blank page which eventually becomes populated by ideas learnt on a wide range of previous projects, not taken from a manual. It is also well known in the industry that if you give the same project requirements to four different programmers the result will be four different programs which all operate the machine or process in line with the requirements.

Soliman and Spooner (2000) state that the knowledge assets in an organisation, need a knowledge map that covers all aspects of tacit and explicit know and describes how to find, what to find and where to find useful knowledge in the organisation.

Nonaka and Takeuchi's (1995) model of knowledge creation and conversion visualises the process as a spiral (Fig.4) with each circuit building on the previous one.

**Figure 4: Original Nonaka And Takeuchi Model (1995).**



The model shows knowledge creation and conversion as a four-stage process “SECI” of Socialization, sharing tacit knowledge among individuals, Externalization, articulating tacit knowledge into explicit concepts, Combination, combining different entities of explicit knowledge and Internalization, embodying explicit knowledge into tacit knowledge.

Nonaka et.al (2006) describe knowledge creation as a continuous process through which one overcomes the individual boundaries and constraints imposed by information and past learning by acquiring a new context, a new view of the world and new knowledge (p.1182). The most well-known practical realisation of Nonaka and Takeuchi’s (1995) spiral model for knowledge creation and conversion from tacit into explicit, is their description of the development of the Matsushita home bread-making machine. In this they describe how, after weeks of studying a hotel chef the development team discovered that he not only kneaded the dough but also twisted it. This was the turning point in the development of the appliance and the authors argue that this tacit knowledge was so ingrained in the chef that he was unaware of it and as such it could not be easily articulated to others.

Despite this spiral model of knowledge creation and conversion being the most widely cited theory of knowledge transfer, described as one of the best known and most influential models in knowledge strategy literature (Choo and Bontis, 2002) and as “highly respected” (Easterby-Smith and Lyles, 2003) it has attracted some criticism (Gourlay, 2006, Ribeiro and Collins, 2007 and Bratianu, 2010)

Ribeiro and Collins (2007) take the most direct approach by actually making bread with and without a bread maker to test Nonaka and Takeuchi’s (1995) claim that the chef’s tacit knowledge was made explicit and incorporated into a home bread-making machine and its manual. They argue that there is no conversion from tacit to explicit knowledge in a bread making machine (p. 1418) and that the bread maker only makes bread due to the presence of tacit knowledge within the wider human group in which the appliance is embedded.

Gourlay (2006) states that the bread making study provides limited good evidence for the socialization and externalization of technical tacit knowledge and argues that there is alternative interpretation of the findings. He continues that there is insufficient evidence that an unknown process is in action when a person learns under the tutelage of an expert as people regularly learn new skills without direct contact with an expert which testifies to the centrality of learning by doing (p.9). Rather than externalising the chef’s tacit knowledge through a mysterious linguistic process, he argues, the engineers simply transformed the problem into one that could be handled by the bread making



machine. So rather than socialization and externalisation of knowledge the process can be described as learning by doing on the one hand and designing new tasks on the other.

In contrast Bratianu (2010) argues that only externalisation and internalisation satisfy the conditions of transforming one form of knowledge to another and that socialisation and combination are processes of knowledge exchange not transformation (p.117). He also draws attention to the cultural context of Nonaka and Takeuchi's work and questions if the dual direction of knowledge flow common in Japanese business suits the model and if it would be as efficient in the top-down decision-making flow common among western managers.

Accepting that knowledge is key to organisational success in the knowledge dominated economies of the west, it is clear that, despite the discussion at a philosophical level regarding the nature of knowledge and its creation and conversion, organisations require an approach to maximise the efficiency of the process and link it to overall organisational performance.

### 2.5.3 Knowledge Management as an Organisational Strategy

Yang et.al (2010) argue that if knowledge and its creation process is so important to the long-term success of an organisation then strategies for the creation of knowledge about its customers, service, technologies and markets will help to strengthen its competitive position. However, they state that the lack of a link between knowledge creation and business strategy in organisational learning research has led to many organisations not having well-developed strategies to help them link the processes related to knowledge creation with other internal and external management processes.

According to Soliman and Spooner (2000, p.338), Mintzberg (1989) states.

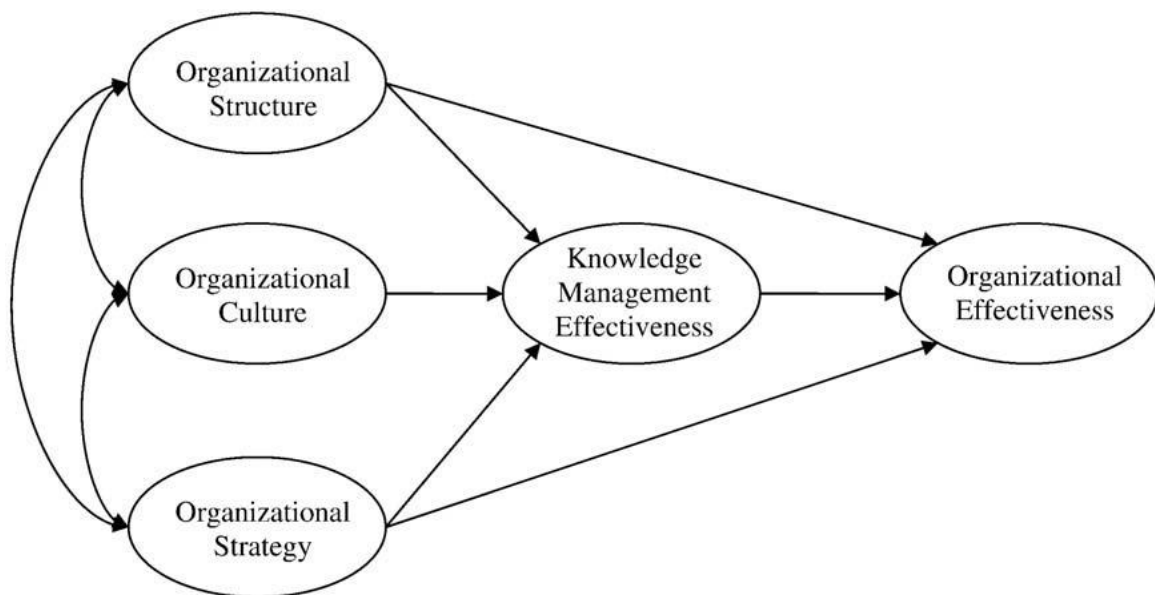
*“the strategic data bank of the organisation is not in the memory of its computers but in the minds of its managers.”*

This they argue leads to a belief within the enterprise that there is knowledge trapped within it that could drive it to new heights, but the problem is how do they find and exploit it. They suggest the following strategy, (1) reviewing the drivers and strategies for human resources knowledge management efforts, (2) gaining the commitment and understanding from human resources executives, (3) identifying priorities within the human resources department, (4) implementing knowledge management support systems within the human resources department; and (5) managing the expectation of employees.

They further argue that the management of human knowledge can contribute to a competitive advantage which may result in higher revenue and increased market share, especially markets that experience rapid change and that given the potential high cost of implementing knowledge management programs it is essential to ensure that the organisation has in place a set of strategies suitable for the implementation of the knowledge management effort.

Zhang et.al's (2010) study considers the role of knowledge management as a mediating factor linking organisational culture, structure, strategy and organisational effectiveness, their hypothesised model is shown below.

**Figure 5: Hypothesised Model Zhang et.al (2010, p.766).**



Knowledge management serves not only as an antecedent to organizational effectiveness, but also a medium between organizational factors and effectiveness. Knowledge resources are an outcome of organizational culture, structure, and strategy, because knowledge is created, made sense of, and utilized in accordance with a set of cultural values and norms, embedded in structural relationships, and reflected in strategic priorities. For example, knowledge sharing practices are affected by cultural expectations such as what knowledge should be shared with the organization and what should be hoarded by individuals, by structural relationships such as how quickly the knowledge flows through formal reporting relationships, and by strategic priorities such as what knowledge is to be paid

attention to and what can be ignored. In turn, organizational knowledge is reflective of cultural, structural, and strategic characteristics of the organization and is utilized to help produce new products and services, improve efficiency, and enhance effectiveness (Nonaka et al., 2000). Based on this premise Zhang et.al (2010) tested a number of hypothesis using a web and mail survey of 384 respondents from a sample of 1585 HR professionals, the respondents represented 301 organisations the majority of which were in the service industry. The authors conclude that their study supports the knowledge-based view of the firm in that knowledge management is not only an independent managerial practice, but also a central mechanism that leverages organizational cultural, structural, and strategic influence on organizational effectiveness. They also argue that the findings of their study support the hypothesis that knowledge management fully mediates the influence of organisational culture on organisational effectiveness and that the culture is the primary contributor to knowledge management which they consider is due to the fact that culture determines the basic beliefs, values and norms regarding the why and how of knowledge generation, sharing and utilisation in an organisation (p.769)

Massa and Testa's (2009) case study comparing how two Italian food manufacturers manage knowledge to support differing strategic approaches sheds some important light on the area of knowledge creation and management as a component of organisational strategy. Their study adopted Uit Beijerse's (2000) broad knowledge domains, the purpose for which knowledge is being managed (Swan and Scarborough, 2001,) of organisation, marketing and technology. The two companies, "C" that focussed its efforts on the marketing knowledge domain and company "S" that focussed its efforts on the technological knowledge domain were compared against four knowledge management activities, (1) Knowledge creation/acquisition, (2) Knowledge storing and retrieval, (3) Knowledge transfer and sharing, (4) Knowledge application.

The knowledge management strategies of company "C" were more outward focussed than those of company "S" with emphasis on knowledge creation focussed on contact with customers and collecting data on competitors and market trends. Knowledge in the form of sales and customer data is stored in a data warehouse, which the authors describe as.

*"It is an entity relationship-based DW focussed on marketing functional area – which is recognized as the most strategic one"* (p.134)

In contrast the data creation and storage strategy of company “S” was more people focussed, the head of research and development stated.

*“Ideas are generated in varied ways. Innovation is frequently inspired by things we notice during our travels around the world. Moreover, I can say, ideas derive from our employees, from their experiences and feelings: we don’t have a creative genius hidden in the labs. It’s the creativity of everyone that makes the difference!”.* (p.135)

Knowledge sharing and transfer is formally managed in company “C” via induction process and the company intranet whereas in company “S” the process is informal, verbal and social in nature.

Company “C” applies knowledge to cultivate a company image that positions it as a quality supplier in a competitive market, leveraging knowledge to ensure that despite impressive growth they maintain the image of a local supplier.

Company “S” applies knowledge to continuously innovate and thus create a competitive advantage enabling them to maintain a high profit margin in the large marketplace for their products. Knowledge is leveraged to identify new needs and opportunities that guide innovation activity.

It is clear from the studies discussed that knowledge management strategies will differ dependant on the knowledge requirements of the organisation and it is also considered that studies such as this and Nonaka and Takeuchi’s model discussed in an earlier section are primarily focussed on larger businesses with teams of workers and a management structure that facilitates an organised flow of data. How these methods of knowledge creation and conversion can be applied to small business, especially those that satisfy the micro business metric, with flatter management structures and “on the fly” decision making processes, is an area that requires further investigation.

#### 2.5.4 Knowledge and Small Businesses

The importance of knowledge as a resource to SMEs is well known, Desouza and Awazu (2006) state;

*“SMEs compete on their know-how and hence have to use knowledge to their advantage, even more so than traditional resources”* (p.33)

Despite this importance Sparrow (2005) states that there is established evidence to suggest that SMEs face different knowledge management (KM) challenges to larger firms. Lelic (2002) also suggests that implementing KM systems in SMEs faces unique barriers including, a lack of vision for KM

development, thinking only in terms of tangibles – cashflow, market share etc. and not having knowledge capture, access and re-use processes embedded in daily practice.

In their review of current literature related to knowledge management in SMEs, Durst and Runar Edvardsson, (2012) state that the field has seen sporadic periods of research activity among academics with 2001 to 2005 seeing limited interest, an increased period of interest from 2005 which ended in 2008. The authors posit that this is likely due to scholars active in the field recognizing that there are not enough opportunities to position this type of research in high-ranked journals. However, given the global economic cycle during the period 2001 to 2008 and the fact that SMEs, especially those that occupy the micro end of the scale, are by nature reactionary and their focus shifts with the market, access to the field may explain the peaks and troughs of academic activity.

The authors final selection of 36 papers resulted in five groupings of knowledge management interest, (1) perception, (2) implementation, (3) storage and retention, (4) creation and acquisition, (5) identification. The largest group was that of KM perception and it is noteworthy that a number of the findings from the papers in this group (Tunc Bozbura ,2007; Jafari et.al, 2007; Radzeviciene, 2008 etc.), highlighted issues of trust, control, a lack of defined processes and informality in the knowledge management practices of SMEs. It was also found that knowledge creation, acquisition and identification within SMEs was adversely affected by a lack of awareness and both time and organisational structure constraints.

Desouza and Awazu (2006) offer five peculiarities of KM in SMEs, they describe how socialization is the dominate factor in the SECI model of knowledge flow due to the closeness of employees to the owner and how knowledge flows through informal activities rather than the formal processes dominant in larger organisations. Common knowledge is offered as the second peculiarity which the authors argue is knowledge known to all members of the organisation and offers a common frame of reference without which the essence of the term “organisation” would be lost (p.36). They found that in their sample there was both deep and broad common knowledge enabling employees to “fill in” for each other and a good understanding among the majority of the employees as to how the SME conducts business. Thirdly, and somewhat counter intuitively, the SMEs contacted in this study did not find knowledge loss caused by the departure of key employees to be a problem. They argue that the close social ties among employees and owners and the need to make knowledge common due to lower staff numbers leads to less critical knowledge being in the hands of one individual. It is also notable that most of the knowledge is passed from the owner/founder and given that they are active in the day to day running of the business it is likely that key information is not held by a single

employee alone. The fourth peculiarity lies in how SMEs exploit external sources of knowledge which the authors argue differs considerably from the actions of large organisations. They put this down to a resource constraint leading to a need to exploit market research conducted by larger organisation. It could be argued that this could also be caused by the need for SMEs to collaborate to overcome resource constraints which results in using the knowledge of others to achieve common goals and then modifying the knowledge used for the benefit of the organisation in future endeavours. The final peculiarity focuses on the people centred approach to KM in SMEs which is in contrast to the use of technology by their larger counterparts and they argue this is the crux of the issue - knowledge sharing and managing is one of human endeavour (p.40).

Sparrow (2005) states that there is established evidence to suggest that SMEs face different KM challenges to larger firms and argues that despite emerging theory and practice concerning the process of KM in SMEs addressing them as a homogenous group may have its limitations. The quantitative analysis of responses from 33 privately owned businesses based in the West Midlands region of the UK found that four distinct groups existed in respect of the importance attributed to their knowledge management approach by the business. The clusters ranged from those 'unengaged businesses' that report limited interest in knowledge or KM practices to at the other end of the scale, those that exhibited 'comprehensive KM business practices' who are actively engaged in knowledge analysis and are confident they have the tools and capabilities to handle future challenges. Occupying the middle ground were companies described as 'Knowledge ownership-oriented businesses' and 'Learning and co-production-oriented businesses' both appear to have embraced the challenges of the knowledge economy but they differ in their approach to KM and their engagement with internal and external sources of knowledge.

Both of these studies offer useful insights into the peculiarities of knowledge and knowledge management in SMEs and how the processes differ to those in large and more traditionally structured business. They offer a useful framework to approach the management of knowledge within the companies that make up the network being studied, and it is hoped that an in-depth qualitative study will add useful additional insights to the field.

### 2.5.5 Managing Knowledge to Create Innovation

Harkema (2003) defines innovation as a knowledge process aimed at creating new knowledge geared towards the development of commercial and viable solutions. Accepting that innovation is a process in which knowledge is acquired, shared and assimilated with the aim to create new knowledge, which

embodies products and services (du Plessis, 2007) it is then clear that the process of managing knowledge to create innovation presents different challenges to those of the day-to-day management of knowledge focussed on remaining competitive, increasing sales and maintaining customer satisfaction.

du Plessis (2007) describes three drivers for the role of KM in innovation, the first is to utilise the existing knowledge with an organisation to create, build and maintain a competitive advantage, a process that the author argues has become increasingly complex in an environment of changing customer needs, increased competitive pressure and rapid technological change. The second is the need, in an increasing complex society in which access to knowledge and the amount of knowledge has grown exponentially, to manage this knowledge for the purpose of innovation, KM, he argues can reduce the complexity of the innovation process. The final driver relates to the process of sharing knowledge both within the organisation and from external sources.

Soliman and Spooner (2000) referred to the importance of sharing knowledge to encourage innovation when stating that, an increasing number of enterprises are now viewing the collective knowledge of their employees as a key competitive tool from which innovation can emerge, and are encouraging, supporting and rewarding collaboration between people.

Delgado-Verde et al.'s (2011) study of Spanish manufacturing firms was based on the premise that the innovation capability of a firm is intrinsically linked to the intellectual assets and organisational knowledge it possesses as well as its ability to deploy them. They concluded that culture and CEO commitment was important to innovation and that organisations that proactively encourage innovation and specifically that managers play an important role in adopting technological innovations as the CEO relies on the support leadership and coordination, they provide to drive an innovation culture.

It is clear that leadership and culture play an important role in creating and sharing knowledge in organisations focussed on innovation. We only have to look at the comment from serial innovator Google to see a real-world example of this, who state.

***We strive to maintain the open culture often associated with start-ups, in which everyone is a hands-on contributor and feels comfortable sharing ideas and opinions***

<https://www.google.com/about/company/facts/culture/> (29/07/16)

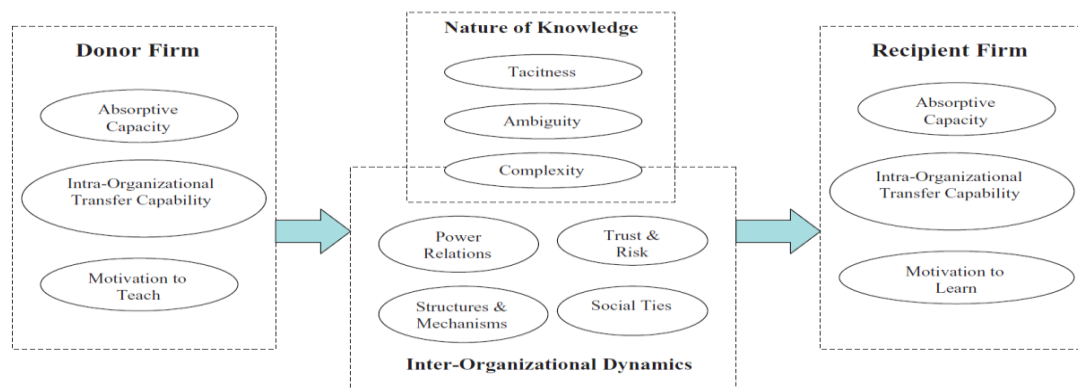
A fundamental principle of collaborative entrepreneurship is the cultivation of an egalitarian organisational culture which allows the free transfer of knowledge which Miles et.al (2005) argue will lead to and facilitate continuous innovation.

### 2.5.6 Knowledge Sharing in Networks

Previous sections have shown that the management of knowledge is challenging in the traditional scenario where members of the organisation are located in a single facility or managed from a common source and share a semblance of organisational culture. But what of a scenario consisting of a heterogeneous collection of individuals who do not share an organisational culture enforced by a mission statement or the pronouncements of a charismatic CEO.

Easterby-Smith et.al (2008) offer a useful graphical representation of the factors that influence inter-organisational knowledge transfer.

**Figure 6:** Factors influencing inter-organizational knowledge transfer (2008, p679)



Within the scope of this study the important factors are those the authors describe as “Inter-Organizational Dynamics”. The rationale for this assertion is that the dynamics of a collaborative network differs from those of a traditional supply chains that have a well-defined donor firm, the manufacturer, brand owner or host service provider and a well-defined recipient firm, the local manufacturer, distributor or franchisee. Within a collaborative network individual firms and individual within those firms will act interchangeably as donors and recipients and take turns to become the specialist. Unlike a supply chain, in which Easterby-smith et.al (2008) describe the firms being in a situation of power asymmetry with the recipient being able to affect its power bargaining based on how quickly it can acquire knowledge, in a collaborative network there is likely to be a more symmetrical power situation with each firm having specific knowledge resources but working together



in a climate of trust to transform these into more shared and common resources as the network develops.

Trust is clearly an important factor in any transaction of the currency of knowledge, but it is more significant when transferred between firms that have no official links and could in theory be competitors. Lai et.al (2012) describe inter-organisational trust as resting of the subjective belief and prediction that collaborative partners intend to meet obligation. Panteli and Sockalingam (2005) argue that based on trust business partners determine the extent and nature of knowledge sharing. They also discuss knowledge-based trust, a form of trust that they describe as relying on information about involved parties and being developed over time through regular contact. This links trust to social ties an issue which has been the subject of a number of papers in recent year, Nieves and Nieves and Osorio (2013), Huggins (2010), Zhou et.al (2010), Lai et.al (2012) etc.

Zhou et.al (2010) argue that prior knowledge of an individual's work is important in developing trust and that the in addition to considering track records of work performance as evidence of professional reliability, friendships developed outside of the workplace is a useful source of work related information. They state that they consider cognition-based trust, in which the transfer of knowledge in based on a rational evaluation by the trustor as to the trustee's skills, knowledge and ability to solve the problem is particularly instrumental in the knowledge transfer process. Lai et.al (2012) describe relationship-embeddedness as an informal, strong social relationship developed based on prior exchange experience and argue that this is essential to reduce uncertainty and promote tacit knowledge exchange. Huggins (2010) states that social capital which Coleman (1988) defines as consisting of obligations and expectations , which are dependent on: the trust worthiness of the social environment; the information flow capabilities of social structures and norms accompanied by sanctions, is an important concept in understanding the value of networks to firms but it is limited to explaining the value of resources generated through the social interactions and expectation of the members of the network. In contrast network capital is offered a means of capturing the resources contained within interfirm networks and is based on a logic of business and professional expectations.

### 2.5.7 Summary

Knowledge is clearly a resource of considerable importance to organisations of all sizes but to SMEs it can be argued that it is the primary resource that enables them to compete in a landscape where size and structure are not as important as they once were.

Unlike like large organisations, small and especially micro firms are less likely to have a formalised system in place to create and capture knowledge and the processes employed to transform tacit knowledge to an explicit form that can be shared throughout the organisation are predominately more likely to be stored in the head of the owner/manager or key employees than to be written down in a manual or captured on an electronic database.

Networks add a further dimension of difficulty to the management of knowledge and again this is to a degree lessened by both size and structure. But when the network consists of small or micro firms that have no central controlling organisation to act as a mediating influence and develop a pseudo-culture, commonly seen in franchise arrangements, that the other members of the network adopt for predominately commercial reasons, the issues of knowledge management become potentially more problematic.

Small collaborative networks such as the one that is the focus of this study, potentially offer an alternative to the issues related to knowledge management in networks as it will rely on the relationship, both social and business, between the individual actors within the network to generate a climate of trust to enable the creation and sharing of knowledge required to drive continuous innovation by ensuring that all members are confident that their knowledge can be used for both network and individual firm benefit. This can only reasonably be achieved by a form of facilitation that is conscious of and sympathetic to the nuances of such a network, a subject that will be discussed in the following chapter.

## 2.6 Facilitation

The preceding section of this chapter made the argument for knowledge creation and transfer being one of the most important issues when developing a network with continuous innovation as its goal, however issues of trust are likely to be at the forefront of problems that will undoubtedly surface when entrepreneurial small and micro business owner managers are asked to share their most important asset with others that can in some cases be considered as potential competitors.

Golding (2001) defines facilitation as.

*“The work involved in ensuring that the right structures and processes exist for helping the group members to identify and overcome problems in communicating with one another and in managing emotion” (p.49)*

Schwarz (2002) describes group facilitation as a process in which a person who is acceptable to all members of a group, is substantively neutral, and has no decision-making authority, is chosen to intervene in a group's process to help it meet its agreed purpose. It is argued, mainly by professional facilitators, that without facilitation a group will not achieve its desired aims within a suitable time frame. Golding (2001) states that facilitating a group is not the same as leading it nor is it a halfway house between acting as a group leader and participating as an ordinary member.

### 2.6.1 Facilitator Roles

Hunter and Thorpe (2005) describe a range of roles that can be loosely labelled as facilitator roles, namely, managers, consultants, trainers, teachers and others who use facilitative techniques as part of their work. Thorpe (2008) states that a primary role of a facilitator is making interventions to protect the group and keep it on track to fulfilling its purpose.

Hemmati (2007) argues that a facilitator is a prerequisite for successful participatory dialogue and that the simplest form of facilitation entails ensuring that all involved have a chance to speak and that the meeting starts and ends on time. Hunter (2007) describes the facilitator as an aware and conscious listener and a clear communicator, who understands group dynamics and provides process expertise, usually in the form of questions and suggestions. She/he grows meaningful relationships, facilitates participation and collaboration, focuses a group on its purpose, and guides its development through organic cycles, using cooperative processes and collective decision-making.

Lessard et.al (2016) lists nine roles they consider apply to external facilitators in an organisational development setting.

Providing skills training • Stimulating critical inquiry and assisting groups to develop/refine specific project-related questions • Thinking ahead in the process • Performing meeting evaluations • Tailoring/adapting facilitation services to the local setting • General administrative planning • Listening actively, clarifying and summarizing the information • Observing group members' behaviours • Sharing benchmarking results from multiple sites to encourage team activity. **(p.6)**

They frame their study using the concept of the change agent defined as "an internal or external individual or team responsible for initiating, sponsoring, directing, managing or implementing a specific change initiative, project or complete change programme" (Caldwell, 2003). The change agent is a common role of facilitation in the OD field, and it is traditionally carried out by individuals that are impartial external experts brought into to help a group to navigate a particular process.

This was a role taken by the researcher when conducting his masters project in which he was a member of a group working with a local charity to facilitate an organisational change. During this project it was found that having no particular “axe to grind” in respect of the future direction of the organisation had its advantages as it enabled the group to conduct a degree of “blue sky thinking” as they were not burdened by the history of the organisation. The main disadvantage experienced by the group was that as they had been brought in as perceived experts by the charity’s senior management team, some juniors members acted with a degree of deference to the group members and looked to them to solve problems rather than working together. There were also issues with the facilitators being considered as “friends” of the senior managers and as such there was a degree of reticence among some employees to speak openly with the facilitators.

### 2.6.2 Facilitation in Networks

As with knowledge transfer the network environment adds a new dimension to the challenges of facilitation. An external facilitator working with a group that all come from a single company will over time understand the dynamics of the group and the cultural norms of the host organisation that both aid and hinder group integration and effectiveness.

Within the setting of an intra-organisational network the internal facilitator will now become an outsider to other members of the network and is likely to struggle with issues of impartiality as other network members are likely to consider them to always be looking after the interests of their own organisation, and attempts by the facilitator to respond to this with overt displays of impartiality will hinder group development and effectiveness.

As discussed in a previous section of this chapter the cluster is an established form of inter-organisational network based predominately on shared resource, geographical proximity or government initiative. Ingstrup (2010) state that most clusters grow with the support and interventions of cluster facilitators.

The role of the champion in SME networks is discussed by Harding (2002) and Jones and Burgess (2010) as a method of facilitating change and managing trust. Jones and Burgess state that the champion can be an individual or a group of individuals or, in the case of their particular study, a network entity such the representative committee of the ISITE conference. Harding discusses an internal champion, an individual within the network to co-ordinate the business and learning activity of the firms and, citing Huggins (2000), the need for successful networks to have external facilitation at the start of the

process to enable them to reach agreement on objectives, to support the subsequent discussions and mutual learning.

Howells, cited by Konsti-Laaks et.al (2012), describes a body of literature suggesting that network formation can be facilitated by external support. Burt (2002) refers to brokerage as type of external facilitation and Howells (2006) as intermediation (Konsti-Laaks et.al 2012).

Six network management roles are identified by Harland and Knight (2001), network structuring agent, co-ordinator, advisor, information broker, relationship broker and innovation sponsor. The different types of external facilitation are focussed on enabling SME networks to grow beyond their social networks, not to generate the initial reason for SMEs to commit, not network development (Konsti-Laaks et.al 2012).

McEvily and Zaheer (2004) in their analysis of the role of institutions in fostering collaboration among actors involved in geographical industrial networks described network facilitators as the “Architects of Trust” who focus on the dynamic, through which trust is built among the individual organizations involved in the alliance.

Cannatelli and Antoldi (2010) developed a model describing the evolutionary pattern of a network form of alliance among SMEs. The key elements of analysis include, (a) the time perspective adopted by partners in building their alliance, (b) the main cohesive factor that links partners in different moments of their collaboration; (c) the strategic objective of the alliance; (d) the functions carried out by the network facilitator at different stages. Antoldi et al (2011) describe the network facilitator as an actor who maintains control over the cohesive factor (market opportunity); the network facilitator is the only actor within the network directly connected to each other member; the network facilitator is seen as trustworthy by each entrepreneur, due to his neutrality. However, when the cohesive factor ceases to be exclusively an economic opportunity, and as members become more willing to cooperate (as a result of trust), the facilitator needs to begin to move away from the alliance while still guaranteeing support when needed.

### 2.6.3 Facilitating Clusters

Coletti (2010) focusses on cluster managers, “*intermediate bodies employing people in charge of animating clusters*” (p. 679), the functions they perform, and the competences required by them. He argues that in addition to forming relationships between clusters' internal and external actors, they

should endeavour to identify and attract core individuals to clusters as well as distribute knowledge. This requires a competent communicator who can work at all levels of the organisations involved in the cluster to ensure that knowledge does not remain in silos but is distributed to all those that can make use of it.

Gange et.al (2010) state that the establishment of formal and informal networks is facilitated by the presence of a cluster animator (p.5). This role, they argue, is commonly taken on by institutions such as universities, economic development organisations, not for profit organisations or trade/sector organisations which act as network brokers between clusters firms and other cluster support organisations. Despite the acknowledged fact that the network under investigation is not a cluster it is considered that a collaborative entrepreneurial network does share similarities with the cluster model. The businesses are independently owned, some of them are active in the same market and the individuals involved were known to each other in a professional sense prior to the formation of the network. However, no external organisation has been involved in the formation or facilitation of the network and as such literature that focusses on the individual as a cluster facilitator is of more specific interest to this research project.

Ingstrup (2010) offers three generic roles that can be played by cluster facilitators: (1) the framework-setting facilitator that focuses on the environment of clusters and has an indirect approach to facilitating actors, resources, and activities in clusters through framework improving initiatives, (2) the project facilitator who emphasises and engages in individual projects where a direct and interfering approach to facilitating actors, activities, and resources of clusters is prevailing, and then finally (3) the all-round facilitator which is the sum of the two previous roles.

Mesquita (2007) focuses on the fostering of trust as a key role for the cluster facilitator when he describes them as a trust facilitator. Trust has been highlighted throughout this chapter as one of the key factors in developing a successful collaborative network and building and maintain trust will be one of the networks biggest challenges. He describes a dynamic process of trust building with the trust facilitator, a third-party individual, organisation or institution, as architects of aggregate trust reconstruction whose central role is to take advantage of the multiplex nature of relationships and help clustered firms circumscribe relationship domains so that trust and cooperation flourish in ways that supplement the naturally distrustful interactions (p.75). The reputation and the abilities of the trust facilitator is of vital importance as this establishes a base level of confidence among the SME leaders in the cluster.

The facilitation of the traditional interfirm network, cluster, and supply chains, is predominately focussed on the simplifying process, enabling access to finance streams, building trust among members and accessing new markets. There seems to be little focus on facilitating a culture of continued learning and using knowledge to create and maintain innovation.

#### 2.6.4 Communities of Practice

Du Plessis (2008) describe communities of practice (CoPs) as one of the most significant means of fostering knowledge management in the 21<sup>st</sup> century.

Wenger and Schneider (2000) who discuss communities of practice from the organisational viewpoint rather than from the more prevalent medical or educational perspective describe them as.

*“groups of people informally bound together by shared expertise and passion for a joint enterprise – engineers engaged in deep water drilling, for example, consultants who specialise in strategic marketing, or frontline managers in charge of check processing at a large bank” (p.139)*

And they argue that within organisations CoPs add value by, helping to drive strategy, starting a new line of business, solving problems quickly, transferring best practice, developing professional skills and by helping companies to recruit and retain talent.

Ackerman et.al (2008) state that CoPs define themselves along three dimensions, domain which reflects the context and focus of the group, community which concerns interpersonal relationships within the group and its collective identity, practice the shared set of resources (routines, material and conceptual tools) created and used in their practice.

Wenger (2011) posits that CoPs are formed by people who engage in a process of collective learning in a shared domain of human endeavour and that the community has an identity defined by the shared domain of interest, and membership of it implies a commitment to the domain and therefore a shared competence that distinguishes members from other people.

Lesser and Storck (2001) argue that although CoPs have previously been thought of as coming into existence when people interested in a common work-related area or in a vocation, feel a need to share what they know and to learn from others, they are increasingly considered as valuable organisational assets and that the value within the communities is no longer limited to the members themselves but

also to the organisation as a whole. They state that CoPs have potential to address issues that are faced by slow moving traditional hierarches in fast moving virtual economies and that they are an effective way to share knowledge outside traditional structured boundaries

The snapshot comparison shown below give a useful indication of the main differences between common organisational teams and networks.

**Figure 7:** Common organisational teams and networks (Wenger and Snyder; 2008, P141)

<b>A Snapshot Comparison</b>				
Communities of practice, formal work groups, teams, and informal networks are useful in complementary ways. Below is a summary of their characteristics.				
	<b>What's the purpose?</b>	<b>Who belongs?</b>	<b>What holds it together?</b>	<b>How long does it last?</b>
<b>Community of practice</b>	To develop members' capabilities; to build and exchange knowledge	Members who select themselves	Passion, commitment, and identification with the group's expertise	As long as there is interest in maintaining the group
<b>Formal work group</b>	To deliver a product or service	Everyone who reports to the group's manager	Job requirements and common goals	Until the next reorganization
<b>Project team</b>	To accomplish a specified task	Employees assigned by senior management	The project's milestones and goals	Until the project has been completed
<b>Informal network</b>	To collect and pass on business information	Friends and business acquaintances	Mutual needs	As long as people have a reason to connect

Looking at the differences between these common configurations of teams and networks it is evident that the facilitation of CoPs will require different competences than those of the more traditional forms.

A community of practice cannot be organised or established but rather emerges from the actions of its constituents. However, the emergence of a community of practice can be fostered or facilitated Beers et.al (2011).

Smith and McKeen (2004) state that all CoPs benefit from cultivation and that different CoPs require different types of support and referring to the common organisational mode established for CoPs, where it resides within the organisational boundaries almost as separate entity, they suggest that, management, technical, infrastructure and cultural support are the key types of facilitation required.



This model of facilitation is very similar to that adopted for Blade.org the organisation offered by Miles et.al (2005) as a practical realisation of their collaborative entrepreneurial model.

Ackerman et.al (2008) state that although the concept of CoPs originally referred to a natural emergence through the coming together of likeminded individual with a common aim, educational and HRD practitioners are now looking to initiate communities to stimulate learning and professional development in specific fields. In their study they identified three main actors that were involved in community organisation: (1) the group – the community organisation emerges from within the group; (2) the project partner – the community organisation is initiated externally by the project partner; and (3) the broker – a broker is involved in the community organisation. Of the fifteen deliberately initiated communities of SMEs in the tourism sector the researchers found that those initiated by group members, exhibited more evidence of meaningful activity, focussed on things that matter to community participants, than those initiated by project partners. Among the fifteen case studies the findings highlighted that project partner and broker activity were predominantly related to shared activities such as, listing and approaching potential partners, both activities that require a degree of specialist knowledge, that may not be present within the group and coordinating activities, including organising face to face meeting and providing communication tools.

The finding from this study indicates that there is evidence to support a hypothesis that internal self-facilitation is an effective method of developing the culture for a community of practice to thrive and that the role of the external facilitator, project partner and broker, is useful for access to resources that the community lacks but that meaningful activity proceeds effectively and efficiently without it.

laquinto et.al (2010) studied six purposefully created CoPs in an Australian government department and their findings further support the role of internal self-facilitation. They state that a successful community is one whose members demonstrated a sense of stake holding or ownership of their topic, communicated with members in and between meetings and identified gaps in their knowledge and attempted to fill those gaps. They also argue that practitioners aiming to create successful CoPs should, avoid creating them in organisational silos, build on pre-existing social capital among potential members and use one coordinator throughout the life of the community.

Given that the preeminent model of CoPs in an organisational setting is that of a separate entity within the boundaries of a host organisations receiving facilitation in the form of managerial, infrastructure and technical support from the host organisation it appears that Blade.org the organisation offered

by Miles et.al (2009) as an example of CE in practice is, with the exception of being a separate legal entity, an example of a community of practice.

### 2.6.5 Facilitating Innovation

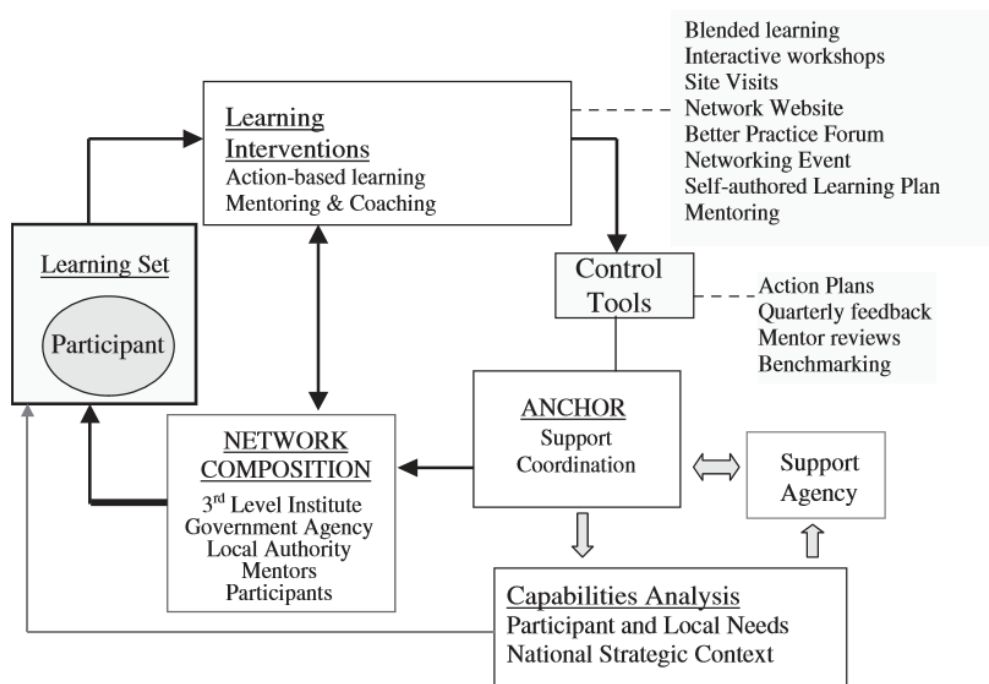
The value network is seen as a context for open innovation which Chesborough (2003) described as recognising that knowledge from outside the organisation is valuable and beneficial. Konsti-Laakso et.al (2012) describe the value network as a useful concept to describe networks that aim at innovation and the current shift from closed to open innovation activities means that the organizational value network offers many potential partners for innovation.

Konsti-Laakso et.al (2012) argue that there is little specific research evidence regarding the formation of SME value networks as they have been seen as similar to the formation of any SME network. They give evidence for four stages (Blankenburg-Holm, Eriksson and Johansson (2010)) of evolution prior to value creation beginning. These stages involve network development being based on business connections and individuals networking activities, before evolving from an identity-based network into a more calculative, intentional network and eventually a strategic, manageable network (Howels ,2006). They posit that external facilitation is required in the early stages of network evolution as it enables them to grow beyond their social networks, but that it cannot generate the initial reason for SMEs to commit into network development, and that to further develop the network and to build insight into the eventual opportunities for new value creation, the participating companies need to share a joint understanding or a shared vision, which I argue can only be suitably maintained when facilitated from within the network.

Learning networks are also seen as a way for SMEs to collaborate and add value. Kelliher has written extensively on the use of small firm learning networks (SFLN) in the tourism industry, an industry which is constantly innovating, in the Republic of Ireland (2008,2009,2011,2010,2014). Although the network at the centre of this study is not involved in the tourism industry there are some similarities that make the work of Keliher et.al (2008) relevant. Firstly, the spray tanning industry is predominantly B2C focussed and although the network operates in a B2B market, in that it supplies to salons, it is important for it to fully understand the requirements of the salon customer to ensure that developments are in line with user expectations. Secondly the tourism industry is well known for collaboration between companies to fill resource gaps, such as specialist knowledge of an area or specialist activity skills and equipment.

Figure 8 gives a graphical representation of Foley et.al's (2006) SFLN model adapted by Kelliher et.al (2008, p83) and shows the position and roles of facilitators. As can be seen it has similarities with the facilitation of clusters, specifically the role of government agencies in the embryonic stage of the network's evolution. Kelliher et.al (2008) state that the role of the facilitator as a catalyst for knowledge transfer is critical to the development of network resource and that government agencies are a critical partner in this context and a close working relationship with national development bodies is essential to ensure network success.

**Figure 8: Small firm learning network Foley et.al (2006)**



**Kelliher et.al (2008, p.83)**

Beers et.al (2011) state that this type of facilitated network, which are targeted at innovation are seeing increasing public interest as a new instrument for governments as they offer opportunities to combine financial and technical resources, and they offer the infrastructure that is necessary for spreading and sharing knowledge and information.

However, despite the fact that there is empirical evidence to indicate that this form of government sponsored incentivised facilitation has some short and medium term impact, such as university science parks, regeneration areas and solar/renewable energy incentive, what happens when the money or the political will runs out and the network has to maintain itself.

Kelliher and Reinl (2011) discuss how these networks manage once the formal facilitation ends and how they transition from facilitated cooperative learning strategies to become independent learning communities. The name 'Evolving Learning Communities' (ELCs) is used by the authors to describe these networks after the formal facilitation ends and they state that they are devoid of formal learning structures and are without facilitated network resources, members must self-organise, design and manage their own learning structures and strategy. They compare their proposed ELC model to that of CoPs where prior knowledge and experience of previous learning is turned in to a desirable outcome through the promotion, formation and management of an ELC. Their model calls for a learning broker, a role to be filled by an existing member of the ELC, so that learning ownership rests within the heart of the community. Clearly making the community self-dependant and maintaining key knowledge resources and learning competencies within the network and reducing the need for external help and facilitation, is likely to lead to longer term success but as others state there is a need for more research in the form of a longitudinal interpretive case study to confirm the validity of the model.

#### 2.6.6 Summary

The arguments in the literature reviewed in this section lead to the conclusion that there is a lack of consensus to which method of facilitation is best suited to SME networks. This is not surprising as there is not one definitive network structure and there is also a whole industry based around supporting SMEs and it is safe to assume that there is a degree of self interest in advocating certain approaches to facilitation.

There is limited literature relating specifically to the facilitation of the collaborative entrepreneurial model. There are some models that share similarities with the CE model, such as clusters, communities or practice and evolving learning networks, and the methods of internal self-facilitation utilised in some of these networks could initially be viewed as suitable for a network of entrepreneurs. However, much of the work on these is limited to networks formed by government initiatives or in the case of CoPs predominately based in vocational circumstance such as in educational and medical collaborations with a small number based in the organisational setting where they are within larger organisations and focussed on specific tasks and not on continuous innovation.

The uniqueness of the CE model is that it is initiated by the business owners with the sole aim of creating a collaborative culture that will enable products and services to be continually innovated by all members of the network and it is argued that internal facilitation shared between the owners of the businesses is the only suitable method. This project will fill the gap in current knowledge by

developing a framework of internal facilitation based on action research for a collaborative entrepreneurial SME network.

## 2.7 Culture

The descriptions of the key individuals involved in the networks either as directors/owners of the companies directly involved in the day-to-day development of the booth or those that are major stakeholders such as the automation manufacturer and the US distributor, highlights a cultural diversity within the network. Culture is a widely covered topic in knowledge sharing, team dynamics and management literature. Based on this prior work it is clear that the differing cultural backgrounds of the network members is likely to impact on both day-to-day situations and longer strategic decisions. Culture and the actions taken to ameliorate issues that arise due to these differences will be addressed in the body of this thesis.

### 2.7.1 What is Culture

Kluckhohn (1954) describes culture as to a society what memory is to an individual (Triandis, 2001), it includes “what has worked” in the experience of the society that is worth transmitting to future generations. Hostede (1994) defines culture as, the collective programming of the mind which distinguishes the members of one group or category of people from another. Spencer-Oatley (2012) argues that culture is learned, not inherited, derived from an individual social environment, not biologically innate.

Geertz (1973) states.

*“The concept of culture I espouse, and whose utility the essays below attempt to demonstrate is essentially a semiotic one. Believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning” (p.311)*

Culture and the differences that the learned behaviour of an individual, due to the societal norms they have been exposed to, influence the way they interact with colleagues, suppliers, customers, managers and other stakeholders in an organisational setting.

### 2.7.2 The Components of National Culture the Organisational Perspective

During the 1980's and 1990's several dimensions that shed light on cultural differences and the influence they have of organisational performance were proposed (i.e., Hall and Hall, 1990; Hampden-Turner and Trompenaars, 1994; Lessem and Neubauer, 1994; Cragg, 1995). The most widely cited among these was Hofstede (1983) study of IBM employees in 50 countries. This identified 4 dimension of culture, which he describes as representing elements of common structure in the cultural systems of the countries and being based on four very fundamental issues in human societies to which every society has to find its particular answers.

Individualism, the prominent characteristic of western countries, indicates that members of that society have weak interpersonal links with those outside of their close family circle and work predominately for personal gain. In contrast, in a collectivist society which includes many eastern and far eastern countries, more importance is placed on a person's position with the wider society and working to help society and the country advance is considered more important than personal gain.

Power Distance is a measure of the inequality that exists, and is accepted, between those with and without power. In an organisational sense those in societies with a low PD index tend to be flatter and decision making is delegated throughout the organisation. In societies with a high PD index, organisations have more complex hierarches and exhibit more traditional centralised leadership styles.

Uncertainty Avoidance is basically a measure of how a culture views risk. People from cultures with high uncertainty avoidance levels have lower tolerance for uncertainty, higher needs for structure (i.e., formal rules and regulations), and stronger faith in institutions (e.g., the government) than people from cultures with low uncertainty avoidance levels (Hofstede, 1991; Doney et al., 1998). From a business perspective, Keil et al. (2000) found that software project leaders from low uncertainty avoidance cultures are more susceptible to 'escalation of commitment' behaviour, in which failing software projects are allowed to continue, rather than those from high uncertainty avoidance cultures. Kale and Barnes (1992) found that people in cultures that exhibit high uncertainty avoidance show a strong resistance to change while those in low uncertainty avoidance culture are more open to change.

The Masculinity – Femininity dimension is not related to the gender of the subject examined, but instead refers to the characteristics of the culture itself (Hofstede, 1980, 1984, 1991, and 2001).

Masculine societies, such as Japan, emphasise competitive traits and have a preference for achievement, heroism, assertiveness and material gain (p.84). Feminist societies place a greater emphasis on nurturing good relationships and caring about the welfare of the team rather than simply success.

Considering these four widely cited dimensions of national culture in relation to the companies within the network. Two of the UK based companies are micro businesses with less than 9 employees, the third has 16 employees, all are family owned and one of the three has directors/managers that are not family members. These characteristics are more likely to lead to a flatter structure rather than a cultural dimension, however the fact that they are all run by indigenous UK males, a culture with a lower PD, will have an influence on how the business is managed. The US based company has an employee count of 71 at their manufacturing site and 17 sales managers working from home around the country. The company is also family owned but unlike the UK based companies has a formal board consisting of all family members. The MD is gregarious and the focal point of much of the company's interaction with the market and the only member of the board ever present at exhibitions, sales conference and other social events attended by the company. His personality led to a structure that was to a degree reliant on the individual and it was notable in meetings attended by the researcher, at the US companies head office, that senior members of the management team deferred to him when decisions needed to be made. The Indian based company with its roots in a culture with a higher PD index than both the USA and the UK would be expected more formal organisational structure with more centralised decision making. However, the MD of the company proudly describes it as a democratic organisation, has employed women engineers, in a country where this is still relatively rare, for a number of years and looks to all his employees to add value to the business.

The UK and the USA are, according to Hofstede, more individualist than India, however in a network dominated by individuals who have built businesses it is difficult to see the difference, as all are focussed on doing what is best for their companies and pay little attention to wider society. One obvious sign of individualism does reveal itself in the communication style of the MD of the American company. As predicted by Hall and Hall (1990) bragging and boastfulness (p.146) is common in conversation with new people, when he often mentions how much he has earned in the preceding financial year.

All network members come from countries that rank high on Hofstede's masculinity scale and again as would be expected in a network of small business owners all are assertive and competitive. It is also common to see posturing among members at times and the extolling of one's personal successes.

The USA, UK and India are at a similar place on Hofstede's scale when considering their proclivity to risk and as mentioned previously it is hardly surprising in a network such as this that there are minimal concerns regarding the risk involved in this venture.

Despite its wide use in multi-disciplinary studies Hofstede's study is not without criticism. Tayeb (1994) points out that "culture was used as an explanation after the findings revealed interesting patterns. In other words, the study was not planned in advance as an investigation into the effects of culture on an organisation and their members." Benedict and Steenkamp (2001) state "country scores are based on matched samples of IBM employees, which are not necessarily representative for their countries. This may apply especially to less-developed countries." Huo and Randal (1991, p.159) also question the sample and argue that 116,000 respondents with IBM all "shared the same corporate superstructure and policies, belonged to the same occupational categories, did the same kind of work, were of the same educational level and varied only marginally in age and gender." Additionally, almost all respondents were male (Nicholson & Stepina, 1998), and had been trained by IBM and shared the same IBM corporate culture, thus, the sample data was not representative of people in the respective countries (Benedict and Steenkamp,2001).

Hall (1976) classified cultures as high or low context. Communication in a high context culture relies on non-verbal clues, body language, such as the researcher experienced in his early dealings with the automation manufacturer. When discussing technical aspects of products with the development team a bobbling shake of the head was often exhibited. Pillai (2012) describes this as well known for its illusive value and that although it is not interpreted uniformly across the country it may mean "yes", or "no" or "maybe", depending on the question asked". The researcher learnt that depending on context it also meant, on many occasions, "yes the product should do that, but it doesn't and maybe it will in the future".

Low context cultures, such as the UK and USA rely more on the facts of the information and look for independent sources to confirm what is being said rather than replying on personal information networks (Morden, 1999).



### 2.7.3 The Effect of National Culture on Small Business Alliances

Steensma et.al (2000) state that past studies suggest that three of Hofstede's (1983) cultural dimensions may be particularly pertinent in understanding attitudes toward cooperative strategies.

"The masculinity of a culture relates to the overall competitiveness of its members (Hofstede, 1991). Because cooperative strategies reduce competition (Porter, 1985), societal values in terms of masculinity may also influence entrepreneurial attitudes toward cooperation. A nation's underlying sense of individualism and self-interest values are believed to influence the extent to which entrepreneurs are willing to share control and pursue cooperation (Tiessen, 1997). Finally, cooperative strategies enable partners to spread risk. Risk orientation at the firm level has been shown to influence the attractiveness of alliances (Tyler & Steensma, 1998). Therefore, it is reasonable to expect that a society's general tendency toward uncertainty avoidance will also influence the attitudes of its native entrepreneurs toward cooperation." (p.594).

Rosenbusch et.al (2011) argue that individualism may influence the culture of SMEs and fuel innovation and that particularly at the invention stage, SMEs can benefit from highly individualistic founders, managers and employees. Jones and Davis (2000) state that individualism fosters creativity, independence, and autonomy. However, the commercialization stage requires a more collectivist approach as it foster social interaction and cooperative team behaviours (Eby and Dobbins, 1997). Herbig and Miller (1992) also argue for the collectivism which they state can facilitate incremental innovations because such process requires the communication and collaboration within the firm and the interaction with key supplier and customers.

Because SMEs have a more limited resource base these innovation challenges are augmented. In consequence, SMEs need to rely on teamwork which might be more difficult to accomplish in cultures characterized by high levels of individualism. Moreover, SMEs in societies characterized by strong collectivism focus in general on imitative strategies and refrain from exhibiting innovative behaviour (Rosenbusch et.al, 2011 p.447)

White (2005) states that collaboration between partners with different national cultures may lead to the administrators of the alliance utilizing different and potentially incompatible practices. Berends et.al (2011) address a potentially more fundamental issue when they state that cultural differences between alliance partners make cognitive differences between boundary spanners more likely.

Gerwin (2004) address how cultural difference can lead to different conceptions of the required task and the alliances environment which can lead to disagreement which task interdependencies and uncertainties are most important.

Sthal et.al (2010) consider the positive outcomes of multicultural teams and look at the process that led to these. They argue that in respect of creativity the members of a culturally diverse team may continue to challenge idea and provide input long after a monocultural team has reached a saturation level and experience group think (p.442). They also argue that viewing communication effectiveness from a positive process perspective where multicultural teams make deep-level elements of culture, knowledge, attitude and values, salient, improves the possibility of deeper interaction, better listening and more effective communication.

Steensma et.al (2000) in the specific example of entrepreneurial firms collaborating for technical innovation, found that national culture directly and indirectly affects the formation of technological alliances. They found that SMEs from feminist nations are more likely to form technology alliance due to the perceived win-win nature.

#### 2.7.4 Cultural Differences and Knowledge Management

Knowledge management is discussed in greater detail within the literature review of this thesis, this section is intended to shed some light on how culture influences knowledge transfer between individual within a business network.

*“The influence of national culture on KM implies that the management of knowledge may not only depend on the organizational characteristics of the firm and its deliberate and explicit procedures and guidelines, but may also be constrained by the mental models of its practitioners drawn from national culture”*( Magnier-Watanabe and Senoo ,2010)

Magnier-Watanabe and Senoo (2010) consider Hofstede’s cultural dimensions of, in relation to knowledge management, multi-cultural interfirm networks.

They postulated that, high power distance societies, foster a focussed knowledge acquisition; individualistic societies, promote private knowledge storage; masculine societies, encourage prescribed knowledge diffusion; and high uncertainty-avoidance societies, support exploitative knowledge application. Their quantitative analysis showed that the individualism-collectivist dimension had a significant influence on the storage of knowledge. This confirms what Nonaka and

Takeuchi (1995) stated that as knowledge is created at an individual level the type of membership, collective or individual will strongly influence the sharing patterns of knowledge in an organisation.

Li (2010) identified three major national culture-related differences between Chinese and American groups that influenced participants knowledge sharing: language, different thinking logic, and different levels of perceived credibility.

Bagat et.al (2002) argue that an individual's cognitive style is significantly influenced by their collective or individualist national culture. They state that people in an individualist society tend to adopt the "analytic" mode of thinking, taking information one piece at a time for its unique contribution to knowledge, while collectivists tend to have a "holistic" mode of thinking and like to analyse the entire spectrum of information (p. 215).

Li (2010) found that these different cognitive styles showed, in her study of virtual knowledge sharing, that context was more important to those from a collectivist society, than those from an individualist society. The collectivists hesitated to borrow knowledge accumulated from a different context as they placed high weight on context when interpreting knowledge. In contrast those from individualist societies felt that different working contexts made knowledge sharing a necessary and rewarding task (p.45)

#### 2.7.5 The Dynamic Paradigm

Fang (2012) states that a dynamic paradigm of culture is emerging with perspectives including negotiated culture (Brannen & Salk, 2000) and multiple culture identity (Sackman and Phillips, 2004). Brannen (2009) describes culture as a group-level phenomenon enacted at an individual level and that issues that trigger culture negotiation become the catalysts for change and from this, a negotiated culture will emerge. Klausen's (2007) study of Danish company and its alliance partner in the Japanese market describes cultural outcomes as not determined a priori but rather a new culture was 'seen' to emerge based on ongoing communication, learning and knowledge acquisition by global managers. And that negotiated culture is not simply the result of 'one plus one', nor is it possible to place on a continuum between the two original cultures, rather the outcome contains features of both the headquarters and the alliance partner, as well as some aspects of its own idiosyncratic making.

Leung et.al (2005) states that an important implication of this dynamic view of culture is that cultural changes are more frequent than previously assumed and that culture entails much more than cultural

dimensions, and culture manifests itself in many levels and domains. Some cultural elements are stable, whereas others are dynamic and changing (p.374).

Fang (2005) offers an 'ocean' metaphor to describe the fluid dynamic nature of cultural, he contrasts this to the bipolar, dimensional 'onion' metaphor which he argues has been used to describe culture to the decades since the 1980's. Using this metaphor, he describes how that, at any given point in time, some cultural values may become more salient, while other cultural values may temporarily lie dormant to be awakened by conditioning factors at some future time.

Despite the relative infancy of the dynamic paradigm, it does seem more suited to a world of networked businesses where different culture interacts and collaborate much more than in previous generations. It also seems a better framework in which to analyse the cultural differences in a network where at least two members have lived and worked overseas for extended periods of time, and at least two of the business have trade globally for most of their existence.

#### 2.7.6 Ameliorating Issues of Culture

There is a body of prior research (Schneider and DeMeyer, 1991; Dimitratosa, 2010; Mussoa and Francionib, 2012) to indicate that national culture is likely to influence both long and short term decisions, actions and responses to issues within the network. A number of researchers have suggested that familiarity among partners develops trust in a collaboration, (Gulati, 1995; Noteboon, 2008; Krishnan, 2006; Sako,1992; Shapiro et.al, 1992). Trust among partners is considered to be a significant mediating factor when working in collaborative alliances (Sargeant and William, 2004: Krishnan et.al. 2006). Much of the literature discusses teams, both real and virtual, and the majority of the members of these teams are not high-level decision makers, they have been placed in a cross-cultural team by virtue of their position within the company and have little choice but to cooperate. It is also likely that for some of the members of these teams have had limited, if any, cross-cultural exposure before participating in these teams. In contrast the members of the network at the centre of this study are senior managers, directors and owners of the companies involved, and all had previous experience, some extensive and some limited, of working cross culturally prior to their involvement in the network.

In contrast relationships developed between the individual companies prior to the formation of the network; The brand holder is a distributor of the tanning consumable manufactured by the US distributor; The US distributor is the sole US outlet for the brand holders booths; The automation

supplier has been the sole UK distributor for the automation manufacturer since 2006; The booth manufacturer and the brand holder worked together on the development of the first semi-automatic booth; The booth manufacturers has been a customer of the automation supplier since 2009. It is considered that these relationships and experience will act as knowledge base to ease cultural challenges that may occur during the journey.

### 2.7.7 Organisational Culture

In addition to national culture, we should also consider how organisational culture influence the decisions made in a collaborative entrepreneurial network.

Schein (1985) categorises organisational culture using three dimensions:

- Assumptions
- Value
- Artefacts

Schein considers that fundamental assumptions are at the core of organisational culture and accordingly he defines it as:

A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein 1992, p12).

Harrison and Stokes (1992) define the four dimensions of organisational culture as follows:

- Power dimension: Describes an organisational culture that is based on inequality of access to resources. It has a single source of power from which rays of influence spread throughout the organisation. This means that power is centralised, and organisational members are connected to the centre by functional and specialist strings.
- Role dimension: This type of culture focuses mainly on job description and specialisation. In other words, work is controlled by procedures and rules that underlie the job description, which is more important than the person who fills the position.

- Achievement dimension: This often refers to a task culture, which entails organisational members focusing on realising the set purpose and goals of the organisation. The main strategic objective of this culture is to bring the right people together, in order to achieve the organisational goals.
- Support dimension: Describes an organisational climate that is based on mutual trust between the individual and the organisation. A support-oriented organisation exists solely for the individuals who comprise it, and may be represented diagrammatically as a cluster in which no individual dominates

The organisational culture of a firm is influenced by the values and character of the founder or founding group, and this will permeate through the firm as long as they have a direct influence on the day-to-day operations of the firm. Within small and micro business, the culture of the founder is, due to size, more pervasive, Schein (1983) argues that family founders have a significantly influential role in the development, and on-going maintenance of an organisation's vision and culture can be seen in many companies that evolve beyond family control.

Handy (1992) describes power culture as the dominant organisational culture among small business and those headed by entrepreneurs.

Laforet (2016) argues that if a small business founder is so influential then their culture could play a major role in defining the firm's innovativeness (p.6). Krause et.al (2012) state that a small firm's reduced reliance on formal control and coordination may make them more efficient innovators than non-family firms. Valencia et al (2010) also found that product innovation is stimulated by an organizational culture that embraces external and flexible orientation.

Vakokari et.al (2007) state that knowledge creation and organizational learning are possible only if the organization's culture supports open knowledge distribution. Consequently, it has been argued that networks of SMEs are specific because the only shareholder and managing director of an SME are often the same person. That allows each partner to maintain its independence and often to implement its own decision-making processes as part of the network (Burlat et al., 2003, p. 400)

Unlike employees in an organisation that are directed to work in a team that spans the boundaries of the organisation, a network of small and micro business is more likely to be formed organically.

Ruef et.al (2003) state that homophily, the selection of others based on like characteristics (Lazarsfeld & Merton, 1954), is important to the structure of founding entrepreneurial teams and has its greatest impact on the composition of the group. Rhodes and Butler (2010) state that homophily is strongest in race and ethnic interactions, followed by divides in age, religion and gender. Lazar et.al (2020) argue that, small-world networks are inherently more homophilous, so it is not surprising that the resultant entrepreneurial teams would also be more homogenous.

The network at the centre of this study formed organically leveraging existing relationships, dictated by the context, rather than being a consequence of deliberate search (Sha et.al, 2019). These relationships although forming initially due to business needs, developed thorough shared values and aims.

The principle of a collaborative entrepreneurial network is to bring together a group of individuals with different skills to achieve an agreed aim. This is similar to the task culture of the achievement dimension proposed by Harrison and Stokes (1992). But it would be naive to assume that individuals that normally work within a power culture, that is ubiquitous in small and micro-business, would simply adopt a new organisational culture when they come together in a network with no lead company that could impose a culture upon it.

As discussed in section 2.3 the primary reason for business to collaborate was to fill resource holes, so it is assumed that there will be a degree of pragmatism among the individuals, and that the organisational culture of the network will not differ significantly from the cultures of the individual companies as these are directly influenced by the Individuals that make up the network.

Also, as with national culture discussed in the previous section the prior relationships and the homogenous nature of the group membership will be an ameliorating influence on issues that arise as the group navigates the various stage of its life cycle.

## 2.8 Contribution to Knowledge

The preceding section of this literature review have provided a comprehensive review of the current academic thinking relating to the key areas that influence the formation and facilitation of a collaborative entrepreneurial network.

It is a well-established fact that within the majority of modern economies the success of the small and increasingly the micro business sector is a vital bellwether for the success of the economy as a whole (Mutanda et.al, 2014: Houston and Reuschke, 2017) Networking and collaboration will become an important organisational strategy for small and micro businesses in a large number of business sectors. But as would be expected there is little consensus among academics as to how small and micro businesses should organise themselves to face the challenges ahead. Much of this debate has to do with the fact that small and micro firms do not engage with government and academic institutions as openly as larger firms do. This is in part due to time constraints, issues of trust and charging government policy, consider business link that was predominately tasked with offering consultants at a fraction of their normal cost to help smaller business, which ceased operations in 2012.

As Kelliher (2010) concluded, network involvement and cooperative learning boosts confidence among small business owners that they can compete with larger organisations and it is widely accepted that filling competence, knowledge and skills gaps is a major driver of collaboration among small and micro businesses.

News feeds place the charismatic entrepreneur at the front of technical and economic innovation and examples such as Steve Jobs as a technical innovator and Jeff Bezos as a business model and market innovator are well known. There is much discussion regarding the definition of an entrepreneur, from, “anyone who starts their own business” to “ someone who has developed a new idea and changed the market” and many in society see the entrepreneur as the likes of Richard Branson or James Dyson and consider entrepreneurs as a businessman who has an idea and once a business is established they move on the next new idea, this is of course true and many entrepreneurs fit this image, but there are thousands of small and micro business owners who develop new ways of doing business or introduce a product or service into a local area and it is clear that these individuals satisfy the three dimensions Miller (1983) conceptualised for Entrepreneurial Orientation, innovations, risk taking and proactiveness.

The literature often portrays the entrepreneur as a “lone wolf” and there are limited examples that place the entrepreneur in a collaborative community with other likeminded individuals helping to develop products and services from which he/she will not directly benefit either financially or personally.



The literature relating to Interfirm alliances and collaborative entrepreneurship are central to this research project as they frame the position of the network at the centre of the study, within the boundaries of current knowledge. There are two primary models of interfirm alliance which, despite tectonic shifts in global markets in the last 30 years still dominate the literature, namely, clusters and supply chains.

Traditional supply chains are based on a relatively simple transactional relationship between a manufacturer with a product and a distributor/stockist/retailer with access to a market or between manufacturer and suppliers of subcomponents. Price and minimum order quantities are negotiated, and the relationship would commence with limited communication between the parties at a product development level. However, as Zacharia et al. (2009) argues, due to changing market conditions and drivers, collaboration has become a critical component for the smooth functioning of an efficient supply chain. These collaborations, especially those among SMEs are traditionally developed through informal networks and are as a result of not all activities being end to end (Biwas et.al 2007) and that the outsourcing of various activities requires networking and some form of sharing. However, these forms of collaborative supply chain are still based on the premise of Adobor's (2006) individual firm initiated cooperation, survive as long as there remains a dominant organisation that is purchasing or supplying services and products to/from other members of the network and rarely innovate throughout the whole of the network.

Clusters, as Porter (1998) argued, increase productivity in the cluster companies by driving innovation in the field and stimulating new business creation. There are clearly some empirical success stories to support clusters as a source of innovation, Silicon Valley USA, Digital Media City Korea etc, but it can also be argued that the localised competition for staff leads to wage inflation and that high property prices will eventually lead to only the strongest companies surviving. Also, clusters based on government initiatives rather than around local knowledge pools, such as Birmingham's Jewellery Quarter or a natural resource, Aberdeen's oil industry, will overtime become diluted as political support wains and incentives reduce.

The network at the centre of this study began life as traditional supply chain. The brand holder (as referenced in the introductory chapter) developed a product and they purchased components from the automation supplier and services from the booth manufacturer. The booth manufacturer also purchased products for the automation supplier which were used in products sold to the brand holder. As discussed in the introduction there was a desire within the network to move towards a more

collaborative form or working but it was considered that a suitable framework did not exist which suited the requirements of the parties involved at that time.

The collaborative entrepreneurial model developed by Miles et.al (2005) goes beyond both traditional interfirm alliance models and the Open Innovation Model (Chesbrough, 2003) by being focussed on the creation of something of economic value out of new, jointly created ideas that emerge from the sharing of information and knowledge (Franco and Haase, 2013). The concept of this form of collaborative alliance appears to overcome issues of trust that based on current literature are significant barriers to innovation in other forms of alliances. Collaborative entrepreneurship also, in principle, allows for innovation throughout the network leading to continuous innovation not held back by issues within specific markets as it does not rely, as supply chains and clusters normally do, on networks that consist of companies active in similar industry sectors.

The transformation of a supply chain to a collaborative entrepreneurial network is an important area where this research study will contribute to current knowledge. Miles et.al (2009) offer Blade.org a now closed organisation formed from an alliance of IBM and Intel as an example of their model and it is clear that it satisfies the fundamental requirements of the model, in that for the period of its existence innovation did happen both collaboratively and independently based on the knowledge sharing process among the 100 + member firms. But the network was formed by market leading large organisations and given its relatively short lifetime it could be argued that despite the commercial activities it acted more like a community of practice by bringing together industry specialists to share knowledge with the aim of pushing existing technology forward. The work of Pohopien (2013) among the food truck owners of Los Angeles, Orange and San Bernardino counties California, offers a more relevant insight into the model for this study as it does not involve the formation of a separate legal entity to manage the innovation, instead the owner's collaboration was self-instigated out of a need to remain competitive in a fast-moving market.

Where the scenario of this study differs from the two mentioned is in the disparate nature of the business involved in the network. The markets served, from a product viewpoint, by the booth manufacturer and automation supplier differ in the geographical spread with the booth manufacturer trading globally and the automation supplier focussed predominately on the UK. The products and services offered by the brand holder are in a health and beauty sector whereas the other three companies are active in the automation and control market. The booth manufacturer while being active in the same market segment as the automation supplier and automation manufacturer is predominately a service company.

This will bring challenges in aspects of knowledge transfer as individuals within the network attempt to gain an understanding of the specific requirements and drivers of the different markets served by the network companies. The issue of trust where knowledge is concerned was a central theme of much of the literature reviewed in this chapter. In an increasingly knowledge led economy the knowledge gained by an individual during years of work experience is increasingly the currency by which they define themselves and where it positions them in the fluid hierarchy of a network. It is therefore essential that the facilitation of the network as it transforms, considers the importance the individual places on their own knowledge and develops a method of transferring it among the other members of the network and ensures that this is seen as an equitable process for the benefit of the network as a whole.

There are numerous models of facilitation which use both internal and external actors. Antoldi et al (2011) argues that a facilitator in a network is the only actor that is directly connected to each other member and to some degree this has been seen within the network at the centre of this study when it existed as a supply chain. My role within the network (before starting the research) was at times acting as a conduit for ideas between the brand holder and the booth manufacturer. This was mainly due to me joining the network after a relationship had been developed between the individuals within the companies and as I was considered to have specific product skills and a more conciliatory tone it enabled specific issues between these companies to be dealt with. This role is one that is normally adopted by an external facilitator who then begins to retreat as relationships improve. But as a member of the network and given my personal financial interest in the future success of the network, retreating is not an option. It would therefore seem that collaborative entrepreneurial networks are best facilitated internally by an individual who is as committed to the success of the venture as other members. However, the majority of the literature that discusses facilitation in networks suggests that they are best served by external facilitation, value networks, learning network and communities of practice all, according to the literature, benefit from an external expert that can offer, management skills, infrastructure, training and other forms of support. And literature that address internal facilitation such as change agents and product/process champions rarely discusses networks, which is in parts, especially in respect of change agents, due to the management sponsoring of these roles as they attempt to convince and maybe coerce the workforce.

A CE network differs from all other forms of interfirm alliance by virtue of the fact that it is focussed on continuous innovation that will not be limited to one specific market but will cross market

boundaries and occur in all the market segments the companies within the network are active in. Also, within the network there is not a natural hierarchy, such as in networks that consist of a dominant company that pulls in other companies to fill resource gaps or supply chains with companies playing a subservient manufacturing role to a larger partner, and as such leadership roles will be fluid and dependant on specific activities during the innovation life cycle.

The structure of a CE network and specifically the structure of the CE network at the centre of this study will mean that during its formation and throughout it life cycle, unique issues will arise and the method of facilitation required will offer unique insights into both the business model, knowledge management and facilitation. This, as one of the first studies of its kind, is the area where it will contribute most to current academic knowledge as it attempts to develop an interpretive model of facilitation in a collaborative entrepreneurial network to manage knowledge, foster trust and produce long term success and continuous facilitation.

# Chapter 3

## Methodology

### Chapter 3: Methodology

The preceding chapters have described the rationale behind the research, introduced the subjects of the study and laid out the literature that will inform the data collection and analysis. Having justified facilitating collaborative entrepreneurship within an SME network as a credible and under researched area it is now important to consider the methodological approach best suited for the study.

Bryman (2001) suggests that in order to address a research question the researcher must devise a general orientation to the conduct of social research. Therefore, this chapter will clarify the selection of the research methodology. The selection of the unit of analysis is implicit in the researcher's own activity within the network so the key discussion in this chapter will be the rationale for the selection of the methodology and the methods selected for data collection and analysis.

This chapter discusses the interrelated issues of methodology, ontology and epistemology tackled by the researcher while in the process of selecting and internally justifying the research methods. The journey taken by the researcher to find an epistemological and ontological position that sits most comfortably with his own beliefs and values will be documented in this chapter.

In addition to the philosophical rationale the more practical issues of research design, strategies employed in the field for data collection and an explanation of how data was analysed and interpreted will be a major component of this chapter.

The chapter will conclude with reflections on the decisions made based on issues raised during the fieldwork stage of the project.

#### 3.1 Paradigms of Research

“A paradigm may be viewed as a set of *basic beliefs* ... that deals with ultimate's or first principles. It represents a *worldview* that defines for its holder, the nature of the “world”, the individual's place in it, and the range of possible relationships to that world and its parts ... The beliefs are basic in the sense that they must be accepted simply on faith (however well argued); there is no way to establish their ultimate truthfulness. If there were, the philosophical debates ... would have been resolved millennia ago.”

(Guba and Lincoln, 1994)

Henning *et al* (2004) ground their definition of a paradigm in the world of the social scientist when they describe it as a framework within which theories are built, that fundamentally influences how the researcher sees the world, determines the researcher’s perspective, and shapes the understanding of how things are connected. Holding a particular world view influences a researcher’s personal behaviour, professional practice, and ultimately the choice of both the research topic and the position the researcher takes in relation to it. Denzin and Lincoln (2000) define paradigms as human constructions, which deal with first principles or ultimate’s indicating where the researcher is coming from in order to construct meaning embedded in data

The widely referenced basic beliefs of alternative inquiry paradigms developed by Guba and Lincoln (1994) is used as a starting point for numerous discussions on methodology in academic papers and books focussed on organisational issues (Mir and Watson 2001, Cope 2001, Hosking 2007, Creswell 2012, Gill and Johnson 2010).

**Table 2 Basic Beliefs Associated with the Major Paradigms**

<b>Item</b>	<b>Positivism</b>	<b>Post Positivism</b>	<b>Critical Theory</b>	<b>Constructivism</b>
Ontology	naïve realism	critical realism	historical realism	relativism
Epistemology	dualist/objective	modified objectivist	dualist/ subjectivist	transactional/ subjectivist
Methodology	experiment/ manipulative	modified experimental/ manipulative	dialogic/ dialectical	Hermeneutical/ dialectical

Burrell and Morgan (1979) argue that to be located in a particular paradigm is to view the world in a specific way. Brannen (2005) suggest that a paradigm drives the researcher’s choice of methods based on ontological and epistemological assumptions which act as a frame of research for the research or researcher. Kivunjia (2017) describes a paradigm as the conceptual lens through which the researcher examines the methodological elements of their study to determine the research methods to be used and how the information will be analysed.

How a researcher views society and social relations have an inevitable influence on how a social science research study is conducted. There is an implicit or explicit choice regarding the philosophical perspective adopted for the study. Every researcher adopts an individual standpoint in relation to the philosophical assumptions concerning the ontology and epistemology of the research indicating that the research is underpinned by a choice of research paradigm and as previously mentioned this influences the approach to both data collection and analysis.

### 3.1.1 Constructionism

Heron and Bradbury (1997) describes positivism as confusing the given cosmos with the worldview it has generated to shape the given. It cannot see that the ground, on which it stands to frame its world, is its own creation. It thus tends toward immodesty, intolerance and the oppression of scientism (p.1). Constructivism is located at the opposite ending of the paradigm continuum and places the researcher in a space where, as Searle (1995) states, social facts do not exist in a world of physical objects but depend on human agreement that they exist and typically require human institutions for their existence.

The view of what is considered to be valid knowledge and what are suitable methods to collect and validate knowledge in the social constructionist paradigm is diametrical opposed to that of the positivist tradition. Robson (2002) posits that constructivist's researchers have grave difficulties with the notion of an objective reality which can be known.

Guba and Lincoln (1994) describe realities in the constructivist paradigm as apprehend-able in the form of multiple intangible mental constructions, local and specific in nature. The relativist ontology that defines the constructionist paradigm allows, as discussed earlier, for multiple constructions that Guba and Lincoln (1994) describe as not more or less true but more or less informed and/or sophisticated.

Burr (2003, p.4) suggest that from the social constructionist view point our knowledge of the world is not derived from the nature of the world as it really is but is constructed by the daily interactions of people and as such it is these social processes that sustain knowledge.

Ontologically constructivists contend that the only way to understand reality is as a social construction articulated as the result of human sense making and is thus interpretative in nature (Peters et.al, 2013). Guba and Lincoln (1994) label constructivist ontology as relativist describing realities as taking



the form of social and experientially based and dependant for their form and content on the person who holds them.

Epistemologically the constructivist paradigm rests on the assumption that people construct meaning actively within situated contexts of social interaction, involving a complex range of factors such as language, history and ideology (Levy, 2003). Mir and Watson describe the epistemological assumptions of the constructivist paradigm as non-positivist and that for the constructivist researcher rules and principles do not exist independently of our theorizing about them. The constructivist does not question the existence of a phenomena, but rather our ability to understand them without a specific theory of knowledge (Peters et.al, 2103)

The ontological and epistemological assumptions attached to the paradigm leads to it, as Burr (2003) states, being primarily involved in the generation or a theory using qualitative methods including conversation analysis, discursive psychology interpretive repertoires and Foucauldian discourse analysis.

Creswell (2007) suggest that in addition to the ontological, epistemological and methodological questions the qualitative researcher considers an axiological and rhetorical stance. These additional questions allow the researcher to approach issues of value and language that are considered to be a fundamental difference between research in the natural and social sciences. The axiological question allows the research to address the role of values in data collection and analysis. The implication for practice can include the researcher discussing his/her value that shape the narrative and include their own interpretation and the interpretation of participants. The rhetorical question address issues of language in the thesis including the use of informal terms and the personal voice.

Business research is a broad field and there is a place for a wide range of philosophical approaches. Managan et.al (2004) state that the majority of logistic research is primarily populated by quantitative research viewed through a positivist lens. Perry et.al (1999) state that the realist paradigm is suitable for researching complex social phenomena in market research, about business networks and international business because of the nature of its reality, the required relationship between reality and the researcher and the related methodologies. Godfrey and Hill (1995) argue that unobservable constructs lie at the core strategic management theories and that a realist approach is best suited to the study of these constructs. Bruyant and Julien (2000) argue that the classical positivist paradigm and constructivism exist side by side in the field of strategic management, but that positivism is only

useful for areas concerned with small changes and that in areas of complexity, such as entrepreneurship, constructivism is better equipped for the methodological challenges that arise.

This research study has at its heart an organisational transformation from that of the traditional supply chain to a collaborative network to foster innovation. This is clearly a complex phenomenon and as such is best served by a paradigm towards the constructivist end of the philosophical continuum, with methodological flexibility that can both capture and analyses the nuance of language and behaviour among the network members and also accommodate the unique position of the researcher.

### 3.1.2 Constructionism and Strategy Research

There is much debate regarding the suitability of constructionism for strategic management studies. Mir and Watson (2000,2001) Kwang and Tsang (2001) were at the forefront of this discussion and have subsequently been widely referenced (Peters et.al 2013, Levy 2003, Cameron and Molin-Azorin 2010).

In describing the use of realism in strategic management studies Mir and Watson (1999) outline what they consider to be its important underlying principles (p.944).

- the best theories are those that are close to the truth.
- the truth of a theory explains (and is the only explanation of) its predictive validity.
- we are moving progressively toward a true account of the phenomena
- the claims made by any theory are either true or false
- only through the deployment of a 'reason' can a theory be proved or refuted.

They argue that the realist paradigm has been the dominant one in the field of strategy research and that many of the theories of the firm that have significantly influenced strategic management research are based on realist assumptions. They highlight transaction cost economics where, they claim, unobservable constructs such as opportunism are used to explain the existence of firms and agency theory, which is predicted on the observability of the choices made by agents as well as the observability of the utility functions of the principles and agents. They compare this to the constructivist traditions in which the strategic manager is an actor rather than a processor or reactor and is an active participant in the construction of his/her own environment.

They conclude that constructivist methodologies work at the level of assumptions rather than at the level of technique and that strategic management research is a public social process, and that knowledge is the product of intersubjective relations between members of research communities. They further claim that strategic management research, if conducted from a constructivist perspective

could offer several innovative insights for theorists and managers and have the effect of linking theory to context and answer important questions about the applicability of past theories to present situations.

Kwan and Tsang (2001) contend that Mir and Watson's (2000) discussion is fundamentally flawed due to an inadequate understanding of realism (p.1165). They state that Mir and Watson fail to distinguish between different kinds of realism and argue that it is important to distinguish a dogmatic realist from a critical realist. They contend that although both believe that theories can be true or false and rigorous scientific research can move us progressively towards a true account of phenomena, the critical realist believes that verification and falsification are never conclusive, so critical testing of theories needs to be carried out continuously. They conclude that they find some of Mir and Watson suggestions commendable (p.1167) particular the suggestion that as long as researchers are transparent about their a priori theoretical position, the process of research is not impeded, and that theory and practice are fundamentally linked. However, they do argue that in fact both of these points are not particularly constructivist and have much in common with a critical realist approach.

The final salvo in this tussle (Mir and Watson 2001) takes a conciliatory tone and attempts to develop a synthesis between critical realism and constructivism. They begin by clearly stating that they do not consider their argument for constructionism can be subsumed under the postulate of critical realism (p.1169). They offer the fact that critical realist subscribes to the notion that the inherent order of things is mind independent and that constructivists attribute structure to the generative (and therefore constructivist) act of researchers and theorists. They argue that although the two approaches are compatible, they are not interchangeable and although they agree that critical realism is an important perspective for strategy research, constructivism offers different insight into the strategy process and enriches strategy research in different ways that than the critical realist perspective (p.1173)

This academic exchange highlights the different view of academics working in the same field of research and proves that attempting to claim that one paradigm is better suited than any other to a particular field of research is fraught with problems. Powell (2002) argues that strategy is an experiential arena where philosophy matters, and strategy research is beginning to recognize this connection. If this is the case, then it is clear that the exchange of views will continue.

As Mir and Watson state, the adoption of a specific theory or methodology is no guarantor of research quality and a good theory must be clear about its assumptions, rigorous about its methodologies and circumspect about the generalizability of its findings (p.1173). It is therefore the responsibility of the research to ensure that the philosophical paradigm adopted suits both the subject area of the research and the researchers.

In conclusion the key inference drawn from this exchange is that while the realist approach to strategic management research views those involved in the research as subjects of research the constructivist approach view them as active participants in the construction of their own environment, in what Mir and Watson describe as a public social process in which knowledge is the product of intersubjective relations between members of research communities. This would appear to make the constructivist paradigm highly suitable for an action research project in a collaborative network. However, the position of the researcher as a network member with a vested interest in not only the success of the research project but also the commercial sustainability of the network makes a further paradigm that shares the constructivist quality of self-reflexivity worthy of further investigation.

### 3.2 Qualitative Methodology

Deshpande (1983) argues that there exist two broad, distinct paradigms within social science inquiry, the 'quantitative' and the 'qualitative. Guba and Lincoln (1994) describe the rise of more qualitative, interpretive methods that complement a commitment to a more constructivist paradigm as a purposeful rejection of positivist methods that focus on quantitative empirical research. In a similar vein Morgan and Smircich (1980) describe the case for qualitative research in social science as beginning when a researcher departs from the objectivist extreme of a subjective-objective continuum.

Edmondson and McManus (2007) describe the complexity of the topics studied by management scholars as a factor in their decisions to employ an array of quantitative or qualitative data collection methods and analytical techniques. And that the decision to approach a study quantitatively or qualitatively depends on the research question that drive the study and the desired contribution to knowledge the researcher wishes to make.

Knock et.al (2008) compare quantitative and qualitative methods when describing quantitative as using standardized measures that fit diverse opinions and experiences into predetermined response categories, measure the reaction of a large number of respondents and provides an outcome which is a broad, generalizable set of findings. In contrast qualitative methods produce a wealth of detailed

data about a smaller number of cases, through interaction and observation, which are collected as an open-ended narrative without attempting to fit the findings into predetermined standardized categories. Denzin and Lincoln (1994) state that, qualitative methods place an emphasis on processes and meanings that are not rigorously examined and are not interested in the measurement of quantity, frequency or intensity. As these descriptions imply qualitative methods are used in social science studies in which researchers are interested in, insight, discovery, and interpretation and not simply hypotheses testing.

### 3.3 Ethnography

Ethnography requires the researcher to be immersed in a setting and become part of the group under study in order to understand the phenomenon being studied (Easterby-Smith et al., 2008).

Erdem et.al (2011) expands on this by stating that, ethnographic research dedicates itself to creating a picture of how people progress their daily lives and form meaning out of their own interactions and surroundings.

Ethnography involves observation and conversation with people. No prior hypotheses are required or tested, but it certainly involves some research questions guiding the research (Vankatesh et.al.,2017).

In the organisational research context Watson (2011, p.202) states “ethnographies are often associated with specific writing, conventions and with thinking about organizations, in ways that aim to immerse the researcher and the reader into the field and show ‘how things work’”.

Guang et.al (2015) state that ethnography characteristically uses direct observation of the subjects under study. These statements illustrate the anthropological roots of ethnography where the researcher is an outsider that is not aiming to influence the group under study, but to learn about the processes within it.

A variation of the participatory observation method is auto-ethnography (Marjanski, 2018). Doloriert and Sambrook (2012) state that auto-ethnography essentially means to write (research) about a nation (group of people) and the self (the researcher). Auto-ethnography is often seen as a social constructivism project rejecting the rooted dichotomy between the researcher and the studied (Marjanski, 2018).

Ethnography characteristically requires the researcher to spend an extended period in the field, learning about, in an organisational context, the people, rules and rituals that make up the organisational processes. Rapid ethnography defined as a type of ethnography where the fieldwork is undertaken in a short and well-defined timeline (Reeves et.al 2013) has been suggested by Ranabahu (2017) as a methodology to study entrepreneurship. This typically reduces the socialisation time by replacing the face-to-face rapport building process with email, voice and video call (Bains and Cunningham, 2013). By using similar methods for data collection following the socialisation period the researcher can take advantage of shorter periods in the field which suits the small business owner who does not have enough time for another person to hang around asking questions as they engage in a number of entrepreneurial activities (Mouly and Sankaran,2006)

The criticism of qualitative research, compromising generalisability, validity and reliability is also levelled at ethnography (Hoolachan, 2016). Puch (2012) states that social characteristics of the researcher, gender, age and ethnicity as well as issues of power differential, emotions and personal experiences all influence on the research process.

Unlike action research where the researcher is an active participant in the change process the study is designed to facilitate, the ethnographer is traditionally an outsider and as Gibson (2011) state they often have little in common with the participants in the study. A research study that has developed organically from a desire to change among the research participants, who are also the owners of the business involved in the network, is suited to a qualitative methodology that facilitates the change. Ethnography looks at the group and collects data to inform wider policy or knowledge whereas action research although adding to knowledge is predominately designed to help the group involved in the research and does this by empowering the participants to take ownership of the process of change.

For this reason and although many of the methods used in ethnography, observation, interview etc, will be used as primary data collection methods, action research is considered to be a more suitable methodology, as it will allow the group to work towards a collaborative learning organisation while providing space for reflection and modification of behaviour and processes based on lessons learned.

### 3.4 Action Research

Action research places the researcher at the heart of the organisational change, and both encourages and requires those involved in the research to be equal participants.

The origins of action research are widely but not solely attributed to the social emancipation work of Kurt Lewin 1940's America. Coghlan and Branick (2006 p.3) offer two definitions for action research, the first from Heron and Reason (2001 p.1) 'action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview. The second, which they describe as being more suited to action research when used by the practitioner/researcher within their own business is from Shani and Pasmore (1985 p.439);

*"Action research may be defined as an emergent inquiry process in which applied behavioural science knowledge is integrated with existing organizational knowledge and applied to solve real organizational problems. It is simultaneously concerned with bringing about change in organizations, in developing self-help competencies in organizational members and adding to scientific knowledge. Finally, it is an evolving process that is undertaken in a spirit of collaboration and co-inquiry."*

Somekh (2006) offers a definition that shares the organisational change context of Shani and Pasmore's and the spirit of democracy advocated by Reason and Bradbury

*"Action research is used as a means of implementing organizational change especially in complex social situations where the people whose lives or circumstances are being changed need to be involved in designing and implementing the change that affects them".*

Somekh (2006) further argues that action research methodology overcomes the limitations of traditional methodologies when researching situations, as change in organizations often does not take place as planned but using an action-reflection cycle helps to keep the implementation of change on track, as far as feasible, by involving the very people who will be affected by the change.

This research project has as its foundation a desire for change among the directors, owners and managers of three small business. This desire is not based on a feeling of unfairness or marginalisation within a workforce or social group but on a purely commercial need. The current market that the network is active within is dominated by large commercial entities that have multi-million-pound

marketing budgets and leverage products (tanning solution) to dominate sales of delivery systems (hand or automatic spray machines). Therefore, a definition of action research such as that offered by Shani and Passmore or Somekh is more in tune with the action process followed by the network as it navigates the organisational change, and the researcher, as he attempts to make sense of the data collected during the varied interactions of the network.

### 3.4.1. Types of Action Research

The literature highlights a number of different versions of action research which broadly focus on how the process is conducted and the outcome.

Appreciative Inquiry (AI) developed by Cooperrider & Srivastva (1987), described by Bushe and Marshak (2009) as one of the first post-Lewinian organisational development methods focuses on changing the culture of the organisational and is based on an initial set of four principles: Discovery: Dream: Desire: Delivery.

The purpose of these stages is to enable and empower, as Cooperrider and Whitney (2005) describe a co-evolutionary search for the best in people, their organizations, and the relevant world around them. Bushe (2009) describes AI as a method for studying and changing social systems, including organisations, that advocates collective inquiry into the best of what is, in order to imagine what could be, followed by collective design of a desired future state this is compelling and thus, does not require the use of incentive, coercion or persuasion for planned change to occur.

As a small business owner, the almost evangelical feel of AI does not always sit easy with my experience of how the change process is carried out in small organisations. However, some of the aspects of AI do appear to have relevance to the field of collaborative entrepreneurship. For the desired change to happen all parties need to be equally involved in the development of a future state, in which knowledge can be shared, without fear of individual power bases being undermined or ideas being used for individual personal gain, and where wealth is equally shared. It is also acknowledged that when applied to a small business environment, as opposed to an educational one, the Discovery, Dream and Desire components of the model can simply be renamed to something more suitable for the setting

Cooperative Inquiry is described by Heron and Reason (2001) as research 'with' rather than 'on' people. They describe it as a way to enable ordinary people to develop their own ideas and to work in a co-operative inquiry group to see if these ideas make sense of their world and work in practice.



They outline the process of collaborative inquiry as cycling through phases of reflection and action.

Phase 1: Group discussion to agree on the focus of inquiry and develop a set of questions or proposals it wishes to explore.

Phase 2: The group applies actions in their everyday work with members observing and recording the outcome of their own and each other's behaviour

Phase 3: The group members as co-researchers become fully immersed in their experience. They may deepen into the experience or they may be led away from the original ideas and proposals into new fields, unpredicted action and creative insights

Phase 4: After an agreed period engaged in phases two and three, the co-researchers reassemble to consider their original questions in the light of their experience.

**(adapted from Coghlan and Branick, 2006)**

Baldwin (2002) states that using co-operative inquiry is useful for researching professional practice and organizations because it locates the meaning of experience with those involved, rather than with the researcher and that ownership of learning from the inquiry is also with those involved, who have the opportunity to learn from their investigation and transform their practice. He continues that the collaborative, participative nature of co-operative inquiry has a particular advantage for groups of investigators wanting to engage in a change process. Unlike traditional research that relies on a researcher using their skills to capture what is owned by the practitioner and make it their own, making change difficult as the practitioner does not feel they have ownership of the change process. In contrast co-operative inquiry starts with a participative premise and is therefore a method that is likely to facilitate change in practice (p.226)

Action Science is defined by Argyris et.al (1985) as an inquiry into social practice, broadly defined, and it is interested in producing knowledge in the service of such practice. Argyris and Schon (1989) describe action science as sharing the values and strategy of participatory action research but placing emphasis on the spontaneous, tacit theories-in use that participants bring to practice and research. Senge (1990) describes action science as a body of theory and methods for reflection and inquiry on the reasoning that underlies our actions and that the tools of action science are designed to be effective in organisations especially in dealing with organisational problems (p.182).

Argyris (1995) describes action science research interventions in terms of consultant and client when he discusses discovering how those in organisations use defensive reasoning when dealing with embarrassing or threatening issues, the rules they have in their heads that keep them unaware of the discrepancies among their espoused values, their actions and their theories-in-use. There are two

issues that immediately come to mind when considering action science as a suitable method for this research project.

The first is the consultant/client nature of action science which requires an outsider to begin an intervention by looking at the actions of the organisation and compare them to the governing values of the Model I theories-in-use or by looking at the defensive mechanisms in place within the organisation. This is clearly more suited to cases where organisational change is instigated by senior management and not as applicable to cases where the desire to change is instigated by the members of a collaborative network.

The second is at a methodological level. Argyris (1995) states that the methodology of action science must provide propositions that are generalizable to many cases and the individual cases. The underlying philosophical rationale for this project is that of participative inquiry and as this is placed firmly toward the constructivist end of the philosophical continuum and action science with the need to be generalizable sits more towards the positivist end.

Action Learning is described by Garratt (2011) as a process for the reform of organisations and the liberation of human visions within organisations. He describes the process as one of taking one or more crucial organisational problems and, in real time, analysing their dynamics; implementing proposed solutions derived from the constructive criticism of colleagues; monitoring results; and through being held responsible for these actions learning from the results so that future problem solving and opportunity taking is improved.

Garratt (2011) makes two comments regarding action learning that are particularly relevant to this research project. First, he describes it as powerful process or organisational reform that involves the devolution of powers, and the recasting of managerial roles and that it is essential that the present holders of organisational power understand both logically and emotionally what is likely to happen in their own back yard if they use this process (p.16). For collaborative entrepreneurship to succeed all members of the network need to be feel they are equal and that issues of power are put to one side so that discussions can be held in an open and democratic atmosphere.

The second comment describes action learning as most effective when used to confront organisational problems rather than technical puzzles, and that for a system or organisational learning to be developed it is essential that top management accept there are no cut and dried answers to common

organisational problems, and that different social history, personalities and organisational culture will determine the boundaries of resources and values within which any possible solutions lie (p.18). Within the specific context of the network that is at the centre of this research project the individual members bring to the table different values, beliefs, and ways of doing business and as Garratt argues these are considered in properly structured action learning, as a key component of the organisational learning process.

In a review of 21 action learning projects conducted between 1999 and 2009 Leonard and Marquardt (2010) concluded that action learning.

- Develops broad executive and managerial leadership skill
- Is particularly effective in developing collaborative/shared leadership skill
- Improves the ability of managers to develop integrative, win/win solutions in conflict situations.
- Improves manager coaching skills.

Two of the papers included in this review are of particular interest to this study of collaborative entrepreneurship.

The first, *Entrepreneurial learning through action: a case study of the Six-Squared program* (Pittaway et.al, 2009), explores the role of action in entrepreneurial learning and illustrates how programs designed to support action learning can enhance management development in entrepreneurial businesses. This paper describes an application of the Six-Squared action learning set program developed by the University of Sheffield. The main method of this program was to encourage peer-to-peer learning and includes both peer to peer mentoring to enhance one-on-one discussions about actions being carried out, an exchange element where set meetings were hosted by entrepreneurs with a commitment between peer members to spend time with each other's businesses to help resolve a jointly negotiated problem, and a commitment from the participants to become action learning set facilitator after they had been involved in a set. The authors conclude that action learning sets as a form of management development for entrepreneur's work. They suggest that this is predominantly due to the role of action learning in providing a focus on a problem and action to address a problem and that time spent focussing the problem on a business need has a direct value for the business.

The second, Meeting the development needs of owner managed small enterprise: a discussion of the centrality of action learning (Gibb,2009), explores the role that action learning might play in micro and small enterprise development. it discusses the impact of personal values, ways of doing things on learning and institutional factors that stand in the way of effective approaches to owner manager learning. The main focus of this paper is how the facilitator of learning engages with the SME and it argues that the “Ways of Doing”, “Ways of Thinking” and “Ways of Felling” are intimately linked and reflect the values and beliefs of the owner and that the facilitator will require strong emotional intelligence to understand the value of small business owners and how they affect attitudes to learning.

As with action science, action learning is based on expert facilitation and interventions from an outsider. It is noticeable that there is a significant body of literature giving examples of action learning projects in an organisational setting, which at first site would seem to make the method suitable for a project looking at organisational change. However, a closer look at the 21 papers reviewed by Leonard and Marquardt (2010) reveals that the majority of these were facilitated directly by university-based academics or predicated on the testing of training methods developed in universities. For these reasons action learning is not considered, by the researcher, a suitable method for this particular action research project which is facilitated by an insider.

Despite my early reservations regarding the evangelical feel of the language of AI, I am also not comfortable, in respect of this research project, with the emancipatory language often associated with cooperative inquiry, which Reason (1994) describes as having its roots in the idea that persons can, with help, choose how they live their lives free from the distress of early conditioning and restrictive social custom.

In contrast AI takes an approach to change that can be adapted to fit the issue at hand. Bushe & Cotzer (2007) proposes that AI works differently in pre-identity, one where the majority of members do not identify with the system and post-identity, one where the majority of members do identify with the system. Pre-identity systems include appreciative inquires that, like the subject of this study, bring together members of different groups to launch new organisations. They describe pre-identity systems as having very little sense of psychological membership and that members don't really care much about the system's needs. Bushe (2001) argues that the nature of the inquiry and the resulting “vision” must be different in these two types of groups and that pre-identity groups are best served by an inquiry into the group, organization, or society.

As detailed in the introduction to this study the network is at an embryonic stage and although the members are well known to each other it is a long way from a network where the members feel confident to share all information openly. Appreciative inquiry is considered as the most suitable form of action research to lead the network along the road to what will hopefully be a fully collaborative network in which information is shared, knowledge transferred and both innovation and wealth shared equally.

### 3.4.2 The Place of Reflection

Somekh (1995) describes reflection as the most important element in an action research project. Kemmis (1985) defines reflection as a dialectic process looking inward at our thoughts and thought process and outward at the situation in which we find ourselves, which orients us for further thought and action. In a similar vein Coghlan and Brannick (2006, p35) describe reflection as the process of stepping back from the experience to process what the experience means, with a view to planning further action and that reflection is the activity that integrates action and research. Bryant (1996) places reflection in the action research process when he discusses the spiral of an action research cycle and shows how reflection is used to achieve greater understanding, followed by further action and reflection, he concludes that reflection is intentional and grounded in the situation.

Critical reflection is a step beyond the process of reflecting to inform action, what Vince (2002) calls purely instrumental and overly individualised, and as Merizow (1990) advances occurs when we analyse and challenge the validity of our presuppositions and assess the appropriateness of our knowledge, understanding and beliefs given our present context. Reynolds (1998) describes the crucial distinction between reflection, which he describes as being primarily expressed as a key element of problem solving but pays little attention to contextual taken-for-granted- social, cultural and political which is the hallmark of critical reflection (p.183).

Through the process of critical reflection, adults come to interpret and create new knowledge and actions from their ordinary and sometimes extraordinary experiences. Critical reflection blends learning through experience with theoretical and technical learning to form new knowledge constructions and new behaviours or insights (Rigg and Trehan, 2008:376). Critical reflection is not simply about looking at what happened, attempting to find out why it happened and using this as a lesson for future action. It is about the researcher looking at themselves and understanding how their actions, whether conscious or sub-conscious have influenced those around them, changing actions of the group or influencing the data collection or data analysis.

Fook and Gardner (2007) developed a model of critical reflection that uses a two-stage process conducted over three sessions. The model proposes a method of deconstructing and understanding assumptions about practice, and then considering different ways to reconstruct the incident with other possible outcomes.

Reynolds and Vince (2004) argue that it is necessary to, in an organisational setting, develop ways to think about learning and reflection as a collective rather than a primarily individual process. They posit that taking account of social and political processes has not been given as much attention as it deserves in studies of learning and reflection and that not only has reflection been thought of as primarily an individual activity, but also experience – the focus for reflection- has been cast in a way which takes insufficient account of its social, organizational, and cultural nature (p.5).

Fook and Gardner (2007) state that one of the advantages of using critical reflection in groups or mutual peer partnerships, such as the network discussed in this project, is that the members may find common experiences and begin to see these as collective or organisational issues rather than or as well as personal ones, which may lead to the development of a team learning culture.

Both Fook and Gardner (2007) and Rigg and Trehan (2008) propose the holding of critical reflection sessions and workshops or the use of action learning sets with facilitation to encourage critical reflection. However, I feel that these are similar to the project debriefs that are conducted by many organisations either formally or informally, over a drink or meal. In my opinion adding a formal critical reflection element to these is likely to discourage some members from being fully open in their exchanges, I do however consider it important for me to adopt a critical approach to my data collection at these times and this will be achieved via the use of the field diaries that will be discussed later.

In addition to network critical reflection my personal critical reflection is crucial to ensure academic rigour. My position in the project means that I want the network to succeed for both commercial and academic reasons, however I also have to ensure that my own business remains profitable, and I have to acknowledge the possibility that, during the course of the project, the best interests of my company will be best served by withdrawing from the network.

There are a number of tools suggested to facilitate personal critical reflection, including, storytelling, blogging and reflective journals, (Yang, 2009, Boje, 1991, Grey 2006, Bolton, 2001). The nature of the network and the fact that at times my own reflection may have a corrosive impact on network

cohesion means that storytelling within the network is not suitable, although it will be considered among those involved outside of the network, such as my supervisory team. Blogging is basically modern-day storytelling and despite initial reservations I feel that it will enable me to share my reflections, in a broadly anonymous manner, with the wider academic community as such it may act as a cathartic outlet and could yield some useful feedback.

### 3.4.3 Reflexivity and the Participant Researcher

McGee (2002) states that reflexivity differs from reflection in that it is not only a process for making sense of an experience but is an entire attitude, a state of mind. Alvesson and Skóldberg (2009) distinguish between them, conceiving 'reflexive empirical research ... as a particular, specified version of reflective research, involving reflection on several levels or directed at several themes' (p.8). Charmaz (2006) proposes that under the mantle of constructivism, a grounded theorist positions themselves within a reflexive framework; thereby making transparent how they render their own reality and how they position themselves within that reality.

Understanding one's place in the social structure and to shift this (Malthouse, Roffey-Barentsen, and Watts 2014), can be achieved through reflexivity. Sol et.al (2018) describe this as agency, the ability to position oneself within the broader social and organisational context and create change or exert power (p.1388). Corlett and Mavin (2018) argue that reflexivity is always a self-monitoring of, and a self-responding to, our thoughts, feelings and actions as we engage in research projects.

In an action research study, where the researcher is an active participant not only in the research but also in the organisational change that the activity is focused on bringing about, issues of subjectivity and bias will inevitably arise. Jootun et.al (2009) argue that this is due to the interpretation of the participants behaviour being influenced by the researcher own value, experience and interests. To mitigate the effect this has on both the data and the processes within the group they argue that reflexivity contributes to making the research process open and transparent.

As a participant researcher I have a vested interest in the outcome of the collaboration from a financial viewpoint, as the success of the collaboration will have a positive impact on the future of my business which is directly linked to my family's financial security. I also have a personal interest in maintaining the collaboration long enough for sufficient data to be collected to achieve my academic goals. It is probable that the biases inherent in my personal interest will lead to questions from other

members of the network as to the reason for my action or response to issues during the collaboration and from academic stakeholders as I present my data. Being reflexive and acknowledging these biases in relation to both research and business decisions can, as Sol et al (2018) concluded, act as a sort of lubricant in the dynamics of learning, fostering trust, commitment, and a reframing of the learning process.

The benefits of reflexivity are, according to Pugh (2011), that an experience become transformative as it involves the expansion of one's perception of the world. This is important to this study, which is fundamentally transformative, as for the collaboration to succeed there needs to be a change in mind set, from looking after yourself to working for the greater good, leading to long term personal benefit.

Reflexive practice in a network such as the one at the centre of the study will focus on understanding how my individual actions as both a researcher and a network participant will influence the process of the group. As a researcher, understanding that my interpretation of the data, while evidence based, is still loaded with personal bias does not only affect the quality of the research findings but also have a potentially destabilising effect on the network.

From a business perspective the members of the network could justifiably ask if decisions I am making are based purely on my academic interest, while overlooking the business needs of the network. Equally from an academic perspective there could be questions raised regarding if the way I conducted myself while acting a participant in the collaboration were designed to generate data, did I throw in a bomb and stand back to see if something interesting would rise to the surface.

Watson's (1987) argues that being reflexive is structuring communicative products so that the audience assumes the producer, process and product are a coherent whole. Corlett and Mavin (2018) state that reflexivity is always a self-monitoring of, and a self-responding to, our thoughts, feelings and actions as we engage in research projects.

Openly communicating the academic competent of my involvement in the collaboration with the other members of the network will give me the opportunity to question myself as to the grounding for decisions made. Triangulating data by discussing issues with other members of the network while I am in the processes of interpreting the findings will also ensure issues of my own bias can be questioned by others which may lead to a more rounded analysis of the data and a more collaborative approach to the action research interventions.



#### 3.4.4 Participatory Inquiry Paradigm

Heron and Reason (1997) posit that where participatory inquiry worldviews differ from that of constructionism is in how it considers experiential knowing, knowing by acquaintance, by meeting, by felt participation in the presence of what is there. In their view constructionism is deficient in this respect whereas for participatory inquiry experiential knowing is a fundamental principle.

From an ontological perspective participatory inquiry adopts a subjective-objective stance which Heron and Reason describe as what can be known about the given cosmos is that it is always known as a subjectively articulated world, whose objectivity is relative to how it is shaped by the knower. This objectivity is relative to how it is inter-subjectively shaped by mutual participative awareness forged through participation in the form of meetings and dialogue.

The extended epistemology of the worldview leads, as Heron and Reason (1997) state, a knower to participate in the known in at least four interdependent ways. It applies an “up hierarchy” to what is considered as valid knowledge and recognises the value of experiential knowing, the knowledge we gain from encountering the realities around us, as the basis for three emergent levels of dependant knowledge, presentational, propositional and practical.

Seeley and Reason (2008) describe presentational knowledge in terms of storytelling, writing, poetry and visual arts, Coghlan and Brannick (2006) use the terms language, music, images and painting. Within the organisational setting of this research study a key source of knowledge generation will come from the language, both verbal and non-verbal used in the interactions among the network members, which is a form of storytelling. The next level, propositional knowledge, distils the previous levels of experiential and presentational knowledge into theories and propositions. The final level, practical knowledge, is the output of the previous three levels of knowledge and is the process that differentiates the participatory inquiry paradigm from the constructivist paradigm as it enables the change required to come to fruition from a grounded knowledge foundation.

The ontological and epistemological stance of the participatory inquiry paradigm makes it eminently suited to a study such as this. The sources of knowledge within the network will be varied and the multiple realities that exist due to the backgrounds and cultural norms of the network members and the shared reality of the network will require a subjective-objective stance to be applied to both data collection and data analysis.

The epistemology and ontology of participatory inquiry requires a participative methodology to be adopted to ensure that the voice of all network members is heard in the data analysis stage of the

project. Probst and Hagemann (2003) describe a core characteristic of participatory research approaches, as a process of interaction between local and external actors to 'co-create' innovations (p.6). They offer four different linkages between these actors according to the degree of involvement in control over decision making processes.

- Contractual Participation – one social actor has sole decision-making powers over most of the decisions taken in an innovation process. Other participants in activities defined by the stakeholder group.
- Consultative Participation – most of the key decisions are kept with one stakeholder group but emphasis is put on consultation and gathering information from others.
- Collaborative Participation – different actors collaborate and are put on an equal footing, emphasising linkage through an exchange of knowledge and a sharing of information during the innovation process.
- Collegiate Participation – different actors work together as colleagues or partners. Ownership and responsibility are equally distributed, and decisions are made by consensus among all actors.

The concept of ownership of the process of innovation is considered by Prost and Haggerman (2003) to be the key aspect of this classification. In social projects, a common use for the participatory approach, issues of power and emancipation are often the driving force behind the study. In the study described in this thesis there is less concern regarding these issues as the members of the network are broadly considered to be equals, it is however acknowledged that even in situations where all participants appear equal issues of power abuse can arise, and the methods of data collection and analysis selected should consider this.

As Heron and Bradbury (1997) state the participative worldview requires a collaborative form of inquiry in which all involved engage together in democratic dialogue, as co-researcher and co-subjects. They argue for a method where the research participants collaborate to define the research questions they wish to explore, and the methodology for that explanation. They describe how the co-researcher should engage in a cycle working through the four forms of knowing in order to enrich their congruence.

Creswell's (2007) final component of a paradigm, axiology, which Heron and Reason describe as being about values of being, is considered by them to be an essential feature of any inquiry paradigm (p.10).

Axiology relates to what is considered to be valid knowledge and what is a worthy outcome of research. They describe the axiological question as being answered by the participatory inquiry paradigm in terms of human flourishing and as an enabling balance within and between people of hierarchy, co-operation and autonomy. In a practical sense axiology relates to how the sample is selected and how field work is conducted, and as Cope (2006) states this construction of research strategy is influenced by one's personal axiology and as such this makes it very difficult for social science researchers to observe and produce the same data about a particular phenomenon. Coghlan and Brannick (2006) state that in action research rigour is answered by multiple repetitious cycles, reflexivity and grounding of the researcher interpretations and diagnosis in scholarly theory.

The preceding sections have discussed the philosophical issues faced by the researcher when deciding the best approach for data collection and analysis to answer their research questions. Having decided of a paradigm of inquiry, in this case participative inquiry the next section will discuss the methodology adopted for this research project.

### 3.5 The Method of Appreciative Inquiry

Having selected appreciative inquiry (AI) as the most suitable form of action research to undertake this study it is now important to outline the data generation, collection and analysis methods that will be used during the various stages of the project.

Action research differs from other qualitative research methodologies primarily in the place the researcher takes within the community that is being researched, this will influence the methods used for data collection. Coghlan and Branick (2006) state that when a researcher conducts AR in their own organisation data generation comes from day-to-day involvement in the organisation and that the researcher is an inconspicuous observer as their presence is taken for granted. In this study the involvement with the network, although regular, will not be on a daily basis and the frequency of actual face to face meetings of the whole networks will, at times, be sporadic. However, the data collection methods will include those suggested by French (2009), participant observation, general discussion, project meetings and reviews of the plan for each AR cycle.

#### 3.5.1 Participant Observation

Denzin (1985) in Flick (2009) describes participant observation as a, field of strategy that simultaneously combines document analysis, interviewing of respondents and informant, direct participation and observation, and introspection.

Flick (2009) advances that the main features of participant observation are that the researcher dives headlong into the field, observes from a member perspective and influences what is observed due the participation. He further suggests that it should be understood as a process in two respects. First, the researcher should increasingly become a participant and gain access to the field and to persons. Second, the observation should move through a process of becoming increasingly concrete and concentrated on the aspects that are essential for the research questions.

Coghlan and Branick (2010) describe pre-understanding as a core element of insider inquiry, undertaken by someone with an intimate knowledge of the organisation. Pre-understanding is knowledge of the tactic nature of organisational culture and an ability to understand what we know and what we don't know that we don't know. My pre-understanding of the organisations in the network will allow me to circumvent the introduction and embedding process and will prepare me, as Roth et.al (2007) suggest, to work within the political system such that the research project will yield the optimal results for both the network and the academic community. Taylor (2011) posits that closer and more regular contact with the field, in this case the network, allows a quicker establishment of rapport and trust between the researcher and participants.

However, there are likely to be issues with my position in the network that could impact on the observation process. One of these is what Coghlan and Branninck (2010) describe as role duality, this is where my role as a researcher will possibly come into conflict with my role as a network member leading to, they suggest, being caught between loyalty tugs, behavioural claims and identification dilemmas. This is likely to manifest itself by the questioning of my role during meetings, and less overtly by individuals becoming withdrawn when issues are raised that they feel will have a personal impact, and that they do not want documented in the research. A further issue that relates to my intimate knowledge of the network, and close ties with some of the members that go back over 20 years is what Taylor (2011) describes as insider blindness, a lack of objectivity that could lead to data distortion.

The process of participant observation is addressed by a number of authors who offer practical advice on producing accurate data. Gasser (1996) suggests that the researcher should be, (1) Strategically flexible to take advantage of snowballing, (2) Adjust the interview to the situation, (3) Obtain multiple perspectives, (4) Establish trust and gain access, (5) Reveal your purpose suppress your opinion, be clear, but do not reveal your opinions on different issues, (6) Do not overlook detail in the rush of activity ,it is impossible to know beforehand which details are critical in the investigation, (7) Be a pack rat, it is impossible to know beforehand what is important.

Werner and Schoepfle (1987) (cited in Kawulich, 2005) describe a 3 part process;

1. Descriptive observation, in which one observes anything and everything, assuming that he/she knows nothing. the disadvantage of this type is that it can lead to the collection of minutiae that may or may not be relevant to the study.
2. Focussed observation emphasizes observation supported by interviews, in which the participants' insights guide the researcher's decisions about what to observe.
3. Selective observation, in which the researcher focuses on different types of activities to help delineate the differences in those activities.

Merriam (1988) developed an observation guide in which she compiled various elements to be recorded in field notes. The first of these elements includes the physical environment. This involves observing the surroundings of the setting and providing a written description of the context. Next, she describes the participants in detail. Then she records the activities and interactions that occur in the setting. She also looks at the frequency and duration of those activities/interactions and other subtle factors, such as informal, unplanned activities, symbolic meanings, nonverbal communication, physical clues, and what should happen that has not happened. (Kawulich, 2005).

It is important to have a flexible approach to participant observation, and it is likely that in this research project aspects of different approaches to observation will be utilised as the situation at hand demands. As this study will be conducted in different locations and not all members of the network will be present at all network interactions, Merriam's idea of observing and making note of the physical environment is useful as this is likely to influence both the type data collected, the way it is collected and the quality of the data, all of which should be considered in the subsequent data analysis.

Within the specific context of this research project, I consider it important that observation is not a planned function but is simply a natural part of my interaction with the network. This approach will enable me to be, as Glasser (1996) describes, strategically flexible, and allow me to decide on an ad hoc basis what I consider relevant to the project as whole. For example, during machine installs frustrations sometime surface which "come and go" in a very short time and too much emphasis on the narrative of these is likely to detract away from the underlying issues at their source, which is likely to have a more long term corrosive impact on the network as a whole.

### 3.5.2 The Taking of Field Notes

The use of field notes as a method of documenting what happens during the observation process in qualitative research is widely accepted. Tjora (2006) describes the taking of field notes (or otherwise documenting observation) as being at the very core of ethnographic research. In a similar vein

Schwandt (1997) describes field notes as a vital data source for the ethnographer and suggest that their actual nature varies between projects and can be material such as notes, diagrams, charts, field journals and everything else gathered in the course of fieldwork.

Given the geographical disparate nature of the network it is likely that the social interactions of the network will be in a number of diverse locations including, customer sites, hotel, coffee shops and airports. It is also clear that there will be telephone conversations between individuals that will involve other individuals even though they are not present. It is therefore considered that the keeping of field diaries is essential to the process of participant observation. Merriam (1998) and Dewalt and Dewalt (2002) offer advice relating to the completion field diaries.

Merriam suggests that the researcher should pay attention, shifting from a "wide" to a "narrow" angle perspective, focusing on a single person, activity, interaction, then returning to a view of the overall situation, look for key words in conversations to trigger later recollection of the conversation content, concentrate on the first and last remarks of a conversation, as these are most easily remembered and during breaks in the action, mentally replay remarks and scenes one has observed.

DeWalt and DeWalt (2002) recommend that the researcher, actively observes, attending to details one wants to record later, looks at the interactions occurring in the setting, including who talks to whom, whose opinions are respected, how decisions are made, observe where participants stand or sit, particularly those with power versus those with less power, listens carefully to conversations, trying to remember as many verbatim conversations, nonverbal expressions, and gestures as possible and to assist in seeing events with "new eyes," turn detailed jottings into extensive field notes, including spatial maps and interaction maps.

One factor that is particularly relevant to the field notes that will be kept in this research project is my actions. I will be actively involved in the conversations and events and it is important that I record my actions and words as accurately and objectively as possible.

To facilitate the accurate taking of field notes I have four field diaries. The first is for telephone calls and is compiled as soon, as activity and location allows, after the conversation ends. The second is for taking notes at formal meetings when at least 4 members of the network companies are present. The third is for informal discussions, such as while on route to meetings or installs, at exhibitions, in hotel bars and when network members are involved in activities not directly related to network business, as with the telephone diary, these notes will be taken will be as soon as possible after the discussion finishes. The fourth is an individual reflection diary in which I will endeavour to capture my feelings

regarding both the network and the research project. The three field diaries that capture data from network interactions have an area for details of the context of the meeting, location, reason, additional activity and an area for my reflection on how I felt during the interaction.

### 3.5.3 Data Generation

As discussed earlier in this chapter the process of data generation in action research in, an organisation that the researcher in a part of occurs naturally and is not always the result of planned interventions. However, AI requires space for the members of the group to “take time out” to attempt to generate a collective view of a new and better future (Bushe, 1999).

The 1<sup>st</sup> stage will involve the presentation to the group members of a specific appreciative inquiry method designed by the researcher. This will be discussed and refined by the group, a process which it acknowledged is likely to be on going during the life of the data collection stage of the project.

The 2<sup>nd</sup> stage will be the holding a two-day AI summit over a weekend. During this the summit the group members will complete the discovery and dream stage of the AI process. The data generated during this will be used to inform and plan the next stage of the AI cycle.

Subsequent stages will be decided and acted upon based on data collected in the general face to face, telephone and email exchanges among individual and the group as a whole. At this stage it is considered that too much forward planning of interventions could have a negative impact on the flow of information among the group members and the innovation flow that is critical to the success of the collaboration.

### 3.5.4 Analysing the Output of the AI Process

Appreciative Inquiry really challenges those doing the analysis to leave their preconceptions behind and approach the data with “the eyes of a child “(Bushe, 1999:65)

The output of the AI process will be purely qualitative and as such the process of data analysis must be designed to retrieve the rich data that will be of interest to the research component of this project. But it must also be noted that this output is of critical importance to the development of the collaborative network, and this must not be neglected.

Bushe (1999) states that what is normally the “data analysis” stage of action research needs to be done completely differently in an appreciative inquiry and uses the terms ‘proanalysis’ and ‘synergalysis’

to describe a process of analysis that uses as many people as possible reading the most important interviews and stories, in order to stimulate their thinking about the appreciative topic.

Although the process of data collection and data analysis is laid out here in such a way to infer that one follows the other this will not be the reality. In line with most qualitative studies data collection and analysis will be an iterative and reflexive process and will occur concurrently.

### 3.5.5 Abduction

An abductive approach to qualitative theme analysis will be adopted for analysis of the data contained in the field diaries.

Pierce (1934:117) states that abduction has a logical form distinct from induction and deduction. Deductive reasoning begins with a rule and proceeds through a case to arrive at an observed result, which either demonstrates the rule or falsifies it. Thus, the general form of deduction is as follows:

All A are B.

C is A.

Thus, C is B.

Induction, in contrast, starts with a collection of given cases and proceeds by examining their implied results to develop an inference that some universal rule is operative:

All observed A are C.

Thus, all A are C.

The inductive rule gains certainty with the multiplication of cases, although, as we noted above, the very definitions of A and C and the connection between them cannot themselves be explained by induction. Last, abduction starts with consequences and then constructs reasons:

The surprising fact C is observed.

But if A were true, C would be a matter of course.

Hence, there is a reason to suspect that A is true. (Timmermens and Tavoy (2012:170))

Timmermens and Tavoy (2012) describe the abductive strategy as linking themes identified in the data to the theoretical understanding based on previous studies and combining things that had not previously



been associated by creating new interpretation. In the case of this study the previous work will be identified in the literature review and will combine both practical studies of network and network facilitation; Van de Vrande et al. (2009), Inkpen & Tsang 2005, Zeng et,al (2010), Franco and Hass (2012), Camarinha-Matos and Olivera (2006 &2014) and the theoretical work of Miles et.al (2005).

Boutier and Becher (1995) posit that Abduction or Hypothesis formation occurs when researchers, during data analysis, shape or insightfully generate beliefs about the meaning or significance of their data, on non-deductive and non-inductive grounds. Lipscomb (2013) suggests that abduction may describe the inferential form that underpins many types of thematic qualitative analysis. Specifically, when qualitative researchers, during analysis, develop themes, codes, and categories that structure data they are, in part at least, insightfully abducting or, to invoke Peirce (1955), they are making 'fair guesses' about the meaning of data.

#### 3.5.6 Data Coding

I agree with Fay's (2011) postulation that under-researched areas benefit from the researcher providing a rich description of the data set as a whole rather than a fine-grained analysis. The data set which is made up of the contents of the various field diaries will be read and reread multiple times and open coding will be used to identify broad categories. In line with the abductive stance adopted the categories used will take note of specific issues that have been identified in the literature such as, power and trust.

French (2009) describes the practitioner as the sole arbiter of the interpretation and argues that consequently, the interpretation of others is vitally important because they may provide insights that were not obvious to the lone practitioner. As suggested by French the data generated in the open coding process will be presented to the network to both triangulate the data and generate a plan for the next stage of the AR cycle. This is a form of 'synergalysis' which as Busche (1999) advocates is a critical component of the AI process.

#### 3.5.7. Thematic Analysis

Following the open coding process and the feedback from the network members the categories will be integrated using axial coding to combine those that lack that sufficient uniqueness to stand alone. The next step will follow the advice of Braun and Clarke (2006) for thematic analysis. Boyatzis (1998) describes thematic analysis as not merely a method for identifying, analysing and reporting patterns within data but often it also interprets various aspects of the research topic.

Despite my position with the network and the fact that in many cases I will be "living the data" there will be breaks between data collection and analysis and other business distractions will often arise

during a data collection and analysis stage. Therefore, the reading and re-reading of the data, and the grouping generated in the open coding stage, in, as Braun and Clarke (2006) describe an active way, where I will recall the context in which specific sections of the data were collected, is vital prior to coding to ensure that I am sufficiently familiar with the data set as a whole. The use of notes and marking ideas for codes will be adopted to aid recall during subsequent phases.

Following the above stage, a more comprehensive version of the open coding process will be conducted to produce of a wider range of initial codes. Again, in line with the broadly constructivist stance of the project, and the adductive approach to data analysis the codes will be based on the themes that emerge from the literature review.

The next stage which Braun and Clarke (2006) describe as re-focusing the analysis at the broader level of themes rather than codes, will involve sorting the different codes into potential themes and collating all the relevant coded data extracts within the identified themes. The use of thematic maps, mind maps and tables at this stage is normal among qualitative researchers. It is envisaged that this is the stage where NVivo will be utilised to aid the process.

The themes generated will then be reviewed and refined and as Braun and Clarke (2006) suggest the use of Patton's (1990) dual criteria for judging categories – internal homogeneity and external heterogeneity will help to ensure there is sufficient commonality among the data within themes as well as clearly identifiable distinctions between themes. At this stage data that does not fit any theme, in the previous stage, will be reviewed and where possible it will be allocated to a theme or new themes may be created.

The thematic map produced and refined in the previous stages will be further refined and the themes will be tested against those discovered during the literature review. Following this a detailed analysis will be written of the themes that emerge from this process. This, it is hoped, will tell the story of the transformation from a network of individual companies to a truly collaborative network where information is shared freely, and innovation thrives.

### 3.6 Ethical Consideration

Action research requires an understanding of the ethical framework, values and norms within which it is used in a particular context. Ethics involve authentic relationships between the action researcher and the members of the client system and how to understand the process and take significant action (Coghlan and Brannick, 2006:12).

Action research is located within the ethical framework of social research which requires the researcher to do no harm, to maintain confidentiality, to refrain from distorting data, to ensure informed consent and to guarantee the subjects the right to withdraw (Coghlan and Brannick, 2006).

Conducting action research within your own organisation, which due to the nature of the network at the centre of this study, this project is considered to be, raises specific ethical issues. Williamson and Prosser (2002) highlight the close relationship between the researcher and the participants and by the political ramifications of the intent to change practice. Coghlan and Brannick (2006) describe any research in any organisation as having political dynamics, the forces of which can undermine research endeavours and block planned change. They describe the act of diagnosis as never neutral and rarely affecting all stakeholders in the same way.

Within a network such as the one at the centre of this study the issue of organisational politics will be heightened by the fact that five companies with differing values and norms will be working together. The researcher will also need to take into consideration the duality of his position, as the values and norms of his own organisation could be different to those of the other organisations in the network.

Williamson and Prosser (2002) posit that researchers and participants in AR need to be clear about, discuss and agree the answers to three important ethical questions in AR. First, if researcher and participants collaborate closely, how can confidentiality and anonymity be guaranteed. Second, if an AR study is a 'journey' and 'evolves', how can informed consent be meaningful. Third, as AR can have political consequences, how can the researcher avoid doing harm to the participants.

The very nature of action research gives a different dimension to these questions compared to other methodologies. In AR the scope of the research, the questions, data collection and in some cases the data analysis is performed collaboratively between the researcher and the participants.

Given the nature of the members of the network, directors/senior managers of small businesses, issue of confidentiality that relate to concerns of reprisals from other members of the organisation are not consider relevant to this study. The change desired has been agreed upon by all members of the network and at this time all participants have willingly entered into the process. However commercial sensitivities are a concern and for this reason both companies and individuals will be anonymised in all written reports.

The concept of AR as a journey (Hope 1998, in Williamson and Prosser 2002), evolving through participation, reflection and purposeful action means that informed consent is not fixed in a particular moment in time, as neither researcher or participants know where the journey will take them in advance and cannot fully know to what they are consenting. The nature of the network and the relationships already developed between the participants will allow the researcher to openly discuss issues of consent as the study changes and a space will be available for the concerns of the participants to be discussed.

The political nature of this researcher is likely to relate to how individuals perceive themselves to be seen in the findings. As Williamson and Prosser (2002) state it is important that the researcher and the participants collaborate and negotiate so that the findings are considered to be equal, and so the researcher does not stand out as the expert in the field with other members of the network being relegated to bit part players.

The key to managing the ethics and politics in this research study will be continued discussion between the members to ensure that no one becomes marginalised during the journey, and that issues do not become a threat to the projects progress and ultimate aim.

The specific issue of data retention has already been discussed within the group and it has been agreed that the decision regarding which data is retained and which is destroyed will be decided at the end of the project.

## Chapter 4

Forming:

Data Collection and Interpretation

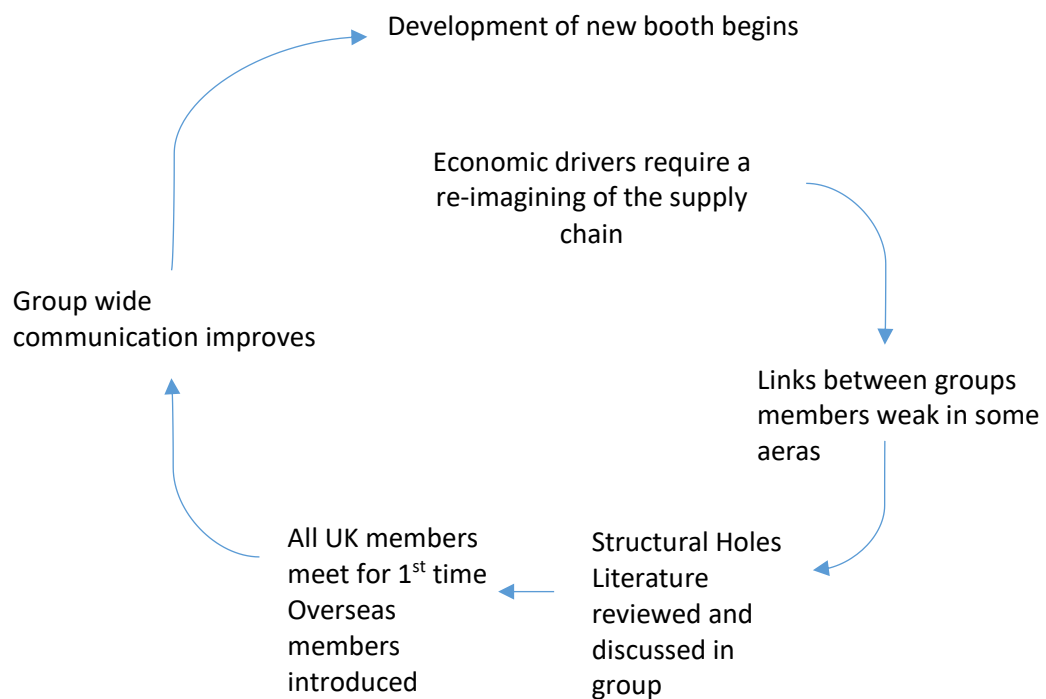
## Chapter 4: Forming: Data Collection and Interpretation

The preceding two chapters have provided a framework of the knowledge space that this research project is set in and offered a gap in the literature that the conclusion of this project will fill. They have also offered a philosophical rationale for the methods employed and provided an overview of the “whys” and “hows” of data collection and analysis.

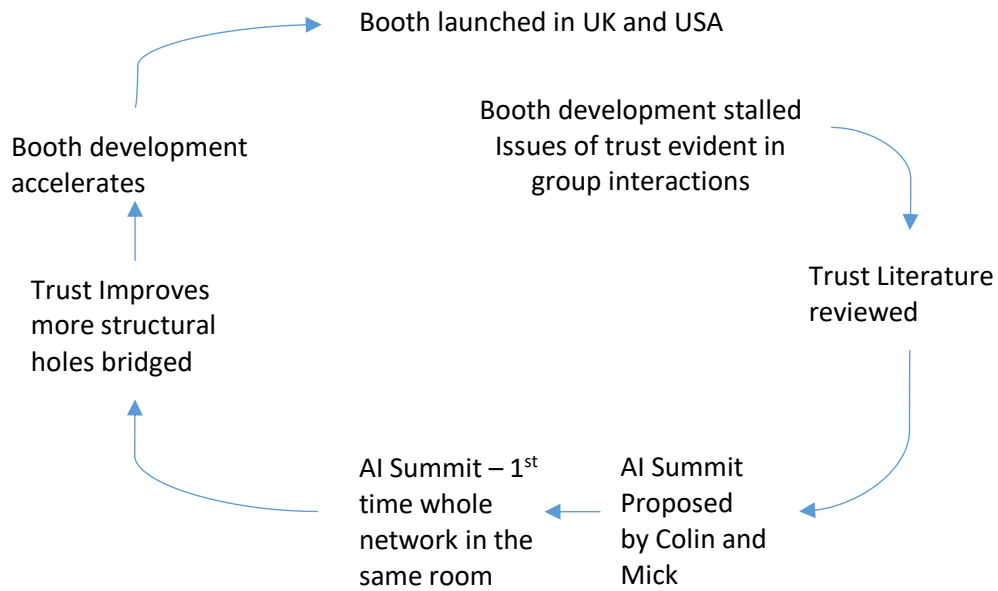
This next four chapters will provide a narrative of four distinct stages the network traversed as it transformed from a supply chain to a structure that allowed knowledge to transfer seamlessly among individuals making the goal of continuous innovation in the network and within the individual companies achievable.

These chapters will document the action research cycles (Figures 9/10/11) that occurred during the four stages and the role of facilitation. They will present data obtained during business interactions between the research participants, of which, in line with the action research approach, the researcher is one, and it will frame this data within the framework given in the literature review.

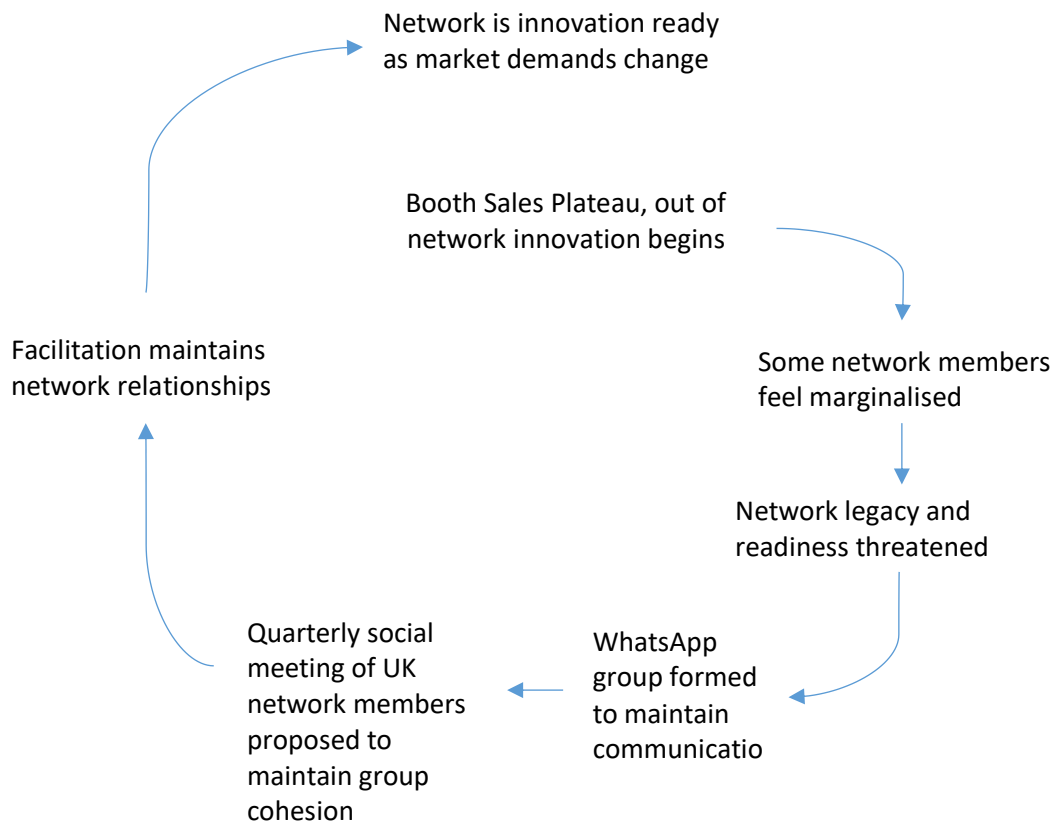
**Figure 9- Action Research Cycle 1 – July 2015 to June 2016**



**Figure 10 - Action Research Cycle 2 – August 2016 to October 2017**



**Figure 11 - Action Research Cycle 3 - May 2018 to April 2019**



This chapter will provide a narrative of the first stage of the networks journey which has been titled forming. This provides a background of the network prior to the start of the research study which is considered important, as it provides the foundation for the following stages in which the network changes to a structure more in tune with the concept of collaborative entrepreneurship

#### 4.1 The Early Network

As shown in Fig.9 (p.127) the group prior to the research study (2012 to mid-2014) existed as a traditional supply chain. The first version of the spray tan booth was developed between 2012 and 2013 by the booth manufacturer based on a specification developed by the brand holder. This booth version was relatively simple in nature and did not require complex control.

The automation supplier supplied components to the booth manufacture, who built this into an electrical control system which was supplied to the brand holder and integrated into a completed spray tanning booth.

The American customer was a supplier of tanning solution and moisturising creams to the brand holder but was not a customer for the spray tanning booth. The automation manufacturer was a supplier of programmable logic controllers (PLC) and human machine interfaces (HMI) to the automation supplier but did not supply the PLC used on the first version of the booth.

To fully understand the early data, it is considered prudent to discuss the drivers that led to the formation of the group within the bounds of established frameworks. This gives a firm foundation for further data analysis and the conclusions that are drawn.

Networks, interfirm alliances, collaborative communities, communities of practice and other connected firm entities form for a reason and Hoffmann and Schlosser (2001) argue that transaction cost theory (TCT) and resource-based view (RBV) are two of the current economic theories that provide a suitable explanation for why alliances form.

Transaction cost theory, the basic premise of which originated in Coase's 1937 article, *The Nature of the Firm*, has, according to Geyskens et.al (2006), continuously responded to new theoretical and empirical developments and through reformulation, correction and expansion become the predominant theoretical framework for explaining organizational boundary decisions.



Williamson, who has been cited as responsible for the operationalisation of TCT, stated in his 1985 paper, *The Economic of Organisation: The Transaction Cost Approach*, that this economic approach to the study of the organisation emphasises transaction cost and efforts to economize thereon (p.4) and that the approach has been applied at three levels of analysis.

The first level of analysis considers the overall structure of the enterprise and how the operating parts should be related to each other. This was brought to the attention of a wider audience during the reign of Howard Stringer as CEO and Chairman of Sony who described group companies and departments as operating in silos and being unaware of each other's developments. This organisational structure that has been cited as the reason for Sony, despite being a pioneer of portable music players, failing to keep up with digital music trends and losing to Apple and the iPod.

Tett (2015) extends the "silo" analogy to describe the mindsets of senior executives of global financial institutions, prior to the financial crisis of 2008, quoting one eminent central banker as saying, "ideas matter and economists were all using the same ideas, they were all sitting in the same mental silos".

The second level analyses the operating parts of the firm and considers what should be done inside the firm and what activities should be contracted-out. This, Williamson (1981) states can be thought of as developing the criteria for and defining the "efficient boundaries" of an operating unit.

The third level of analysis looks at the human assets of the firm with a view of matching them with internal structure and the attributes of work groups to best serve the economic aims of the firm.

If we consider these levels of analysis and the decisions that firms make as a result, we can see that transaction cost economics is a normal, though arguably an unknown, process that many small firms undertake as growth and development are considered. In the context of the firms in the network it has already been mentioned that there were trading relationships between individual firms such as the automation supplier and the booth manufacturer, the brand holder and the booth manufacturer, that took the form of a traditional supply chain, the drivers of which were mainly economic. There were no formal contracts in place, the structure was loosely and informally aligned, and interaction occurred on a sporadic and predominately reactionary basis. This simple transactional relationship which involves no form of cooperation, collaboration or network, that fits any of the descriptions offered by Adobor (2006, p.123) is common among small businesses that are involved in simple product sales with little requirement for specialist technical knowledge.

#### 4.1.1 The Drivers of Change – The Brand Holder

Following the acquisition of a tanning and beauty supplies company in 2008 the brand holder had diversified from their traditional activity, a leading supplier of indoor and outdoor artificial bowling surfaces.

Richard in response to an inquiry from the researcher (February 2018) stated.

*“the bowling market is profitable, but we needed something that provided a more regular cash flow and did not require a major increase in manpower”*

and described the acquisition as

*“broadly successful, until 2013 when the changes in the law a couple of years before started to really have an impact”*

The legislative changes referred to was primarily the Sunbeds (Regulation) Act 2010 that came into force on the 8<sup>th</sup> April 2011 and imposed a duty on anyone involved in carrying on a sunbed business to ensure that no person under the age of 18 years:

- uses a sunbed
- is offered the use of a sunbed; or
- is present in a restricted zone

<https://www.gov.uk/government/publications/sunbeds-regulations-act-2010-guidance-on-the-implementation-of-the-sunbeds-regulation-act-2010>

Similar restrictions were put in place across Europe the USA and Australia in the years preceding and following the UK’s legislative change.

Steve (the owner of the company purchased by the brand holder in the 2008 acquisition), elaborated (February 2018).

*“most reputable salons were already following the guidelines, ok some weren’t but they tended to be the cheap end of the market, not something we were really involved in, but the press around the law change started to make people worried and this reduced salon visits and drove prices down”*

The ongoing change in the primary market of the brand holder, the supply of UV sunbeds, spares, consumables, and services to the tanning salon market, were evident in slowing growth and reduced profits.

The UV sunbeds sold by the brand holder at that time were purchased as complete units and much of the marketing was performed by the manufacturer, with the brand holder acting as a distributor and service centre. It was also possible to buy low-cost non-branded units from generic manufacturers for sales to smaller, non-chain, tanning shops. The changing landscape of the tanning market in the UK and the US led the brand holder to seek a product that could be sold to their existing customer base, was in-sync with both the market changes and legislative landscape, a product which at that stage barely existed and could not be purchased as a complete unit.

The directors of the brand holder were then in a position where they needed to answer what Geyskens et.al (2006) argue is the central question of transaction cost theory, is a transaction more efficiently performed within a firm (vertical integration) or outside it, by autonomous contractors (market governance). The traditional supply chain that existed at this time was an economically driven decision by the brand holder who did not have a sufficiently large market, to negotiate direct contracts with manufactures of the components required and did not have the finance available or the market to form business units or establish joint ventures that could manufacture components directly. These limitations led the brand holder to seek out UK based partners that could supply services and components on a non-contractual basis with relatively low volumes. Reducing the number of suppliers reduces the number of transactions which has a direct economic impact on both communication and back-office costs.

#### 4.1.2 The Drivers of Change – The Automation Supplier

This is the researcher own company and despite the clear academic interest that subsequently developed from the collaboration the initial driver was simple economics. The company was formed in 2006, with a stated mission to focus on the distribution of automation products. This mission was derailed in the early years of the companies' history when the economic downturn following the financial crisis of 2008 made credit lines more difficult to secure, a necessity when large stock holding is required. It was decided by the directors to undertake software projects as a way of both leveraging product sales and to improve profits, that could be re-invested into stock and marketing.

There were two fundamental problems with this strategy, the first is that with staff of two the time taken to complete software projects leaves little time to find new business so turnover was eventually limited to the hours billed per month by these two and was limited to a few customers, the second is that product sales dropped leading to concerns from major suppliers as to the long-term trading relationship. A third issue that is less easy to quantify is a subconscious “settling” by the directors that profit margins and the subsequent dividends taken were healthy so why change.

The timing of the approach by the booth manufacturer about the spray tanning project was fortuitous as it coincided with the relocation of a major customer overseas and concerns over the long-term price of oil, a market that a number of the companies’ key customers were active in. Regular business from a supply chain such as this was seen by the directors as a way of increasing product sales, reducing the reliance of software projects and establishing the name of the products sold by the company.

#### 4.1.3 The Drivers of Change – The Booth Manufacturer

The owner/manager of the booth manufacturer stated when asked by the researcher (February 2018) why he became involved in the project.

*“we need more repeat work, too much of what we build is one of specials which take so much time as they are basically engineered each time, but the customer does not understand that design costs money, so they don’t want to pay for it”*

*“Once we have built the first one of these and got the bugs out it should be straight forward manufacturing with a decent profit on each one”*

This is very similar to the automation supplier, which given the companies similar size and structure is to be expected.

#### 4.2 Theories of the Firm

In addition to clearly identified transaction cost theory factors at play in the formation of the network, some directly, the automation manufacturer and the booth manufacturer spoke about reducing cost by either *“keeping the factory busy”*, or *“repeat work”* and indirectly, the brand holder and the automation supplier spoke about, *“reducing the number of suppliers”* and *“establishing the name of their main product”*. *The resource- based view of the firm is also evident in the decision- making process of the directors of the four network companies when considering the collaboration.*

The resource-based view of the firm (Barney 2001 and Barney 1991) explains the competitive advantage of a firm as a product of internal sources and argues that for the firm to achieve sustained competitive advantage it must acquire and control valuable, rare, inimitable and non-substitutable resources and capabilities, along with the organisation that can absorb and apply them. This proposition is shared by several related analyses (Kraaijenbrink et.al, 2009); core competences (Hamel & Prahalad, 1994), dynamic capabilities (Helfat & Peteraf, 2003; Teece, Pisano, & Shuen, 1997) and the knowledge-based view (KBV) (Grant, 1996b).

Morgan et.al (2003) describe how firms use their physical assets, human assets, and organizational assets to develop long-term competitive advantages and, in turn, achieve superior company performance. Martinet.al (2009) focus on intangible organisational assets including entrepreneurial orientation, market orientation and learning orientation which they argue are particularly difficult for competitors to duplicate leading to sustainable advantage.

Lional and Carter (2015) study of organisational orientation on medium and small firm performance as viewed from a resource-based perspective found that SMEs must demonstrate a concurrent degree of expertise in entrepreneurial, market and learning orientation to gain and sustain a competitive advantage.

Considering the data above related to the key reasons around the forming of the network there are clear links to resource-based theory. The main example of this can be found in the comments of the brand holders directors. To compete in a rapidly changing market they had two options, to invest heavily in new staff with experience in product design, software development and manufacturing or to seek collaboration with companies that have skill sets that enhance their own to enable them to react to the challenges of the changing market. Innovation was also at the centre of the what was required by the brand holder and what was sought by the other members of the network as this could offer a competitive advantage, and as Huggins and Johnston (2010) state resource-based theory allows networked firms to leverage valuable information and/or resources possessed by their inter-firm network partners, this knowledge whether it be market, product, technology or organisational based is important to initiate and sustain innovation.

Chao and Zhang (2011) reference a body of earlier literature that broadly defines supply chain collaboration in two groups of conceptualizations; process focussed, and relationship focussed. They state that when viewed as a business process, supply chain collaboration consists of two or more

supply chain partners working towards common goals, whereas viewed as a relationship the partners work together and share information, resources and risk to accomplish mutual objectives.

Transaction cost theory (TCT) and resource based (RBV) theory have clearly stood the test of time and both are widely cited as the foundation of why firms chose to work with others to develop specific products, compete with larger conglomerates or move into overseas markets (Niesten et.al 2017, Reuer and Devarakonda 2016, Anderson et.al 2016).

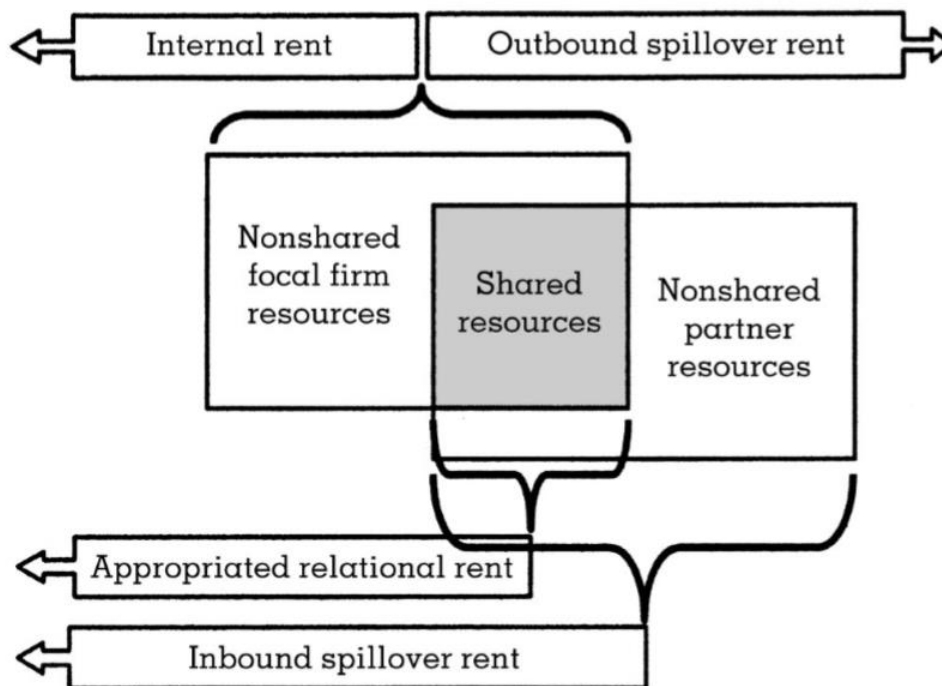
In addition to TCT and RBV, and arguably more relevant to small firm collaboration the relational view of the firm (Dyer and Sing, 1998) has gained academic traction particularly in relation to the study of strategic advantage in supply chain collaboration (Lavie, 2006; Cao and Zhang, 2011; Phelps, 2010; Weiland and Wallenburg, 2013). The proponents of RBV, emphasize that competitive advantage results from the resources and capabilities that are controlled by a single firm and consequently the search for competitive advantage has been limited to within the boundaries of the firm considering non-unique inputs that are available to competing firms. They suggest that more sustainable competitive advantage can be found in partnerships along the supply chain that span the boundaries of individual firms. In this place unique combinations of products and services are possible by the building of relationships between both firms and individuals. In a similar vein Lavie (2006) describes RBV as a traditional perspective as to how firms' source Ricardian rents and generate competitive advantage by envisioning firms solely as individual entities. He argues that in a world where firms are becoming increasingly interconnected a reimagining of RBV is required to offer a systematic theoretical analysis of how firms generate non-Ricardian rents and build competitive advantage.

Within small business collaborations, that by the very nature of the firm's ownership structure are normally among founders and owner/managers, the relationship between individuals is a major factor in the success or failure of the alliance. Lavie (2006) discusses the importance of relationships when he extends the theory of non-Ricardian rents by applying the relational view of the firm to interconnected firms. He argues that the evolution of interfirm routines that facilitate the sharing of knowledge and information within the boundaries of the alliance play a role in generating relational rents. Hence, the relational view draws not only from the RBV but also from transaction cost economics. It elaborates on the mechanisms of joint value creation, since, by definition, relational rents accrue at the alliance level and cannot provide private benefits.

Cao and Zhang (2011) describe conventional RBV as assuming that for firms to create value they must own or fully control the resource. And compares this with Dyer and Singh's (1998) description of collaborative advantage as joint competitive advantage from a relational rent, a common benefit that accrues to collaborative partners but cannot be generated individually by either collaborative partner and Lavie's assertion that the competitive advantage of a focal firm, participating in an alliance/collaboration, includes four elements: (1) internal rent, (2) appropriated relational rent, (3) inbound spillover rent, (4) outbound spillover rent.

The sources of these elements of rents extracted by the focal firm in an alliance are shown in below.

**Figure 12 Composition of Rents Extracted by the Focal Firm in an Alliance (Lavie, 2006: p644)**



Internal rents are predominantly those derived from the resource of the focal firm and through collaboration these resources, such as reputation (Stuart et.al, 1998), can be used to aid start-up's resulting in enhanced IPO performance. However, Lavie (2006) argues that given the fact that unlike relational rents, which rely on interfirm complementarities in creating benefits shared by all alliance partners, internal rents are exclusively enjoyed by the focal firm, so it is possible that the prominent alliance partner can suffer reputational loss from an unsuccessful alliance.

Appropriated relational rents derive more from an alliance as they extracted from relational specific assets, knowledge-sharing routines, complementary resources and effective governance mechanisms (p.645), and are dependent on factors including, relative absorptive capacity – “the ability of a firm to

recognize new external information, assimilate it and apply it to commercial end (Cohen and Leveintal, 1990, p.129). – relative scale and scope of resources.

If we consider the concept of appropriated relational rents, within the context of the network as it formed, relationships are important for knowledge to flow and it can also be argued that this, within the context of small firms when the main actors are owner/manager, directors and founders, through informal processes and lacks rigid mechanisms.

Informal knowledge sharing processes and the part they play in how alliances reap benefits for all members of an alliance reminded the researcher of a conversation with an old colleague after his appointment as a European sales manager for a global industrial software supplier. When quizzed on how he builds a distribution network across diverse cultures and markets which consisted predominately of small companies he said.

*“I tell them my stories of how the product is used my experiences of the challenges and how these are overcome and then I wait to hear these told back to me as their own stories in subsequent meetings, when they are, I know that have got it, they understand the product and how it can be sold”*

Unlike appropriated relational rent that is a result of shared resources and as a result is bi-directional between the focal firm and other partners, both inbound and outbound spill over rent is predominately uni-directional and is a result of shared and non-shared resources through knowledge leakage, interfirm alliances and internalisation of the partners practices.

Cao and Zhang’s (2010) statistical analysis of data collected from a web survey of US manufacturing firms found that for small firms supply chain collaboration helps them generate appropriated relational rents though joint value creation but their size and scale of operation and the limits these places on internalisation or transfer of interfirm learning and knowledge make it difficult to generate inbound and outbound spill over rents.

Supply chain collaboration (SCC) are the subject of numerous academic papers relating to interfirm collaboration, which is no doubt due to the number of these that exists in an increasing connected global economy, however these types of collaborations normally consist of companies with varying



levels of resources and is in most cases dominated by a larger focal company that controls the product or service supply.

#### 4.3 Network Driver of Change

On the 23<sup>rd</sup> August 2015 a meeting attended by Richard, Steve and Colin, was convened at the offices of the brand holder. This was the second such meeting since March 2015 with a general agenda based around business related to the first version of the automatic spray tanning booth. Unknown to Colin in the week before the meeting the brand holder had been visited by their major US supplier who was also a customer for the early version of their automatic spray tanning booth. The general theme of this meeting was that due to health concerns in the USA the move away from UV tanning was gaining pace and there was a need to improve the automatic spray tanning booth to make them more user friendly and to raise the look and feel of the product to target the premium end of US tanning salons.

*Steve- " Nick can be a pain but knows the US business and he is well placed to get us business*

*Richard - "I agree that we need something that will keep him happy, but we have to make sure we don't limit ourselves it has to be marketable around the world the US is important, but it is not the only market"*

*Colin -"As you know this is still a bit new to me, I understand what the current model does and what market it is aimed at, but I do not know the market as well as you guys"*

*Richard "Steve when is Smart Tan this year"*

*Steve -"Not sure of the exact dates but it will be late September or Early October, what are you thinking"*

*Richard -"Might be a good idea for Colin to visit with you"*

The next few minutes were spent discussing if this was possible and it was decided that Colin would accompany Steve to Spray Tan to get a better understanding of the market.

*TC 23/8/15 Colin phoned Mick, who at this stage was the supplier to the brand holder of electrical control panels and programming services he was also a customer of the automation supplier, to discuss the previous days meeting with Richard and Steve.*

*Mick thought is sounded a good idea but warned Colin that Steve was an acquired taste outside of work and to be careful that after a few drinks he could become loud so be careful to be tainted by association*

*Colin thanked Mick for the advice and promised to meet with him after the trip to make sure that any proposals had his input.*

#### 4.4 Smart Tan October 8 - 11<sup>th</sup> 2015 - Nashville

The Smart Tan convention is held in Nashville Tennessee USA annually and is billed as the preeminent tanning show in the US and is one of the largest convention/conferences focussed on spray tanning and associated industries.

*“Strategically held in October when Summer has finished and the “Tanning Season”, which runs from Oct/Nov to April/May and is the period when many companies maximise their income, is used by the major industry players in the US to showcase new products”.*

<http://www.nashvilleconventionctr.com/events/calendar/2015-10>).

There were numerous informal meetings during the three days spent at the exhibition but one that had a resonance with Colin was with the owner of chain of tanning salons in California who revealed that his turnover in spray tans was in excess of \$300M. Colin expressed his surprise at this as surely California has sufficient annual sunshine to make the need for artificial tanning redundant, however the salon chain owner informed him of two key factors that are the foundation of the tanning industry in the US. The first, in hindsight is obvious, most people have busy lives and cannot spend their day on the beach. Secondly the health issue and thirdly, in his particular establishments, they market the experience, the salons are finished to an extremely high standard and aim to offer a spa type of experience where customers can either visit for a 15-minute tanning session or easily spend a few hours taking advantage of other facilities that are available on site, this is a major departure from the image of the majority of sunbed shops in the UK.

#### **Personal Reflection**

As this was my first real exposure to the tanning industry and bearing in mind that my normal experience is with machines that are operated by people that are paid to operate them in the execution of their normal work role. It was a real contrast to experience machines, where users are paying to use them and are looking for, in their eyes, an experience that will enhance their wellbeing. This was a major departure from my normal thought patterns regarding machine design and product requirements and it is clear that the way the network was currently approaching the market was not going to be able to develop the products and processes to impact the market.

**Reflective Journal Note 12/10/15 – made on the flight back from Nashville**

“This market is not something I have seen before, I am well outside of my comfort zone here most of the people I deal with are engineers but here I will be dealing with marketers and also woman more than usual, I am going to need to change by approach and probably be more enthusiastic and engaging than I normally am”

It is felt prudent at this stage to restate that the meeting on the 23rd August 2015 and the visit to Smart Tan 2015 were prior to the start of this research projects formal data collection and as such data was captured in informal ways in the process of conducting business and although at the time of collection it was not envisaged that they would be used as part of a research project, on reflection, it is considered that they play an important part in forming the canvas that consists of the main drivers that started the process that this narrative will document.

#### 4.5 The Catalyst of Change

In March 2016, in response to the events of mid and late 2015 Colin wrote a report that set out several proposals designed to improve the brand holder’s current product.

Before submitting the report and the subsequent communication that would inevitably occur between Colin, Richard and Steve, Colin, as promised in the telephone call of 23/8/15, arranged a meeting with Mick. As discussed in the first chapter of this thesis the booth manufacturer had a long-term trading relationship with both the brand holder and automation supplier and Colin felt it was prudent to bring Mick into the loop and discuss his ideas.

The meeting was held at the premises of booth manufacturer on the 23<sup>rd</sup> March 2016, It was the intention of Colin for this meeting to be technology focussed, to discuss the perceived requirements of the market and the limitations of the current product to address these, however it become clear that Mick had serious concerns regarding the competences of the brand holder to deal with both the technical and marketing aspects that the spray tanning market required, it was also clear that there were some underlying historical trust issues between Mick and the directors and design engineer at the brand holder. The outcome of the meeting was that Colin would arrange a meeting at the premises of the brand holder to present a product proposal to Richard, Steve and Neil.

The meeting held on the 17<sup>th</sup> April 2016 was the first meeting attended by all the UK based members of the network (Fig 9, p.127) and on reflection was a turning point in the relationship and is considered to be, the starting point of the embryonic stage of the current network.

Below is a summary of the key points of the presentation.

- **Product Uniqueness and Protection** – PLC's (programmable logic controllers) are proprietary devices and despite low-cost entries from both China and India attempting to take market share there remains 4-5 large brands that dominate the industry. Therefore, PLC's are usually branded directly with manufactures name and part numbers as well as specific colours and module design that make it easy, for those involved in the industry, to identify the manufacturer. It was considered important that future products developed by the brand holder should have a feel of being customer developed and that the PLC which is the main control engine should be seen to be unique and custom developed. This, it was felt, would give added protection to some of the specialist spray and flow technology (aspects of which are protected by international patents) as a competitor looking at the booth would be unable to easily identify the control engine and hopefully this would stop them looking too much further.
- **Simple Connections** – The dominate design of PLC's is based on the normal locations where they are deployed, namely inside industrial control panels mounted on machines or on factory walls. The PLC is designed to be installed by qualified electrical technicians and conforms to globally approved installation standards. The spray tanning industry historically employs lower skilled technicians and emphasis is on the spray aspects of booth and in particular the quality of the tan the booth delivers, so the technicians and service engineers are predominately mechanically biased. Therefore, the PLC needs to be easy to install to reduce cost of manufacture and it must also be possible replace faulty or damaged PLC's quickly to reduce booth downtime and minimise revenue loss to the salon.
- **Non-Industrial** – The Human Machine Interface (HMI) which is the only component the user has direct interaction with and given that the majority of HMI's are used in situations where the user is paid to operate them and, as in the case of the PLC, they conform to global standard developed for machines and factories, they lack a certain sartorial elegance. To be suitable for the salon environment where the user pays to use it the and it becomes part of the experience the HMI and the screens developed for it need to have a design more suited to a home than a factory.

- **Voice Commands** – To achieve a good spray coverage in the shortest possible time the user needs to adopt certain postures at specific times during the spray cycle, it was therefore considered that spoken instruction played in sync with the spraying cycle were important for the user experience. The PLC or HMI needs to have mp3 capability to allow for user instructions to be output to a speaker system installed within the tanning booth.

Discussions at the meeting were documented in my notebook used at all business meetings and not a specific research field diary. The notes taken were not precise transcripts but general themes and key phrases that were considered to have a positive or negative impact on the business relationship.

#### **Personal Reflection**

This meeting and subsequent discussions with Mick led me to believe that a more positive atmosphere was developing among the group members and that the customer/supplier narrative that had previously dominated the groups relationship was changing, this combined with increased communications among individual within the network in the final months of 2015 and early 2016 led to the previously stated conclusion that this meeting was a turning point in the groups relationship and that it is valid to consider this as the first steps on the journey to the networks current formation.

This meeting was the first time that Colin had introduced the automation manufacturer to the group. The first version of the booth, which at this stage still being manufactured, did not use equipment manufactured by the automation manufacturer. The proposed new booth required features that could be more suitably accommodated by equipment manufactured by the automation manufacturer, so this seemed the correct time to introduce the company.

#### **4.6 Network Structure**

Adler and Kwoon (2002) state that the analysis of a network structure requires two activities. First attention must be given to the quality of their constituencies – their frequency, intensity, multiplexity- and to their configuration. Secondly it requires attention to both direct and indirect ties.

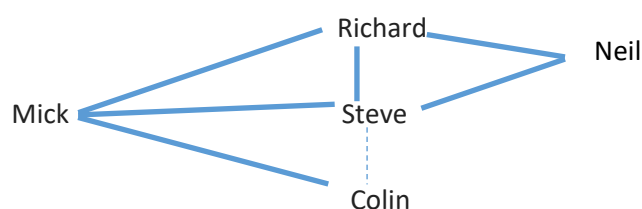
Coleman (1999) focuses of network closure, the extent to which actors contacts are themselves connected, and argues that the strong links between network members increases trustworthiness and helps to build social capital. In contrast Burt (1992) is a proponent of a sparse network structure arguing that fewer redundant ties provide greater social capital. The structural holes that exist in a

network with weaker ties between members present opportunities for brokerage which in turn increase knowledge flow and improves social capital. Burt (2017) argues that while the strong relationships in closed networks can lead to reliable communication channels and protection from exploitation, individuals with contact networks rich in structural holes are more responsive to opportunities and exhibit many and varied behaviour to develop the opportunities defined by the structural hole. Networks rich in the entrepreneurial opportunities of structural holes are entrepreneurial networks and entrepreneurs are people skilled in building the interpersonal bridges that span the structural holes

Structural holes theory is widely cited in respect of innovation networks and the role of entrepreneurs within networks (Lin 2017, Liu et al 2017, Sheng and Fan 2009, Kalish and Robins 2005, Hoang and Antoncic 2003). He describes a structural hole as a relationship of non-redundancy between two contacts, non-redundant and redundant contact are separated by structural holes. Non-redundancy is indicated by weak ties with both cohesion and structural equivalence used as measures of the redundancy or non-redundancy between contacts. The structural holes signify network patterns where parts of the network are widely unconnected so that existing connections may be the only route through which information and other resources flow (Rosenblatt et al, 2017).

Considering structural holes theory and to give some context to the actions taken, initially by Colin and subsequently adopted by other group members, it is important to take a step back and look at the design of the network in the period between 2013 and the end of 2014.

**Figure 13 – Network Structure 2013-2014**



The weak ties between Colin and Steve/Richard which predominately consisted of supply of components specified by Mick, occasional meeting to discuss supply and pricing with any technical discussions going through Mick were, at this stage of the network a consequence of an existing relationship between the brand holder and booth manufacturer and in the words of the Mick (during a flight to the USA in August 2017 when a general discussion regarding the group was taking place) not something considered important at the time.

*“ I did not think you would not really want to get involved in the technical stuff with them as they did not really know what they were doing at this point, it's not that I didn't trust you I mean let's face it I have put you in direct contact with my customers before, I just thought that it would be a waste of your time”*

Looking at my reflective journal for the 1<sup>st</sup> half of 2016 it was clear that I was concerned regarding issues of whole group involvement at this time. But it appears that these had been ignored as I was more focussed to understating the market and developing a specification for the booth, as this is where sales would be generated from.

**Reflective Journal Note 4/5/16**

*“At some point I will need to get Badri more involved as his input will help push this along”*

**Reflective Journal Note 18/6/16**

*“ I need to get to know Neil better I am not sure he likes me and that is going to cause some problems later on”*

**Reflective Journal Note 12/7/16**

*“Do we need to get Nick more involved is he just a customer ???”*

In hindsight of greater significance was the weak ties between Mick and Neil and by inference between Colin and Neil. Access to Neil was almost exclusively controlled by Steve, the reasons for this will become clear later in this thesis but at this moment it is important to look at the issues caused and the implications for the network.

Neil was the most technically capable individual at the brand holder as he had previously worked for a multinational tanning company and based on previous experience related to automatic automobile spraying, he had been instrumental in developing a number of patented designs applicable to the spray tanning industry. This structural hole, a gap in information flow between alters linked to the same ego but not linked to each other (Burt 1992), was epitomised by the weak link between Colin and Richard/Steve and more importantly the weak link between Mick and Neil, which was partly

responsible for the development of an automatic spray booth that did not address the issues of the market. The issues that led to Mick deciding to get Colin more directly involved with the brand holder.

In Burt's (1992) opinion the emphasis of networks should be placed on the opportunities to exploit the structural holes between dense pockets of relationships in the network, he argues that actors that bridge structural holes increase competitive advantage by becoming a source of new and novel information which improves the likelihood of innovativeness and discovering opportunities. Opinion and behaviour are more homogeneous within, than between groups, so people connected across groups are more familiar with alternative ways of thinking and behaving. Brokerage across the structural holes between groups provides a vision of options otherwise unseen, which is the mechanism by which brokerage becomes social capital (Burt, 2004).

#### 4.7 Bridging Structural Holes and CE

The collaborative process of entrepreneurship involves partnerships developing from two or more parties that aim to create beneficial results (Ratten, 2014:141). The outcome of the innovation that occurs within the group should benefit the whole group and the skills learned from the process should be utilised by the individuals or individual companies to develop products and services outside of the network. Therefore, the bridging of the structural holes that are present in the network or that develop as the network evolves should involve methods that matches the unique persona of the network.

The role of an external facilitator or broker is considered by Burt (2004) as the optimal method of bridging structural holes as he argues that if creativity requires fresh information and new perspectives, then people within open networks will be more creative, assuming that information is freely shared. Brokers occupy the most advantageous position at the nexus of diverse information. In this position, they have the best opportunity to generate new combinations (Flemming et al 2007). Konsti-Laakso et al (2012) state that despite the evidence to support the argument that external facilitation enables SME networks to grow beyond their social networks, external facilitators cannot generate the initial reason for SMEs to commit into network development, to go deeper into network development and to build insight into the eventual opportunities for new value creation.

Jørgensen and Ulhøi (2010) case study of a SME in the mobile commerce industry concluded that the most critical network relationships are formed very early and managed carefully to ensure continued collaboration and that the composition of the network enhances the firm's innovation capacity. They also argue that the relatively informal relationships with members of early-formed networks are very



supportive for the learning and knowledge behaviours needed to build innovation capacity which, they posit, shows that a traditional dichotomous conceptualization of weak and strong tie-based relationships may be inadequate in terms of capturing the type and nature of interpersonal relationships in the network formation. They conclude that it is critical for SMEs, focusing on innovation, and perhaps those within highly dynamic environments such as m-commerce in particular, to develop and foster network relationships early on in their evolutionary life cycle in order to support learning, knowledge sharing and innovation.

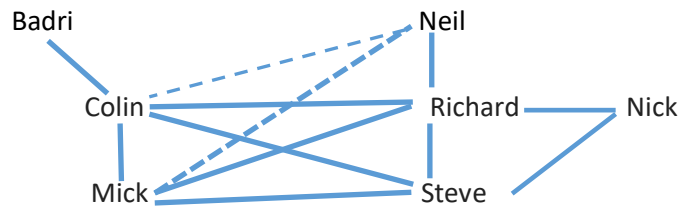
The unique nature of a small business network involved in a relatively high tech market, with a membership consisting predominantly of directors and founders, with an aim to develop a new range of products and services for a market that has been affected by a seismic change in the legislative and health landscape and which is by nature influenced by social fashions, is dependant, both in the forming stage and as it develops on a combination of weak ties, where opportunity to create exists and strong ties where trust exists.

In the period between October 2015 and May 2016 Colin, in conjunction with Mick, made an academically uninformed decision based on a combination of the data collected and a “gut feeling” as to what was best to take this network forward (Fig 9, p.127), which according to Olawale and Sun (2010) is a common basis for project decision making among SMEs.

Considering Thornton and Youngs (2011) argument that facilitation in a group that is learning to innovate differs from traditional facilitation, it was clear that the facilitation would need to take into account the nuances of the group at this nascent stage to strengthen the ties between the individuals. Brook and Abbot (2020) state that facilitation in a group that is learning through action helps participants explore taken for granted assumptions, emotion, politics and power relations

This informed the decision made by Colin and Mick to work together to bridge the structural holes that existed, these structural holes were causing a gap in the knowledge flow among the more technically biased members of the network (Colin/Mick/Neil). Small changes to the communication in the network, Mick arranging for Colin to meet with Richard/Steve to discuss technical requirements directly, Richard/Steve agreeing to Colin’s request for Neil to be involved in the meeting of 17<sup>th</sup> April were fundamental to a change in the network design that by the summer of 2016 had a structure as below.

**Figure 14 – Network Structure 2015-2016**



The links between Mick and Neil and Colin and Neil had improved but were still relatively weak, as Burt (1995,2004) would argue maybe not an impediment to creativity but as Coleman (1999) and Konsti-Laakso et.al (2012) would argue a possible impediment to trust that is required to go deeper into the collaboration. The only considerable structural hole still evident in the network is between all group members, except for Colin, and Badri. The bridging of which will be discussed in later sections of this thesis.

#### 4.8 The First action Research Cycle

The data, and the analysis of it, that the preceding section and section 4.1 have detailed is considered to be the first action research cycle (Fig.9 p.127) undertaken by the group, albeit unplanned.

This therefore raise the important question as to the validity of action research cycles that do not adhere to the process outlined by Lewin (1946) and the notable academics in the field that have followed.

Chalmers et.al (2006) describe a research study among patients that have undergone hyperbaric oxygen treatment.

*“As the research team conducted the interviews and analysed the data, the clinical staff of the HMU discussed the preliminary findings and were keen to change practices immediately to improve patients’ experiences. The project therefore developed into an ‘unplanned’ action research process. For example, as data collection continued, noise attenuation in the chamber was improved for patient comfort; an air-break was provided halfway through treatment sessions to alleviate boredom and limited mobility during treatment (patients were able to take their mask or hood off and stand up); and explicit safety checks were conducted by the chamber attendant, to the benefit of patients’ sense of security. In addition, more hoods were used for O2 delivery, rather than masks for improved patient comfort” (p.1459).*

Stranger-Johannessen (2009) discusses her own research project in Uganda in which she describes the approach to data collection as ad hoc action research, which she argues is different to genuine action research since she did not work with the community to address a specific problem, but it shares similarities with Greenwood and Levin's (2007) definition of action research as the interventions carried out lead to reflection on action which led to the construction of new meaning (p.46).

These studies, while admittedly a small number which may in part be due to a reluctance to admit a lack of academic rigour in the early stages of a research project, do highlight that action can occur as a result of an unplanned intervention. I am acutely aware this raises a potential area for further debate, but I am also confident that within the context of this research change began to happen due to my own personal experience with action research and that the lessons learned from this first cycle of action research formed the foundation for future cycles and led to a formalisation of the process for future reflection, learning and action.

#### 4.9 Summary

The supply chain model was suitable for the first version of the booth as it was relatively simple and aimed at a much smaller and lower cost market. The interaction within the network was predominately commercial and product development was limited to a relatively simple specification developed by the brand holder.

Following the input of the American customer and the visit to Spray Tan it was becoming clear that to develop a product that would gain traction in a fast-developing market, there would be a need for closer collaboration. It would require technical and market knowledge, that was still mainly held by individuals within companies, to be made available throughout the network.

As discussed earlier the initial network formation occurred for reasons based on established theories of the firm. But Miles et.al (2005) suggests several shortcomings with these (p.90,91). These broadly relate to how resources are managed and measured, the emphasis placed on the capabilities required to leverage physical assets, land, money, equipment, and less on those required to develop relational capital between firms and the contribution this makes to the firms performance, the lack of concepts and methods to measure wealth creation and the investments required to generate wealth and that they all assume that people in organisations act only in their self-interest and ignore other human motivation such as sharing, working together and generosity.

Collaborative entrepreneurship addresses these shortcomings in its desire to build an egalitarian collaboration and it is considered that with the relational view of the firm as its basis it can facilitate knowledge flow regardless of formal mechanisms and enable equitable wealth generation for all members regardless of disparities that may exist in size, structure and resource control.

### **Personal Reflection**

My role during this period could be simply explained as collecting market data, cementing relationships with the network and building new relationships with potential important actors outside of the network with the aim of increasing sales for my own company. And this was, at this point, the main driver of my actions. It was important that I considered how my greater involvement in the network, which as I was acutely aware would increase as the network progressed, would impact my business. The potential increase in turnover would be positive but also the greater depth of knowledge I would gain regarding business collaboration could aid my business in the future. The negatives would be that a larger percentage of my time would be spent on network business, leaving less time to develop other business areas but I believed at this time that the long-term effect of the collaboration would be of greater benefit to my business.

As discussed, the first action research cycle occurred in an ad-hoc fashion, so it would be unwise to claim that facilitation during this period was as a result of a structured methodological approach instigated by individuals within the group or as a result of whole group decision. As Thornton and Youngs (2011) argued the facilitation was different, it was not structured and prescriptive but happened in response to action and took on two roles of facilitation discussed in an earlier section of this thesis, making inventions to protect the group and keep it on track to fulfilling its purpose (Thorpe, 2008) and growing meaningful relationships (Hunter, 2007).

Discussions initiated by Mick and Colin on the 23<sup>rd</sup> May 2016 regarding the booth development enabled the network, as it was structured at this point, to reflect on and critically evaluate where they were and the direction, they need to take in respect of the booth's technical development. Mick was also instrumental during this period in enabling closer links between the automation supplier and the brand holder.

This chapter has documented the forming stage of the network where facilitation was used to develop the social capital between network members and reduce structural holes. This was as a key requirement for the network to move to the next stage, that will be discussed in Chapter 5, in which

it would transform into a more collaborative structure where individuals feel comfortable to share the knowledge that is required achieve the aim of the collaboration.

### **Personal Reflection**

It is also important to note that my own position within the network has an impact of the use of facilitation. As a researcher I was keen to get more involved to make facilitation more active to gauge the effect that it has on the network as this would potentially generate useful data for my research study. But it was also important that I considered the position of my company and that If I was seen to pushing an agenda, be it business or academic related, this could influence the progress of the group at this delicate stage in its development

Chapter 5  
Transformation:  
Data Collection and Interpretation

## Chapter 5: Transformation: Data Collection and Interpretation

The chapters detail's the period between August 2016 and February 2017, a period notable for two reasons.

Academically this period saw the start of the formal data collection period of the research study. The data collected during this period was recorded in the research diaries and along with the data collected at the early meeting, detailed in the previous section, form an understanding of the drivers, specific to this group, that instigated the move from a traditional supply chain to a collaborative entrepreneurial network. Unlike action research projects when the researcher has a defined external, academic role and is observing and engaging with the research participants in a pre-defined and structured way (e.g. Serrano, 2012, Burn, 2006) the nature of this study, the researchers role within the network and the fluid nature of the network, in that the members engaged and disengaged with it as commercial and technical issues required and as workload outside of the network activities allowed, neither allowed for or would be served by planned interventions. Consequently, the data presented in this section is triggered by naturally occurring interactions between the network members.

From a business viewpoint this period was the most active with individuals who were previously outliers becoming more involved as the network moved towards it initial goal, the development of a new spray tanning booth that could sell to the global market.

### 5.1 August 2016 – September 2016

Detailed below is data taken from the research diaries between August and September 2016. For reference the following key will be used to identify the field diaries; **FM** – Formal meetings; **TC**- Telephone calls between the researcher and one or more of the network members; **ID**- informal discussions between the researcher and one of more of the network members.

*TC 17/8/16 - Colin received a call from Mick he had been called out the previous weekend to the NEC in Birmingham where the brand holder had been attending an industry exhibition. A booth had been vandalised between the close of the exhibition on the Saturday evening and the opening the following morning, this was attributed to competitor sabotage. Mick commented that there was a lack of the brand holder's branding on the booth and that the exhibition stand was branded in favour of the American spray solution manufacturer rather*

*than the brand holder. Mick believed that this is holding back the development of the brand holder's brand and the sales of current and future booths.*

*TC 20/8/16 - Colin received a call from Richard and Steve to discuss issues with a recent install of a booth in Chepstow. Steve was critical of Mick and the hardware but Richard was more focussed on testing procedures and reliance on specific personnel at the brand holder for testing and was concerned that there was not a sufficiently rigorous testing regime in place and that they did not have the required skill sets internally for a large roll out.*

*ID 27/8/16 - On route to London to work on a non-network related project Mick and Colin discussed issues at the exhibition and the Chepstow install. Mick questioned the commitment of the brand holder's directors to the booth and was also concerned that the relationship with American spray solution manufacturer was holding back developments. He later commented that with the right commitment and development the booth could be an excellent product and could sell very well.*

The comments recorded in the section above should be considered in the wider context of an embryonic network. At first sight there is a temptation for the outside observer to ask

*“why should suppliers be bothered about a lack of branding or the way their customer markets their own product”.*

This could be answered very simplistically by stating that the suppliers benefit from increased sales, so they do have a very direct interest in how their customers market their product, however they have very little input or control over these internal processes. But as was shown in comment TC 17/8/16 despite the context of the event that led to the comment being a response to a breakdown, something which the particular network member does on a regular basis for numerous companies, he was driven to make an unsolicited comment regarding a subject that he, at that time, had no influence over.

This involvement of those individuals that are effectively external non-aligned colleagues who have a personal stake in the success of a product but no formal methods to influence the success is a cornerstone of collaboration. Consider these comments and discussions in the context of the statement from one of the respondents in Biwas et.al (2007) study among SMEs active in the UK oil industry.



*"We've worked together, and we've got to know each other, and I think there's a good level of trust as well. I trust him enough to give him my ideas; and he trusts me enough to give me his ideas" (p.1699).*

This comment alludes to the fact that in this case a level of trust had been established between companies that developed a climate in which a supplier of products and/or services felt sufficiently comfortable to offer advice on how a product or service could be improved. Also, if we consider the conclusion reached by Franco and Haas (2013) that intangible resources such as commercial and technical know-how are a considerable driver of CE, and Miles et.al (2005) suggestion that specific knowledge about competitors and customers is a key driver of CE, a well-functioning internal collaboration and integration of knowledge process information to create value. The comments take on a new light and can be considered as a desire by these non-aligned colleagues to gain market knowledge with the aim of facilitating, in this particular scenario, a successful market launch for the product.

*TC 10/9/16 - Mick received a phone call from Neil*

*TC 10/9/16 - Colin received a phone call from Mick in which he discussed the phone call from Neil. Neil was concerned that there appeared to be no progress on the points raised at the meeting on 23/4/16. Mick stated that both he and Colin were waiting for replies from Steve and Richard and that he was concerned over a lack of commitment and trust, he stated that Neil shared these concerns and asked Colin to speak to him.*

*TC 11/9/16 - Colin rang Neil and suggested a meeting this was arranged for 15/9/16.*

*FM 15/9/16 Attendees: Colin and Neil. Location: Starbucks Fosse Park Leicester*

*Neil was concerned regarding the recent issues in Chepstow and felt that issues such as these were causing Richard and Steve to question the viability of the booth and making them reluctant to take on the changes suggested at the meeting 23/4/16. Colin stated that the changes proposed would actually reduce the chances of installation mistakes as they would make pre-despatch testing and on-site fault diagnosis easier. Neil agreed and questioned the desire of Richard and Steve to develop the booth.*

*TC 15/9/16 Steve rang Colin to ask why he had met with Neil without speaking to him or Richard. Colin stated that he was not aware that he had to and that nothing they discussed had not been discussed between all UK members of the network in previous meetings.*

*TC 15/9/16 Mick rang Colin to ask if Steve had rung him and stated that Steve asked him if he knew that Colin and Neil were meeting to which he replied, "it was my idea".*

The evidence from the interactions between the 10/9/16 and 15/9/16 indicate that trust issues were prevalent between some members of the network and it is felt useful to add some context to these interactions, by explaining known issues between the three group members from the brand holder, information obtained by the researcher through discussions with the individual themselves and other network members.

Steve and Neil have a fractious relationship with is borne out of Neil's feeling that Steve is just a "beauty product salesman" that does not understand how the spray tan market differs from the sun bed market. Steve believes that Neil's background with St Tropez (a premier spray tan supplier) means that he has no understanding of the commercial nature at the lower end of the spray tan market and that he over-engineers the booth to show-case his engineering skills, regardless of cost or customer requirement. This relationship shows the traits of a general mistrust of engineers that empirical evidence obtained by the researcher during his career, shows is prevalent, especially among non-engineering managers, in a number of business sectors.

Richard is fundamentally an accountant and relies solely on Steve for market knowledge, and also forms his opinion of others in the industry based predominately on intelligence from Steve. Prior to the formation of the brand holder, as it currently exists Richard had a company that was a distributor of indoor bowling equipment and Steve ran a company that was a distributor of sun tan beds and associated equipment. The company ran by Steve experienced financial difficulty which according to him,

*"were due to changes in the market-place and health concerns regarding UV"*

but according to Neil who made an unsolicited comment during a meeting with Colin on, 15/9/16,

*"was due to Steve's mismanagement".*

In 2010 Richard was introduced to Steve by a mutual friend and in August of that year a deal was agreed on that would lead to the brand holder taking on the business interest of Steve's company and absorb the staff into the business. Steve joined the brand holder as a non- shareholding director with responsibility for health and beauty sales. Richard's accountancy background and his reliance on Steve for information was also a basis for a relationship with Neil that was at times as fractious as that between Steve and Neil. Richard spoke openly with Colin on more than one occasion regarding Neil's

expenses and poor paperwork also expressed concerns that he was working on designs independent of the work he was doing for the brand holder.

FM 28/9/16 Attendees: Colin, Steve and Richard. Location: the brand holder office.

The meeting was called by Colin as a follow up on the activities from the preceding 6 weeks. Colin was invited into the board room by Richard, this was unusual as previous meetings, with the exception of that on the 23/8/15, were held in the office of Richard or Steve. Prior to any of the normal preamble, mainly discussing football, and before Steve had joined the meeting Richard asked Colin.

*“Do you think Mick is paying Neil a royalty for every booth control panel he builds for us”*

Colin - *“having known Mick for over twenty years I have never known him to do anything like this and I would be shocked if he was.*

Steve joined the meeting and Richard informed him that he had discussed the issue with Colin and that he did not believe this was happening and Colin reiterated his view that he did not believe Mick,

*“would do something like this”.*

Steve went on to explain that he had heard an exchange between Neil and Mick through the wall of his office (which was next to the prototype build area) and he was sure that Mick and Neil, had an arrangement.

Steve also raised issues of Nick’s expenses, company credit card being used for cigarettes etc, which surprised Colin as this was clearly an internal issue but on reflection it appears this was being used to show that Neil was untrustworthy.

Colin moved the focus of the meeting to the development of the new booth, but it was clear that this issue and the wider trust issues between Richard/Steve and Mick/Neil were

hampering the fostering of a culture of trust that would be required to take the network forward.

TC 28/9/16 Colin rang Mick and discussed the meeting with him, Colin told Mick about the accusation from Steve to which he denied and said,

*“it was more likely that Steve is taking a back hander from suppliers and is using this to distract attention away from himself”.*

It is interesting to view the above interactions, between the members of staff from the brand holder involved in the network and Colin, in which they discussed personal feelings and openly gave their opinions of the others, without any form of solicitation, from the viewpoint of current knowledge related to network formation.

Howell et.al (2005), Fitcher (2009), Gupta (2006) all discuss individuals within an organisation or networks, who informally emerge and adopt the role of a “champion” to ease the process of network formation or development and argue that these roles are dependent on the changing needs of the organisation/network. Battarnik et.al (2010) discuss the role of a similar individual within the specific context of innovation brokers. The common ground among these is the function of managing relationships, what Battarnik et.al (2010) calls the network composition broker and Howell et.al (2005) the network or relationship champion. These individuals are trusted by others within the network and act to connect with the different actors and facilitate both transparency and interaction between the different network members.

Considering Colin’s position within the network, being brought in by the booth manufacturer to supply equipment directly to the brand holder after a business relationship had been developed between the brand holder and the booth manufacturer. Despite it being a common practice, the booth manufacturer had not asked for a commission on the sales between the automation supplier and the brand holder and the brand holder did not ask Colin if this had happened. Based on the communication between Colin and the directors of the brand holder is clear that he was considered by them as a neutral in what was, at this time, was a battle between those with technical skills and those without.

From the data It is clear to see that the relationship between Colin and Mick, which is the longest standing, has the characteristics of what Letaifa and Rabeau (2013) argue facilitates communication, knowledge transfer and collaboration, in that they have collaborated previously on other project initiated by both

parties at different times. What is interesting is that despite the established relationship between Colin and Mick, which was known to the other parties, individuals in the brand holder were happy to discuss opinions of others without any prior assurances of confidentiality.

#### **Personal Reflection**

My personal position in the network at this moment is complicated. I am keen to work with the whole network and at this stage I appear to be trusted by Steve, Richard and Neil and also by Mick. If I become drawn into internal issues at the brand holder that question the integrity of Mick, this could damage my relationship with both Mick and Neil

## 5.2 The issue of Trust

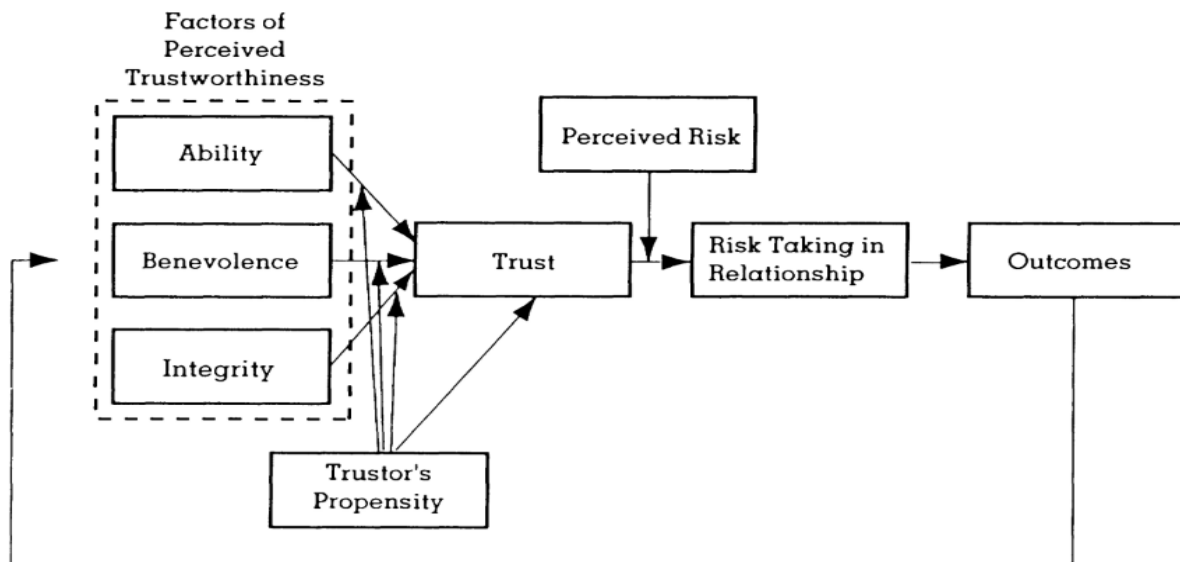
At this stage in the timeline of the networks development, nearly 12 months after the visit to Smart Tan (October 2015), 9 months after the report making recommendations for the new booth (March 2016) and 5 months after the meeting on 17<sup>th</sup> April 2016 that was seen as a catalyst of change, however no further progress had been made toward the development of a new booth.

I believe the data collected during group member's interactions between 10/9/16 and 28/9/16 offers sufficient evidence to conclude that trust, or more importantly a lack of it among key members of the network, was a reason for the slow progress and it was believed by members of the network that this lack of trust was fast becoming an issue that unchecked could have a corrosive impact on future collaboration. It is therefore prudent to discuss, led by the data, how trust develops as a group forms and how this applies to a collaborative entrepreneurial network.

Mayer et.al's (1995) multidimensional definition of trust has been widely cited in multiple disciplines and based on the number of citations in the field of organisational science, Ball (2009), Gillespie (2012), Neinaber et.al (2018), Zhou et,al (2017), Moorman et.al (2018), is a suitable model to use in this research study.

They define trust as, the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. (Mayer et al., 1995, p. 712)

Figure 15 Proposed Model of Trust; Mayer et.al (1995, 715)



Schoorman et.al (2007) discuss the development of their model and the importance to move past previous models that worked at single levels of analysis and took inputs from single disciplines. They desired a model where inputs were derived from multiple disciplinary perspectives, that would be generally applicable and would be used across multiple disciplines (p.344). They further state that rather than seeing trust merely as an individual characteristic that remains constant regardless of context, their model defines trust as relational, therefore largely dependent on characteristics of both the trustor (the person who trusts) and the trustee (the person to be trusted) within a specific relationship that varies in depth and strength over time. Ball (2009) describes this view of trust as relationship is an important aspect of the model's multi-level acceptance from the individuals to the organisational trust.

When we consider trust within a network that predominately consists of owner managed firms and individuals that, although they may not be directly involved in the ownership of the firms, have considerable personal investment in the products and services marketed, it is important to consider trust at both the individual and organisational level.

Schoorman et.al (2007) describe the core element of the model centring on trust itself, which signifies an intention to accept vulnerability towards another, as is evidenced by the actual decision to trust. Gillespie (2003) describes this willingness to accept vulnerability towards another party and to take risks within the relationship, as behavioural trust, while Cladwell and Dixon (2009) and McEvily and Torteriello (2011) calls it volitional trust.

Gillespie (2003) argues that trust can manifest in different forms, such as being willing to rely on or disclose information to a leader and as such a proper measure of trust should assess the extent to which the trusting party has significant influence over their life within a specific context, such as at the place of work (Colquitt & Rodell, 2011).

Heyns and Rothmann (2015) state that the modern workplace has undergone dramatic change that in effect has reduced reliance on traditional bases of power, such as derived from formal positions of authority. This exemplifies collaborative entrepreneurship which has no formal organisational structure, and no formal leadership style.

This lack of traditional power bases must surely influence how trust is established and develops. Viewing the data collected in the period 10/9/15 to 28/9/15 it is clear that despite a level of trust being previously established between the network members, when engaged in the normal activities of a traditional supply chain, the factors that led to this trust being established were being revisited from a different perspective.

As the network began to discuss future developments there was a need for previously protected “knowledge silos” to be opened. Relationships between network members and individuals and entities outside of the network, access to which had been securely managed by the certain individuals now need to be opened to others within the network. This requires a level of trust and a different type of trust than the normal trust relationship within a supply chain.

### 5.2.1 Early Trust in the Network

Fuglsand and Jagd (2015) state that trust relies on social processes of sensemaking that allows actors to explore and make sense of the foundation of trust at the interpersonal and institutional level. Wright and Ehnert (2010) similarly argue that although there is sufficient evidence that the basic propensity to trust is difficult to impact, as it has its foundations in early childhood (Erikson, 1965), culture (Saunders et al., 2010) and is probably stable over time (Fleeson and Leicht, 2006), the trust relations among social groups are dependent on microprocesses of negotiations, interpretation and sensemaking.

The empirical evidence of the early network interactions that this interpretation and sensemaking is based on highlights two basic forms of trust, entitled by Sako (1992) as, goodwill (social based) and competence (technical based), which Hawick et al (2013) described as.

*“usefully describing the main characteristics of most trust types”*

The early data collection offers sufficient evidence to back up Harwick et.al's (2013) claim that despite there being a range of names given to the processes engaged in when individuals choose to trust, the issues that arose in the group were basically associated with ensuring that an individual had a skill set that was of use to the network and had values that were compatible with other members.

Bachmann and Inkpen (2011) when discussing trust during the early stages of a relationship argue that a potential trustor takes a relatively calculative approach in the early stages of a relationship. This is to some extent confirmed in Pohopien's (2013) study of food truck owners in Southern California in which several of the participants spoke about understanding that building their brand would, due to their size, involve working with others but knowing who to trust was difficult and they concluded that relationships had to be based on an analysis of the skills that their competitors could offer, a factor which brings in to play what Meyerson et.al (1996) describe as swift trust. This is likely to be a common occurrence in the food industry where a competitive advantage, in a fast moving and customer loyalty low sector, is predicated on the ability to offer new tastes or modes of delivery. However, the industrial sector that the booth manufacturer, the automation supplier, and automation manufacturer are active in is based on professional reputation and as such trust takes longer to develop and has more factors to consider.

The concept of calculative approach to trust and Shaprio's identification-based trust were evident in the early interactions narrated in this section of the data collection. Although Colin was a newcomer to the group his approach to business was different from that of Mick who although having dealt with the brand holder for 1-2 years prior to the introduction of Colin was still an “outsider”. Mick took a technical and engineering-based approach to the relationship using common engineering jargon which was not easily understood by Richard and Steve but was easily understood by Neil, he also, due to the work he was contracted to do at the brand holder invariably dressed in overalls. In contrast Colin took a more of a sales and conceptual approach to the relationship with Richard and Steve and dressed in a way that was more in line with their own. Both the language used, and dress adopted are factors of an individual's identity and it considered these were key aspects of why Richard and Steve appeared more open to trusting Colin.

As mentioned in the reporting of the formal meeting (FM) on 28/9/16 meeting between Colin and Richard normally started with a friendly conversation regarding football which is again an important



factor of identification based trust and other concepts of social trust (affection based (McAllister,1995), personal (Larson,1992), which do not have to only be based on professional performance but are more about making that calculated decision based on a perception of an individual's identity that influence the feeling of being able to "get on".

Based on the data gathered between August and the end of September 2016 it is considered that Richard and Steve had taken a calculated decision to trust Colin as they were concerned that the development of the booth was being led by Neil and despite his position within the business and his knowledge of the spray tanning market there were many technical issues that Richard and Steve did not fully understand and they considered Mick, due to both the language used and his approach to business to be in alliance with Neil. This decision was taken despite the fact that Colin had been introduced by Mick but clearly there was "something about" Colin that they trusted, a concept that McAlister describes as cognition-based trust and which Harwick et.al (2103) categorise as competence-based trust but it is clear from the data that there are socially based factors that also influence this.

### 5.2.2 Developing Trust

Trust theorists have stated that trust develops over time (McKnight et.al, 1998), however evidence from the groups initial interactions indicate that expediency is a driver of high levels of trust within a short time frame. Calculative trust is common in business alliances and it relies on a forward-looking decision rule: a continual reassessment of relative payoffs for whether it pays to cooperate (Poppo et.al, 2015). Lewicki et.al (2006) referencing the study by Rousseau et.al (1998) show how calculative trust can be high at the early stages and reduce as the relationships matures, replaced by relational trust. I argue that in traditional business alliances where commercial decisions are being made by managers that are not as emotionally engaged with the product or service and where innovation is not the aim of the collaboration, the level of interpersonal trust is lower than in a collaborative entrepreneurial alliance in which all parties have a greater degree of personal investment and are more focussed on innovation.

The factors that inform the calculative decision to trust an individual, we have known for only a short period is based on decision made at an interpersonal level and from data generated in this research project competency and value set is of primary importance.

Hurley (2006) developed a model of trust that identified ten factors that are at play in decision making process (p,56). Three are based within the psychology of the individual; risk tolerance, level of adjustment and relative power and the remaining seven are contextually based with the situation of the relationship;

security, number of similarities, alignment of interests, benevolent concern, capability, predictability and integrity and level of communication.

Collaborative entrepreneurship is a more personal investment and is likely to involve building relationships with individuals that share few similarities and whose interests are not fully aligned. It is therefore necessary to develop a strategy to develop affective trust which Chau et.al (2008) describes as differing from cognitive trust as it is grounded in socio-emotional (relationship building) processes of collaborative interactions including, open debate and discussion, sharing feelings and hopes.

Between March and the end of September 2016 there was a great deal of activity within the network but it was notable that during October and Mid November 2016 this activity substantially reduced with the majority of discussion recorded being those between Colin, Mick and Neil.

*TC 11/10/16 Mick rang Colin to discuss technical issues regarding connecting a GSM modem (to enable automatic sending of booth usage data). Mick suggested a meeting and agreed to contact Neil to confirm*

*TC 12/10/16 Mick rang Colin to confirm the meeting on the 19/10/16 at the offices of booth manufacturer*

*FM 19/10/16 Attendees: Colin, Neil and Mick, Location: Booth manufacturer Offices*

*The meeting was called by Mick to discuss technical issues with the voice commands and the GSM modem.*

*Neil "has anybody spoken to Richard or Steve recently"*

This prompted a conversation between the attendees regarding the lack of communication with Richard and Steve and once again concern was raised regarding the commitment of Richard and Steve.

It could be argued that from a commercial viewpoint this was down to the cyclical nature of the spray tanning market with the season traditionally running from March to September. However, the evidence from the group interactions preceding this leads to the conclusion that there were issues regarding trust that needed to be addressed.

The data shows that discourse within the network was not conducive to the fostering of a climate of trust that would encourage knowledge transfer. The key aspects of the discourse were, knowledge is power,

be careful who you trust, divide and conquer, and it is clear this needed to be changed if the network was to transform into one where knowledge transfer and innovation can flourish.

The evidence of the early interactions within the group which involved the actors “working out” who could be trusted and with what, leads to the conclusion that due to the more personal nature of the investment that occurs in a CE network, compared to other forms of interfirm alliance, the development of trust involves a different process as the outcome can have a more significant impact on an individual’s professional reputation and financial health.

Most scholars generally agree that trust becomes important in situations characterized by risk and uncertainty (Gulati and Sytch, 2008), and the early data highlights the need to understand the processes that take place when an individual makes a conscious decision to trade the currency of knowledge for the greater good of the network.

### 5.2.3 Credibility

Competence based trust (Edmondson, A. and Moingeon, B., 1999) is common among many interfirm alliances as it speaks to the individual’s ability to deliver products and services required by the collaboration. This is more complicated in a network where the individuals have diverse knowledge and experience. The early data points to issues where competency is questioned.

*TC 20/8/16 Colin received a call from Richard and Steve to discuss issues with a recent install of a booth in Chepstow. Steve was critical of Mick and the hardware, but Richard was more focussed on testing procedures and reliance on specific personnel at the brand holder for testing and was concerned that there was not a sufficiently rigorous testing regime in place and that they did not have the required skill sets internally for a large roll out.*

*The company ran by Steve experienced financial difficulty which according to ST, were due to changes in the marketplace and health concerns regarding UV, but according to Neil who made an unsolicited comment during a meeting with Colin on, 15/10/16, was due to ST’s mismanagement.*

Given the differing backgrounds of the individuals involved in these conversations, Mick/Neil engineering, product design and Richard/Steve finance and beauty component sales. it is safe to assume that concerns over competency are based on a lack of understanding of what individuals do

and the methods used to carry out specific tasks. This leads to the conclusion that establishing an understanding of what each other's competencies are and how they approach tasks is an important component of the trust building process within a collaborative network of this type.

When dealing with the personal currency of knowledge, that has been developed over years of working, interpersonal trust plays a significant role in facilitating knowledge transfer. And as Lau and Rowlinson (2009) state trust at an individual level has a dyadic relationship leading to individuals who have worked together before may or may not trust each other (p.540). The early data points to issues where shared values are, within the specific boundaries of this network, a key component of interpersonal trust.

*FM 28/9/16 Richard asked Colin,*

*“Do you think Mick paying Neil a royalty for every booth control panel he builds for us”*

*Colin said, having known Mick for over twenty years I have never known him to do anything like this and I would be shocked if he was.*

This could be viewed as way of testing how Colin felt about the issues of such payments and it is likely that Richard felt he would be able to assess Colin's position by his immediate reaction to the comment. This testing of values was also evident in a discussion between Colin, Richard and Steve on the 28/9/16 during which the inappropriate use of a company credit card by Neil during a business trip where Colin was. Although no impropriety on the part of Colin was implied it was perceived as a way for Richard and Steve to measure reaction which would establish, in their minds, Colin's honesty.

This data is also evidence of dyadic nature of trust as Mick had worked closely with the brand holder for 14-15 months longer than Colin, but trust had not been fully established at this time. It is suspected that this is due to the closeness of Mick to Neil.

Also, when considered with the hindsight of a subsequent comment.

*TC 21/10/16 Colin called Richard to see if he had had further thought regarding the GSM modem component of the new booth design Richard requested that Steve join the call and Steve stated, “that he did not want Neil having the ability to interrogate the booths remotely”.*

This is further evidence of the dyadic nature of trust as the trust between the brand holder and Mick had been affected by a low level of trust present in the employer/employee relationship between Richard/Steve and Neil.

Values as a component of interpersonal trust was also evident by virtue of the discussion about football when Colin and Richard met and the previous project discussions between Neil, Mick and Colin, yes this does also establish an understanding of competence but finding where they share similarities, such as work ethic is a main aim of these discussions.

Having established that competency and integrity are importance factors of interpersonal trust, which is considered to be precursors to the wider trust that will facilitate the transfer of knowledge, an important factor in a developing a network of collaborative entrepreneurs, the next stage is for the individuals within the network to decide the desired outcome of a trusting relationship and how this can be achieved.

During an informal discussion, (11/12/16) at the NEC following a trade exhibition, attended by all UK based members, Mick stated

*“We do not all seem to agree on what we want, and this is delaying the development of the booth”*

This led to a lively discussion on all aspects the booth development, the spray tanning market, future needs, and ideas as to how the network needed to develop, to both serve and take advantage of the changes predicted for the market.

Richard was keen to ensure that the booth development was kept financially viable pointing out that;

*“ the UK market currently targets a lower income group than the American market”*

Colin and Neil were keen on ensuring that the booth developments were future proofed and that features such as remote access and app-based control, while not essential at the beginning, should not be engineered out.

Steve was focussed on having something that could sell throughout Europe and that could also leverage solution and consumable sales.

Mick while engaged in the technical discussion believed that it was important to spend time ensuring that the production and pre-despatch testing and installation procedure for the standard booth was made more rigorous so as to not repeat mistakes made in the past.

### 5.3 The Tipping Point

At this stage the data indicates that the network had reached a critical point. The booth development had stalled due in part to issues of trust, and there was a lack of a holistic agreement and shared vision as to what was required to take the development to the next stage. The action research cycle described in this and subsequent sections is shown in Fig 10 (p.128)

Whenever individuals with limited social ties come together to form a group, team or network trust is essential to ensure a smooth process to achieve the aim of the collaboration. Factor in to this the financial implications of a group of small business collaborating and the issues of trust become heightened.

Hurley's model of trust (2005) while acknowledging a social psychology foundation does appear to take a more pragmatic approach to trust building and the future action research cycles and facilitation will use the knowledge of both this and Mayer et.al (1995) model of trust to inform both the approach to the interventions and the analysis of the data that is garnered from them.

Facilitation had remained passive during this stage, mainly because I found myself in the same position as the other network members. I was questioning who I could trust but also needing to deepen my understanding of what needed to be done for trust to develop among all group members. In addition, I was still finding my way in the network so felt that adopting an active facilitation role had the potential to derail attempts I had made to build stronger relationships with members of the network. I also felt that future facilitation needed to be conducted in partnership with other group members so was keen not to adopt a too active facilitator role as this may have stopped other group members stepping up.

Reflecting on this period it was the most personally stressful time to date in the collaboration. I recall a discussion with my wife when she asked me,

*"if it was really worth it and would it not be better to just walk away and focus on something else"*

I understood her concern and as she is as a co-director of the company, I had to consider the impact on the business. I was also convinced that despite the problems this collaboration could be profitable but

more importantly I was keen to see the new booth launched as I would have considered anything less a personal failure.

#### 5.4 The Whole System in the Room

The data shows the route to this point where for the network to survive there needed to be a change in approach to development and sales and this was only possible if all parties involved shared the vision for the booth. As discussed during this period there had been several meetings within the network but there had only been one occurrence of a meeting attended by all UK based members and there had been none of all active members attending and it was clear that to overcome the impasse there was an immediate need to get the whole network together.

Ludema (2000) stated that “having the whole system in the room also brings an ecological perspective: all the pieces of the puzzle come together in one place and everyone can gain an appreciation for the whole. The unique perspective of each person, when combined with the perspectives of others, creates new possibilities for action, possibilities that previously lay dormant or undiscovered.”

The Appreciative inquiry summit is an established method of getting the whole system in the room.

*“While still in its infancy, as a large group process, the Appreciative Inquiry Summit methodology has advanced several major initiatives with great success. The benefits of the experience of “whole system positive change” range from building relationships and partnerships to building businesses and global organizations. Appreciative Inquiry Summits have been conducted at medical centres, universities, consumer products, and high technology companies. They have been used to craft an innovative union-management partnership, to form a strategic business alliance between two high technology companies, to do annual companywide strategic planning, and as a forum for culture change.”*

(Whitney and Cooperrider,2000: p1)

The literature relating to AI summits consistently describe them as large group meetings or interventions involving 30 to 3000 participants (Ludema et.al, 2003 P.49). However, they are also described, sometimes in the same sentence, as a whole system or company-wide event (Weisbord and Janoff, 2010).

Despite the researcher and the wider group feeling that AI was the ideal model of participatory action research to enable the group to face the challenges that lie ahead, there were reservations on the part of

the researcher as to how the suitability of the AI summit for a group of only six people. A search of the literature did little to ease these fears as there is limited literature that specifically refers to the AI summit in a small group, network or business.

The decision was made to look at the literature that discusses this large group process which have been used worldwide to see if the structure and processes used can be applied to a smaller group. Powley et al. (2011) suggest that the AI summit format can be used as a participative management tool in a command-control environment such as the Navy, but they also make the observation that the AI summit “represents a communal atmosphere where the temporary suspension of normal organization structure allows for the accomplishment of significant, empowered strategic work” (p. 78). Despite the large size of the organisation at the centre of their study this observation was of interest as the network as it was structured at this time had multiple organisational structures, those within the individual organisations, those within the relationships between individual companies and the overall developing structure within the network as a whole.

Weisbord and Janoff (2010) describe AI summits as being modelled on their Future Search Conference and although there is more of a desire in large organisations to be seen to be involving all employees in strategic decisions, empirical evidence points to these being box ticking exercises adopting the “flavour of the month” managerial approach. Small and especially micro business take a more egalitarian approach to strategic decision making and although these may not be consultant led and using the current in vogue methods, they are truly company wide and encompass the whole system.

A network of small businesses is made of individuals who are used to making decisions and taking control of a situation, there is not a single individual, as there is in a large organisation, who can command that the whole network converge on a specific location at a specific date to discuss matters that he/she consider to be of importance. Meetings within a network are negotiated and it is important that the time spent is considered as useful to all attendees. This takes the form of a self-managed action learning set which Bourner (2011) argues is more suitable than having a set facilitator as many of the skills employed are management skills rather than facilitation skills. In contrast Antell (2014) argues that a prioritisation is a barrier to self-facilitation and argue that for some organisations an external facilitator gives the process authority.

In the context of a network of collaborative entrepreneurs as they learn from their actions the model of a self-managed action learning set (Bourner, 2011), is considered to be a suitable method



to take the network forward. This is predominately due to the fact that small and micro business owner are naturally self-motivated problem solvers, as this is what they do on a day-to-day basis to not only grow their business but to put food on the table and pay bills. There is however a possibility that the focus of self-facilitation will be on task as this, through sales, leads to financial reward and group process will be neglected leading to issue in the later stages of the groups evolution.

In a geographically disparate network with individuals focussed on multiple tasks and where time is often limited the organising of the AI summit was unlikely to be a combined effort and would invariably require an individual to take the initiative. Based on the previous section this could be viewed as leadership, but I would prefer to view it as facilitation. The rationale behind this view is multi-faceted, leadership carries with it, “baggage” in the perception of the other members of the network. As Antonakis (2014) states; leadership is essential for organizational and follower performance because it is centred on actions that ensure organizational adaptation, reification of vision, and facilitation of follower work outcomes (p.9).

The group at this stage was taking the form of an embryonic self-managed action learning set which remained fragile due to underlying unresolved trust issue, technical disagreements regarding the booth development and network members that had never met. Bourner (2011) argues for self-managed learning sets as that many of the skills of set facilitation are management skills rather than facilitation skills. While Antell (2014) states that prioritisation is a barrier to self-facilitation and argue that for some organisations an external facilitator gives the process authority.

In the context of a network of collaborative entrepreneurs as they self-manage their action learning it is difficult to consider how simple issues of logistics or prioritisation will hinder their development. Small and micro business owner are naturally self-motivated problem solvers as this is what they do on a day-to-day basis to not only grow their business but to put food on the table and pay bills. I consider the self-managed action learning model (Bourner, 2011) to be a more suitable method to operationalising Revans theory but without a facilitator in place more attention needs to be given to issues of process rather than details of task.

At this stage the network was fragile, there were underlying issues of trust that had not been fully resolved, there were members of the network that had never met and there was technical disagreement regarding the development of the booth. Although the individuals in the network, would not resist someone taking control to get a problem solved, following is not what they do, they consider themselves as leaders, and given the global commercial success of two of the companies involved this is not without merit.

What the network needed at this stage was facilitative leadership (Rees, 2001) to build consensus among the members. A discussion between the Colin and Mick led to a decision that the organisation of the AI summit would be shared between them, as they were the only members of the network who had communicated with all other members and also, and probably more significantly, they had known each other longer than any of the other members had known each other, and there were no significant trust issues between them.

### 5.5 Leadership and Collaborative Entrepreneurship

This raises questions regarding whether there is a need for leadership in a collaborative entrepreneurial network and if a leader is required how this differs from other organisational forms of leadership.

Rickards and Monger (2006) and Gupta et.al (2004) argue that an entrepreneurial leader is central to the entrepreneurial team and that such a leader must create visionary scenarios that are necessary for selecting and mobilizing a supporting cast of interdependent members who commit to and enact the vision to achieve strategic value creation (Chen, 2007).

Carland and Carland (2012) describe shared leadership in an entrepreneurial venture as a function of a desire in the mind of entrepreneurs and members of the entrepreneurial team, to share the vision development and maturation process and/or to share the command-and-control process of the venture.

Jason and Eisenhardt (2007) found that some inter-organisational collaborations use a domineering leadership process where dominant firms control decision, others use a consensus leadership process where firms seek agreement in joint decision making, relying on social norms like reciprocity and generosity to ensure that commitments are fulfilled (p.14). They argue that these leadership styles result in lower levels of innovation than rotating leadership, a process in which each of the firms involved in the collaboration lead the collaboration in discrete phases over time, bring different approaches to decision making, utilizing network resources and directing the trajectory of the relationship.

Conger (2004) describes shared leadership as occurring when all members of a team are fully engaged in the leadership of the team and are not hesitant to influence and guide their fellow team members in an effort to maximize the potential of the team as a whole. Simply put, shared leadership entails a simultaneous, ongoing, mutual influence process within a team that is characterized by “serial emergence” of official as well as unofficial leaders. In this sense, shared leadership can be considered a manifestation of fully developed empowerment in teams.

Bligh et.al (2006) states that a prominent distinction between shared leadership and more traditional forms of leadership is that the influence processes involved may frequently include peer or lateral influence in addition to upward and downward hierarchical influence processes. Particularly in cross-functional teams which lack hierarchical authority or have a formally appointed leader who is highly dependent on the team members' unique knowledge, skills, and backgrounds, shared leadership may be a powerful and potentially successful form of leadership. However, theoretical and empirical work is just beginning to explore the antecedents and consequences of shared leadership. In particular, we have little insight into how individual-level constructs that members bring to the team may influence the development constructs such as shared leadership at the group or team level. They suggest that self-leadership may be one potential individual level antecedent of shared leadership that is particularly worthy of exploration.

Berry (2004) discusses team leadership with the context of the Mayo Clinic, a non-profit collaborative health care provider based in the USA. The team leadership model at the Mayo Clinic pairs a medical professional with an administrative partner to.

*“protect the patient first value system and implement the physician leaders’ vision in an efficient, fiscally sensible manner” (p.236)*

For the model to work an administrator interviewed by Berry states.

*“The physician leader and the administrator must share a similar vision for the department, or the model will not work. While differences in style or implementation strategies can usually be overcome, there must be a commonality of vision for the partnership to succeed” (p.237).*

These leadership style have been suggested as suitable for knowledge intensive teams and by Zander and Butler (2010) for multi-cultural teams, both characteristics of the team at the centre of this study. However, leadership infers a formalised hierarchy and a prescriptive process that consciously occurred at some time prior to, or during the formation of the team. It is debatable if this is suitable for a collaborative entrepreneurial network, that formed organically out of the differing economic needs of all the involved companies, it is also debatable, knowing the personalities of those in the network, that an appointed leader would be acceptable. It is considered that, based on the early data presented in this chapter, leadership will be a fluid role, that will take the form of the shared leadership described by Carland and

Carland (2012) changing with the needs of the network as situations arise and as specific knowledge skills will need to be employed to move the network forward.

## 5.6 Selling it to the Others

At numerous points in this thesis the discussion has focussed on the nature of the network, it consists of business owners, some of whom run companies with considerable turnover, some who travel extensively for work and all that have demands on their time. The cultural differences have also been discussed and there were concerns that adopting the traditional 4D or 5D cycle; Define-Discover-Dream-Design-Deliver; could be met with resistance mainly due to the language used which Mick once described as

*“sounding a bit American and unlikely to go down very well on the east side of Glasgow”*

Considering that the team consists predominately of individuals from broadly individualist cultures, the collectivist centric nature of the AI process will influence the facilitative process employed to encourage all members to become fully engaged.

Mick and Colin embarked on a shared narrative in interactions with the network, in which they mentioned the need to all meet, discussed how

*“quickly things could progress if we all sat together and aired our views”*

Colin mentioned to the USA customer that it

*“was about time he had the chance to repay some of the hospitality he had received from him in the USA”.*

These actions built enough momentum within the network for Mick and Colin to feel confident, in January 2017, to propose the first whole network meeting.

Key to selling the idea would be date and location. In respect of date there needed to be enough advanced notification to fit with the demands of everyone’s schedule, but it also had to be soon enough to maintain momentum and to ensure that there was enough time, post AI summit, to implement technical and marketing outcomes relating to the booth development before the next round of trade shows.

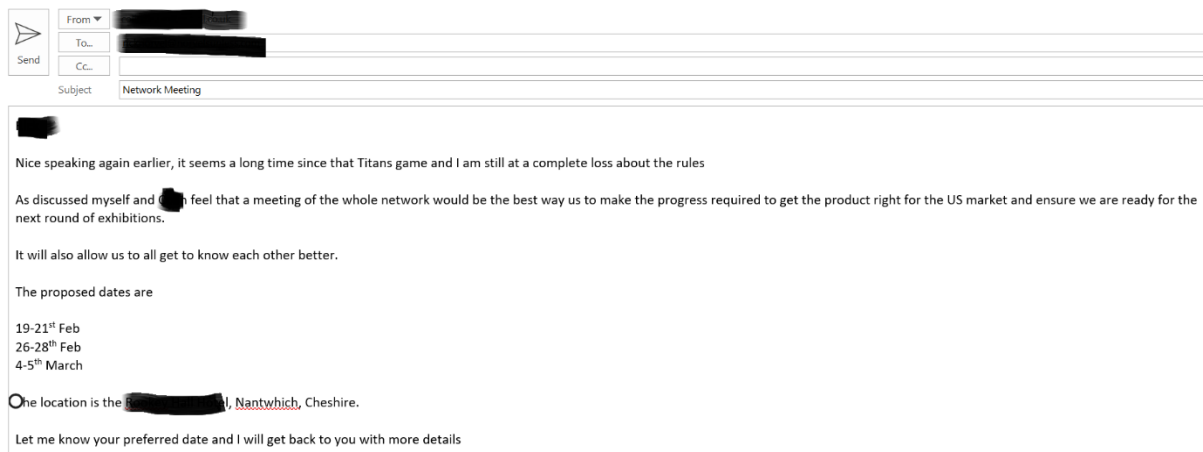
Location was more about setting than geography, Mick commented.

*“We have a couple that are about image, you know who I mean, but also Richard won’t want to be seen to be wasting money on a jolly”*

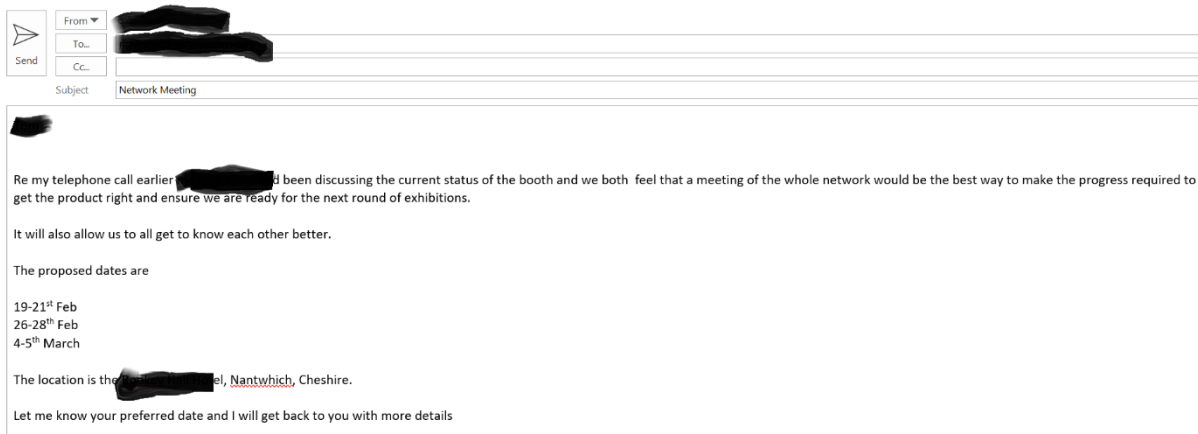
The literature mentions little about the location of an AI summit, Cooperrider and Witney (2005) state that they have been held on medical campuses, at universities and high-tech companies but they give no specific guidance as to a preferred type of location. Based on the makeup of the network it was decided to select a hotel in Cheshire as the location, this was easily accessible by road and air, had suitable group meeting rooms, relaxation facilities and was at a cost that was at a level which would impress some but represented good value for money for others.

Three dates were suggested ranging from 4-6 weeks in the future and these were communicated to the group via a phone call from either Mick or Colin, during this call the reason for the meeting and details of the location were discussed, but not at this stage a detailed plan, as it was believed that the agenda should be developed collaboratively by the network. The phones calls were confirmed by a follow up email.

Below is an email sent by Colin to Nick, it has been redacted to maintain confidentiality.



Below is an email sent by Mick to Steve, again it has been redacted to maintain confidentiality.



As can be seen the emails share a common layout which is to be expected in a simple functional communication with the same aim. The key sentence that was discussed by Mick and Colin was, ***“it will also allow us to all get to know each other better”***; this was suggested by Colin as language that would focus on a future state of mutual trust to create the “positive energy that is needed to carry out changes”, (Whitney and Trosten-Bloom, 2010). This was met with a slight eye roll and a comment from Mick that was to become a regular retort when Colin discussed AI

*“University stuff again, oh well to be expected”*

The response to the AI summit, although at no point had it been called this in communications with group members outside of the discussions between Colin and Mick, was positive. Within two weeks the five network members, other than Colin and Mick, had communicated their preferred dates and as the two members travelling from overseas both preferred the of 26-28<sup>th</sup> February 2017, this was also acceptable to all UK based members of the network.

The process of selling the idea of a “whole network meeting” had been easier than expected and on reflection this possibly was an indication of where the network was at this time. There had been positive market acceptance of the first-generation booth and the majority of the network members could see a profitable future if issues were resolved quickly. Mick said to Colin during a non-network related project.

*“I was talking to (name of his wife) the other night and we both agreed that if this was handled right it could be a really good product”*

## 5.7 Designing the AI Summit Agenda

Despite an overwhelming desire, from both an academic and business perspective, on the part of the researcher to take charge and develop the agenda for the meeting, it was considered important that the

agenda for the meeting was generated collaboratively. Due to personal issues Mick the owner of the booth manufacture was unable to be involved in the development of the agenda and the detailed organisation of the meeting. Due to this Colin, enlisted the help of his wife and co-director to undertake some of the back-office tasks required but she, through her own choice, was not directly involved in any direct interactions with the network.

Whitney and Cooperrider (2000), state that while each summit is unique its own design, there are some common aspects in the design of successful AI Summits. The length they suggest should be between 2 and 5 days with a minimum of two overnight stays (Weisbord, 1992), to allow time for much needed personal reflection, informal dialogue and whole group synthesis. While they argue that the AI summit is designed to flow through the Appreciative Inquiry 4-D process from discovery to destiny. Bushe (2012) credits the Clergy Leadership Institute in the U.S. with advocating a 5D model with the first step being to define the issue. The additional step of defining the issue appears from the literature to be a step that is taken by educators, medical professionals, or OD and HR professionals, (Pretorius and Junquera ,2018; Watkins et.al,2011; T.R. Luhailima et.al, 2015). As in this specific case the aims of the collaboration, and it can be argued the aims of the AI summit have been pre-defined by the issues that have arisen in the early stages of the network, it is considered that this additional step is redundant. In the spirit of what Whitney and Cooperrider (2000: p15) describe as the overarching aim of the summit - to draw people together for a unique purpose and task focus- it was decided that a flexible agenda should be developed. This would allow sufficient time for all network members to discuss their own vision for the collaboration, set out how they believed they could and wanted to collaborate, how they imagined the outcome of the collaboration would look in the future and how this would benefit them and their business.

Despite my personal commitment to appreciative inquiry and the network members, that had been consulted being accepting of the principle, without fully understanding the details, I was still concerned over some of the language and the methods used how these could be applied to a small network of business owners. I went back to the literature to find previous work that would inform and confirm ideas that I had for the agenda.

Bushe (1998) advocates the use of his "Best Team" form of appreciative inquiry that was developed specifically for use in small groups. In respect of on-going teams Bushe (1998) suggests four different ways in which this form of AI can be used (p.4).

1. Team building retreat where the focus is to increase effective relationships.
2. An inquiry that is appropriate to the issues the group faces.

3. Paradoxical intervention into groups stuck in undisclosed resentment.
4. Resolving Group Paradoxes.

The data collected prior to the decision to hold an AI summit indicates the group lacked effective group-wide relationships, there were structural holes (Burt, 2017), in the group that restricted knowledge flow leading to slow product development and issues of trust among group members, that was suffocating innovation. The AI summit was arranged to address these issues and Bushe (1998) suggest that an effective approach in situations such as this is for the members to individually spend time describing their “*best experience in the organisation*” or more relevant to this specific case, where some members have worked previously with others but not the group as a whole, describing their positive experiences when working with each other.

Addressing the specific issue of trust was, by the UK based members of the network, considered to be the most important reason for the AI summit. Bushe (1998) describes AI as being “likely to be useful when a group is in a social process type of rut” (p.5) and suggests that the “best team” approach where members discuss experience within the group can be a gentle and effective way to setup up disclosure and feedback (p.5).

When discussing group paradoxes and paradoxical inventions Bushe (1998) gives examples of how groups become stuck due to undisclosed resentment members had to each other. As has been documented there was a paradox between not trusting and knowing that the only way the group can move forward is to trust. It is hoped that in the process of discussing the “best team”, what has been achieved so far within the network and what individuals have achieved when they have worked with other members of the group the paradox will be resolved.

It has been mentioned more than once in this thesis that I have concerns over the almost evangelical tone of Discovery – Dream – Design – Destiny (Cooperrider & Whitney, 2001). Considering this concern along with the similar documented reactions from some group member when academic ideas were discussed, I was pleased to see that Faure (2006) concurred.

*“I have always had a personal preference for the Mohr/Jacobsgaard 4-I model [Watkins & Mohr, 2001], because I have found the words Initiate, Inquire, Imagine, Innovate to be more “business-friendly”. Believing in the fundamental AI precept that “words create worlds”, I prefer to reduce the risk that the*



*approach be written off from the start due to an easily avoided misunderstanding over potentially emotive words such as dream.” (p.5)*

Faure (2006) and Jordan & Thatchenkery (2011) describe an Initiate stage that involves explaining the principles of AI to a subset of the whole group, who then “sign off” on the principle before the process is began with all participants becoming involved. It is assumed that this is due to the larger group sizes in these respective studies and it is also a function of the external facilitation being employed in both cases. The methods employed in the inquire, imagine and innovate stages share much with the dream, design, and destiny stages of more commonly deployed 4D, however as discussed, the language is easy to sell to a group of small business owners.

In addition, while it is acknowledged that there is relevance in adopting a process that includes specific activities; Setting the Task Focus – Appreciative Interview – Who are we at our Best – Positive Core Map-Continuity Search, Whitney and Cooperrider (2000). I believe that AI need not be a prescriptive function, where methods and activities are used because they fit the model. Instead, there needs to be time for individuals to express what they need from the collaboration and as the comment from Mick

*“University stuff again, oh well to be expected”*

indicates there is a resistance among some of the member of the network to what could be described as in vogue management techniques which as Steve once commented.

*“are fine if you have the time for staff to sit around navel gazing but not if you need to get a job done”*

### 5.7.1 The Finalised AI Summit Agenda

Taking the literature discussed in the previous section into account and considering the unique nature of the group, its culturally diverse membership, the lack of a central focal point of control and leadership and that the facilitation was being done initially by a single group member, but which evidence had already indicated was likely to rotate among group members as the focus of the task at hand changed, it was important that a tailored agenda was developed.

This agenda was communicated to the group by Colin via email on the 10<sup>th</sup> February 2017

Below is the text of this email.

*Gents*

*As discussed, we have all agreed to meet on the at the Rookery Hall Hotel Nantwich on the 25-27<sup>TH</sup> February to discuss the best way to take the network forward and deliver the next generation of the Opus Spray Tanning Booth*

*I have prepared the following agenda which I have based around an academic model that will be discussed on the first afternoon of the meeting, this model uses four stages Initiate, Inquire, Imagine and Innovate. These stages are designed to focus the mind and ensure that time is not wasted.*

*25<sup>th</sup> February (afternoon) Initiate*

*I will introduce the concept of appreciative Inquiry an academic model that is designed to take the best of what a group does and develop methods and process to move forward.*

*I will then introduce the concept of collaborative entrepreneurship, a model of interfirm alliance where firms with different skill sets collaborate to facilitate knowledge creation and in turn continuous innovation.*

*26<sup>th</sup> February (morning) Inquire*

*Discuss what we see as being what we do best, how can this be extended to all that we do and all that we will need to do to develop the right booth for the market*

*26<sup>th</sup> February (afternoon) Imagine*

*Discussion as to how the collaboration should be structured and how we all benefit.*

*27<sup>th</sup> February Innovate*

*What are the limitations of the booth in its current format?*

*How do we make it better?*

*Future wish list.*

The composition of the group and the issues that had arisen were significant factors that informed the design of the agenda. The use of open sessions is designed to give space for individuals to establish their place in the collaboration. Unlike other forms of collaboration where roles are predominately fixed, for collaborative entrepreneurship to succeed roles need to be more flexible as different skills will be required

as the collaboration develops. It is therefore important that what each member of the group can bring to the collaboration is known to the whole group as early as possible.

Chambers et.al (2018) suggest action learning workshop with tasks designed to build relationship, facilitate knowledge transfer, and encourage reflection. However, given the small size of the group and the individuals involved and the nature of collaborative entrepreneurial networks it was considered that open session with limited and rotating facilitation was preferable.

Other forms of collaboration traditionally have a lead or focal company, such as the lead entrepreneur who has invented a product and the other companies or individuals who supply products or services take a more subservient role. This is not the case in CE, as for innovation to thrive all involved must feel confident that they can take a focal role as required.

The language used in the email was designed, especially when considering the earlier discussion regarding leadership, that there was no impression that the sender was "In Charge" but it was important to show that he was facilitating a process that would help the group as a whole deal with and hopefully progress past a situation that was suffocating innovation and that this would be for the benefit of the group as a whole. This was to become a theme of the interactions where the individuals found a place within the network which transcended their individual financial and business interests so that they could play a part that benefitted the whole, only then could the network be described as collaborative.

## 5.8 AI Summit

The AI summit was arranged with the approval of the whole group, was designed by two members of the group and was the first time all group members had been in a room together. The collaboratively agreed purpose was to deal with the issue of trust that had stifled innovation in the early stages of the network, develop a climate that would facilitate knowledge transfer for the good of the group and to agree the design of the next generation of the booth so that all companies involved would benefit.

The group conveyed at the AI summit location between 11 and 3 pm, for reason that went beyond simple logistics, Mick collected Nick from Manchester airport and Colin collected Badri from Manchester airport. This had been discussed between Mick and Colin as it was felt that as Nick and Badri had never met it was better that they travelled to the location of the AI summit with someone that they had already established a rapport with. However, what had not been considered by Mick and Colin, was the reaction to Mick's arrival at the location with Nick from both Richard and Steve. Mick later confided in Colin that Steve

looked *“like someone had asked out his girlfriend”* and that Richard said that he would have happily collected Nick if he had known when he was arriving. Considering this concern in context of the question, discussed earlier in this thesis, asked of Colin by Richard on the 28/9/16.

*“Do you think Mick is paying Neil a royalty for every booth control panel he builds for us”*

It displays a continuing concern on the part of the directors of the brand holder in respect of the integrity of Mick, a concern that Mick felt needed to be addressed as quickly as possible.

### 5.8.1 Initiate Session

Following brief introductions to those members of the network that had not previously met and conscious of the fact that while all had travelled to be at the summit, some had travelled considerable distances, Badri from India via an overnight stop-over in Munich and Nick directly from Texas, it was decided to move quickly on to the only formal, in the loosest sense, discussion planned for that day an introduction to the concept of collaborative entrepreneurship and appreciative inquiry by Colin. It has already been mentioned that some of the network members treated academics with a degree of cynicism, so I decided to keep the explanation as practical as possible.

Based on the work of Bushe (2007) I discussed the generative nature of AI rather than the positive. I illustrated this with stating that I would like the network members to think about the following questions and we can discuss them tomorrow morning.

Question 1 – What can we achieve together that we could not easily achieve on our own?

Question 2 – Can we improve how we work together?

Question 3 – What do you want from this collaboration #?

These questions, while simple in nature, were based on data from the previous nine months of interactions within the group and it was expected that this would be recognised by the group, and that it would enable the conversation to quickly to move to a point where new ideas would be generated. This it was hoped would vividly illustrate the benefit of appreciative inquiry and highlight the different stages, in this case Inquire, Imagine and Innovate.

Neil- "I thought we were here to sort the technical requirements for the booth not to be involved in some academic experiment"

Richard – "We will get a spec buttoned down before the end of the weekend, but I think we all agree that there are some broader issues that need to be addressed first"

I felt that at this stage there was potential for the conversation to begin to drift into areas that would be covered later in the weekend and although I was conscious that I did not want the AI summit to be too structured and that at this stage, the outcome was more important than the process I was also very conscious that some of the members needed to rest so I decided to interject and suggest a drink at the bar before dinner.

Prior to the start of the AI summit, I had personally decided to suspend my note taking during leisure times such as drinks and dinner. This was partly to give me time to re-charge and also, I was conscious that constantly taking notes, especially during time where the other members of the group considered themselves to be "off duty", could potentially lead to me becoming isolated or members not being open. The reality of the situation was however more challenging as the conversations and actions of the group members during these times revealed data that was important to the project.

Roulet et.al (2017) describe Goffman's (1959) dramaturgical metaphor and in particular his analysis of 'regions' and 'region behaviour' as especially instructive in sorting through the fragmented identities endemic to the work of participant observation. Goffman (1959) states that regions consisting of a front stage component, where the performance is given, and backstage component where it is routinely contradicted are constantly shifting are about place and identity with some regions defined and delimited by physical space and some arising in response to who is present or not.

While acknowledging that both Goffman's (1965) and Roulet et.al's (2017) work is based on covert participant observation and that my own role of researcher in this study is more engaged participant observer (Robey & Taylor, 2018) seeking to generate practical knowledge that also is scholarly, I argue that during the different phases of the group interactions my identity moved between, business owner, academic and at times covert observer as I put away my notebook and observed, relying on memory to absorb the relevant data.

### 5.8.2 The First Evening

As the group members congregated in the bar, Nick, one of the more gregarious individuals in the group began to spoke about how many emails he had received while in the initiate session and he was sure the place would collapse if he was away for more than a week. Adair and Brett (2005) argue that posturing is typical at the start of all negotiations and although the statement could have simply been a reaction to issues at his office, I feel that in this context it was designed to position himself as a leader.

#### **Personal Reflection**

It was noticeable during dinner that some members of the group remained close to those who they had previously worked with Mick and Neil, spent most of the evening talking to each other with limited interaction with the rest of the group. In contrast both Badri and Nick were more socially active and made attempts to make conversation with the whole group and in particular Badri spent a long time talking to both Richard and ST.

There are clearly some cliques in the network, and I need to encourage the cross-network communications similar to what Nick and Badri are doing as this will improve network communication and hopefully reduce trust issues.

It is acknowledged that an individual's personality dictates the degree how socially interactive they are in different social settings but given the specific context of this meeting where the known aim was to bring the group closer together, I believe the actions of members was indicative of their desire to be actively involved and the actions of Badri and Nick in particular was positive as these were the outliers within the group and were the ones more likely to affect change. To clarify they were seen by the other group members as less aligned with factions with the group, the engineers and the sales orientated people, and they were also less involved in meetings due to geography.

It was clear from the interactions during this brief evening session that an important role of facilitation during the remaining two days of the AI summit would be to ensure that all group members became fully engaged in the process and to reduce the factions based on knowledge, expertise and previous relationships.

### 5.8.3 Inquire Session

The inquire session began directly after breakfast on day two of the AI summit

As discussed earlier in this section and in line with the principal of appreciative inquiry I began with a question

“What can we achieve together that we could not easily achieve on our own”

Neil was the first to respond to question 1.

“I have been designing tanning booth products for years and know more about airflow, spray patterns and drying methods that anyone here”

It appeared to me that this comment was a “flexing of his technical muscle” which I believe was a reaction to feeling marginalised as he was the only employee of a network company directly involved in the network interactions, as all other members were either owners, shareholding directors or directors in name.

*Nick responded*

*“yeah, and I have been selling tanning products for years and know the American market so don’t think you can do this alone”*

Again, this is an example of the individual wanting to find a place within the network and highlighting their experience and knowledge to emphasis what they consider their role to be.

Colin stepped in and with the backing of Richard

“We all have something we can bring to the table here, and I think we all know that what we can achieve together will be way more that we can achieve alone, and let’s face it there are some people here myself included that in respect of this market can achieve nothing without you guys” (reference to Rick and Neil).

Richard - *“If I understand Colins idea’s correctly, we are supposed to be focusing what we do well, we have done some good stuff in the last few months, of course it needs a few tweaks, but we are getting their and*

*keep talking about what went wrong and worrying about if you are going to be part of it doesn't help, we all need to work together"*

This interjection came as a surprise as Richard is a very quiet man and in situations such as this he usually looks to the more gregarious Steve, who is more experienced in the tanning market, to comment. His comments appeared to hold more gravitas with the group and despite a degree of tension still being palpable there was a more relaxed atmosphere in the room.

This impact of the interjection by Richard is interesting if we consider the fact that he is the only non-expert, in respect of automation, engineering and the tanning market, in the group. Why did the group listen to him, of course he is the managing director of the brand holder the company that was at the centre of forming the network but there is no traditional hierarchy and with the exception of Steve and Neil no one was contractually obliged to report to him. From a purely personal perspective I felt that unlike some of the other members of the group engaged in the conversation he was not looking to impress the others with proof of a skill or knowledge, he was simply trying to move the process forward and for this reason his comments were welcome.

As the members joined the network, they all had well defined roles within their own organisations and data from the early stages of the AI summit indicates that some individuals within the group were confused as to their role in the network. This could be seen as an indication that the group was in a stage of role negotiation, a process of changing the role which an individual or group performs through negotiation with other interested parties, (Harrison, 1976). These roles include not only an individual's formal job description, but also all the informal understandings, agreements, expectations and arrangements with others that determine the way one person's or group's work affects or fits in with another's.

However, I believe that within the specific context of this meeting it is more accurately described as "role renegotiation" (Reddicliffe, 2011). The process he describes accommodates for the changing circumstances over time which he argues frequently means that the roles and responsibilities of people working together may alter and require renegotiation. Applied to a CE network it is likely that as the network moves through the stages of innovation, marketing and sales, roles will change as individuals become more, or less involved, depending on their skills and knowledge. The process is also suited to a variety of relationships and is designed to provide period reviews of working relationships and although not specifically designed to deal with major conflicts the process can offer assistance when dealing with



disputes or disagreements that arise where expectations regarding roles and responsibilities have changed or become unclear (p.32)

After a coffee break the conversation moved onto discussion about when individuals in the group had previously worked with each other. The purpose of this activity was to highlight the collaborative as it was clear from the previous interactions that not all members of the network had been actively involved in collaboration.

Badri spoke about various time when he and Colin had developed special products, worked in new markets and come up with ideas for new software features. Colin recalled a specific product which was a challenge. When working collaboratively a product was delivered to a very demanding temperature range and including, at the time, some unique features.

*Badri - "to be honest when we first discussed that one, I was sceptical as to if it would be worthwhile but not only have the sales been good it has opened some of our teams' eyes to what is required in different markets and helped us to deliver better products"*

*Mick "Sound familiar doesn't Neil*

*Neil - "The robotic sprayer for the pneumatic hoses or the ambulance number plate reader"*

*Mick - "Come to think of it probably both"*

I believe it adds nothing to this study to report in detail the conversation that occurred between group members. What is important is the nature of the conversation, how they have successfully collaborated in the past, with other members of the network or with different partners. This period of conversation appeared to reduce the previously felt tension and it was noticeable that a more open dialogue was now beginning to develop among the group members.

*Colin - "It is good to hear that we have all had good experiences of working with other people and I think we have all had some good experiences in this group"*

*Nick - "Yeah I suppose we have the first version of the booth was getting there we just need to make the next step"*

*Colin - "That is the essence of appreciative inquiry take what is good focus on it and use what is learnt to do good things in the future"*

*Steve– “OK so I think we all agree that we need each other to get this project finished so how do we go about it”*

*Colin – “Any ideas Richard*

I asked this question as I was keen at this point to get others to come up with ideas rather than just responding to question, I had raised, the group needed others to ask the questions and to speak in a less reactionary way than had previously occurred.

Facilitation during this session was proactive but not obvious. By this I mean that facilitation needed to push the agenda forward, but it needed to be done in such a way that it not stopping the flow of conversation and that I was not seen to be taking charge and was also not seen to be acting as an academic outsider but simply a fellow collaborator who was as keen for this to be a success as the rest of the group.

Both Steve and Richard then spoke about how they needed to better understand the market in the US and take lessons from that into the European market, Nick offered to help with this.

*Mick - “This is when we work the best when we can discuss openly what we need, me Colin and Neil regularly talk about what needs to be done from a technical viewpoint”*

Although I was tempted to inject at this point and try to steer the conversation in the direction of the three questions discussed earlier, I felt more was served by letting it continue with just some gentle nudging.

*“so, when we share information it helps and problems are solved”*

*Badri “it doesn’t affect me much because me and Colin are always open but in my experience with other collaborations improving open communications is key to future success”*

*Steve- “Guys we seem to be losing our way a bit here, let’s think about what was asked at the beginning, what can we do together that we cannot do on our own we need help from you Nick as you know the market and if we don’t get the marketing right we might as well give up now”.*

*And unless I have got this wrong the Neil and Mick need each other.”*

*Richard - "And they both need Colin and Badri right?"*

*Badri - "I am not sure if this helps but what we do at (name of his company) is regular meetings, not always face to face as a few of us travel a lot, but we always have a set time to discuss things like, production, sales and future products"*

*Mick - "At the moment we only seem to talk when there is a problem, or someone is pissed off with someone else"*

*Neil - "I agree, maybe I would be a good idea for us all to talk at a set time every week or if not all of us at least someone who can input on a technical and sales grounds and can feed back to some of those in different time zones"*

*Colin - "Also, I would be happy to send an email, say every 2<sup>nd</sup> Friday with progress updates"*

*Nick - "Don't tell me it is that easy"*

*Richard - "Shall we say we have a plan and let's be flexible about it as long as it gets us talking and get things moving then I think we will all be happy"*

My feelings at this stage were that despite the increasingly positive mood in the room it would be naïve to assume that underlying issues regarding trust had disappeared, but if the group could maintain positive communication over the next few months there was a possibility that issues that risked becoming corrosive would reduce as we all learnt to trust each other.

*Badri - "so shall we talk about what we want from this collaboration"*

This input from Badri was welcome as this was embryonic evidence of the shared leadership discussed previously, which given the diverse nature of the experience in the group and the fact that for some it was the first venture in the health and beauty market is likely to be an important factor in future discussions. However, it should be noted that he is one of the more experienced group members in respect of collaboration whose company has an international network of distributors and has also been involved in manufacturing joint ventures in Europe, Japan and the USA.

*Nick - "A killer booth that will show Versaspa (US competitor) that we know what we are doing"*

*Richard - "Sales"*

*Colin - "Agreed but maybe we need to think about how this will be structured and what we want from it commercially"*

*Steve - "I assumed that we were going to continue as we are, and all make money from better booth sales"*

This seemed the ideal moment for me to do something that was planned during the first session but did not happen due to the interjection from Neil and his comment regarding an "academic experiment", to introduce the concept of collaborative entrepreneurship.

The concept of Collaborative entrepreneurship as described by Miles et.al (2005) fictional case study of the OpWin global network has been discussed extensively in this thesis and given the academic nature of their description and the sensitivity of some of the group members to all things academic I decided that it would be more appropriate to discuss Pohopien's 2013 study of food truck owners.

*Colin - "The idea behind collaborative entrepreneurship is that we all work together to create the booth and what we learn as far as technology, systems, process can, if we feel they are useful, be used within in our businesses"*

*"This is something I found written by a researcher in California who spent two years with food truck owners and this is what she and one of the owners said, I know this is different from what we do but hopefully it will give you an idea"*

*We believe entrepreneurs to be these lone wolves—on their own, rogue, and maverick," she says. "These owners were not that at all. They had many opportunities to work on their own, but they choose to work with other food truck owners in this new, emerging business model."*

*"Dave Danhi, founder and CCO of The Grilled Cheese Truck, agrees that even though the fine-dining world can be very tight-knit, food truck owners work together much more collaboratively, particularly when it comes to marketing. Food trucks market themselves through social media by marketing other trucks, to draw a crowd and grow their collective reputation as a gourmet option. In turn, customers expand that social media community and drive the viral marketing.*

*"You just don't see restaurants promoting other restaurants in the same way," says Danhi. "Social media is kind of a sub-community [in] what we do."*

<https://www.specialtyfood.com/news/article/food-trucks-provide-insight-collaborative-entrepreneurship/>

accessed 14/2/2020

*Neil - "so anything you learn from us can be used by you"*

*Colin - "It is more about us learning from each other but anything proprietary such as patents on technology or in your case the downdraft design of the booth belongs to the individual companies and this will not change but if we come up with a way of doing something in the booth and think we could use something similar in a different market then we can"*

*Nick - "so you are not going to move into the spray tanning market"*

*Colin - "Why would we, we don't understand the market and the investment to make inroads is unlikely to get the required returns"*

*Mick - "Me and Colin already work like this to a degree we share ideas of projects and I have used them on other projects"*

*Badri - "We look for partners both in India and internationally that add to our products and also in the early days of the company we learnt from working with much larger companies and this has improved our internal processes"*

*Neil - "yes but also aren't you just using this idea to get your PhD"*

Robey & Taylor (2018) describe four issues that practitioner–scholars face in conducting engaged participant observation: (1) identity and relationship work, (2) potentially biased interpretation, (3) ethical conduct, and (4) publication (p.6).

The statement from Neil and those of a similar nature by other group members documented in this thesis indicate that managing my identity had the potential to be problematic. Robey & Taylor (2018) describe how the researcher's presence, despite being previously identified as a competent business professional, was met with curiosity and speculation.

They pose the question, *was I really interested strictly in research, or would I use the information to further my own interests*, and discuss how the researcher struggled with personal tensions as the practitioner role was naturally more familiar and the researcher role at times felt artificial and the difficulty of speaking as researcher to someone known as a business colleague for almost ten years.

My professional role within the group was, I believe, well established, as at this point as I had met with and worked with the whole group for over a year, despite this there were still underlying issues related to my different identities. As the main facilitator of the project, it was incumbent on me to work towards minimising these concerns as any ambiguity regarding my role is likely to have more impact on the success of the project than role ambiguity related to the other group members.

The question also raises broader issues related to collaborative entrepreneurship, in that knowledge sharing is required to make the initial project a success, and the knowledge gained during the project is used in out of network business.

*Colin - "I think I have made my role pretty clear, yes I am doing this to get my PhD but also to generate sales for my business"*

*Richard - "That is what we all want, we need to get to a point where we all accept that we have own interest at heart, but they are probably best served by us working together to produce a booth that sells"*

*Colin - "It has been a long morning and I think now is a good time to break for lunch and after we can discuss how we can structure something that we all benefit from"*

#### 5.8.4 Imagine Session

The idea of this session is for the group to decide the structure of the collaboration to imagine a future state in which knowledge is shared freely to enable booth development to accelerate and subsequent sales to benefit all group members individual companies.

A fundamental precept of collaborative entrepreneurship as a business model is that it should encourage and facilitate continuous innovation. Ketchen et al (2007) discuss how firms can carry on growing through the pursuit of innovation despite their boundary limitations. They suggest 'collaborative innovation' as a useful strategy to prolong constant successful growth through the sharing of ideas, information, experience, skills, knowledge, and opportunities. The structure of firms adopting principle of collaborative entrepreneurship have been discussed earlier in this thesis, Blade.org and the food trucks collaboration illuminated by the work of Pohopien, indicate that the model can adapt to varying organisational structures.

*Badri – “I think that we do not need a formal structure”*

*Mick – “I agree let’s keep it simple, no new company just continue as we are but work a bit closer”*

*Richard – “I see it as simply making sure we all understand that to get the booth to market we need to stop thinking like customer and supplier and be more open, share more”*

For several minutes following these initial comments there were overlapping conversations between the group members which indicated the favouring for a loose structure with no shared ownership of a new entity, or cross shareholding of the companies in the network. There was however one exception.

*Neil – “I am not a shareholder of .... (name of the brand holder) so it really makes no difference to me how it is structured”*

This was Neil’s first comment in this session, and I believe this indicates that despite the accepting nature it was indicative of some continuing insecurities regarding his position within the network. Only the directors of the brand holder can directly address the issue of Neil’s position with the company, but the fostering of a climate of inclusion and trust is the role of all group members and the role of facilitation at this time is to ensure that this develops by encouraging full group discussions and all aspects of the booth development and network activities.

I consider, based on the evidence so far presented that a loose structure, such as the one that was preferred by the group members of this network, is suitable for a network of owner managed small and micro businesses. It is compatible with the broadly democratic management structures which is prevalent in these types of business and is employed by the companies involved in this network as it should ensure that individuals who are used to making decisions, without the need for input or clearance by a more senior member of the organisation, will continue to be able to do so.

The brevity of this session, over an hour less than the Inquire session, was partly due to the less contentious nature of the sessions aims but also due to the types of business involved. The size and structure of these lends itself to quick decision making when the decisions require no specialist input, non-technical, non-product or market specific. In this session, unlike previous sessions and meetings before the AI summit, none of the individuals needed to prove that they are the expert in the room, obviously some of the individuals are more experienced, or run larger business but there appears to be a

willingness to share this knowledge. It is unclear if this is due to an innate need to prove they are successful business owners or if they do not feel threatened due to the diverse and rarely interconnected markets that the companies involved are active in.

#### 5.8.5 Innovate Session

Bushe (2007) states that for questions to be a success in the AI summit they need to be generative. I agree but I also believe that the questions planned at the start of the summit do not necessarily need be used, if it felt that the prior sessions have generated data that indicates that the session would be improved by a different question. For this reason and particularly in light of the comment from Nick.

*“A killer booth that will show Versaspa (US competitor) that we know what we are doing”*

I started with the following.

*“Money is no object, and we can make the booth do anything so what do we want”*

I was conscious that the previous sessions had at times become bogged down in historical issues and I was keen to, with the limited time available, move the process along.

*Nick*

*“We need to keep it simple for the girls in the salon they will not want to think too much about what to do, just get the customer in, sprayed and out”*

*Mick*

*“The pushbutton and key switch used on the current model is a pain to wire and not easy to operate”*

*Nick*

*“looks old we need something sexier to impress the market”*

*Badri*

*“based on what Colin has told me some of you have a concern regarding the current PLC (programmable logic controller) you use, you have concerns over your IP if we could come up with*



*something combined with an HMI (human machine interface) you would have something easier to use, looks more up to date and protects your IP.*

*Colin*

*"I have mentioned this before, but I don't think Nicol was involved"*

*Neil*

*"what do you think Mick you know more about this than me"*

*Mick*

*"We have done a few projects together and not had any major problems so assuming that we can come up with something fairly quickly I do not see a problem"*

*Richard*

*"we have to keep an eye on cost as you know the UK market is more cost conscious than the US market and I want to avoid a different machine for the UK and USA"*

*Colin - Steve you know the US market well and know the UK and Europe market better than any of us what do you think"*

*Steve*

*"We need to keep it simple, and we need to be able to customise for different markets"*

*Colin - "Multi- language display on an HMI"*

*Nick - "we don't need that for the US market"*

*Badri - "what about Spanish for southern California and French if you sell to Canada"*

*Nick - "hadn't thought about that, that could be good I will need to speak with some of the sales reps, but I don't see why not"*

*Colin - "OK let sum up I think we all agree that an HMI would be a good idea as it gives us the ability to customise for different markets and keeps it simple for the girls in the salon"*

*This was met with general approval from all members of the group*

*Mick - "So if we add and HMI then we reduce the I/O (input and outputs) on the PLC so we might as well look at that next"*

*Richard*

*"did we talk about voice commands wouldn't this make things simple for the user and easier for the girls in the salon"*

*Nick - "we did we did well done man I had completely forgot that"*

*Mick – "I assume we could build that into the HMI"*

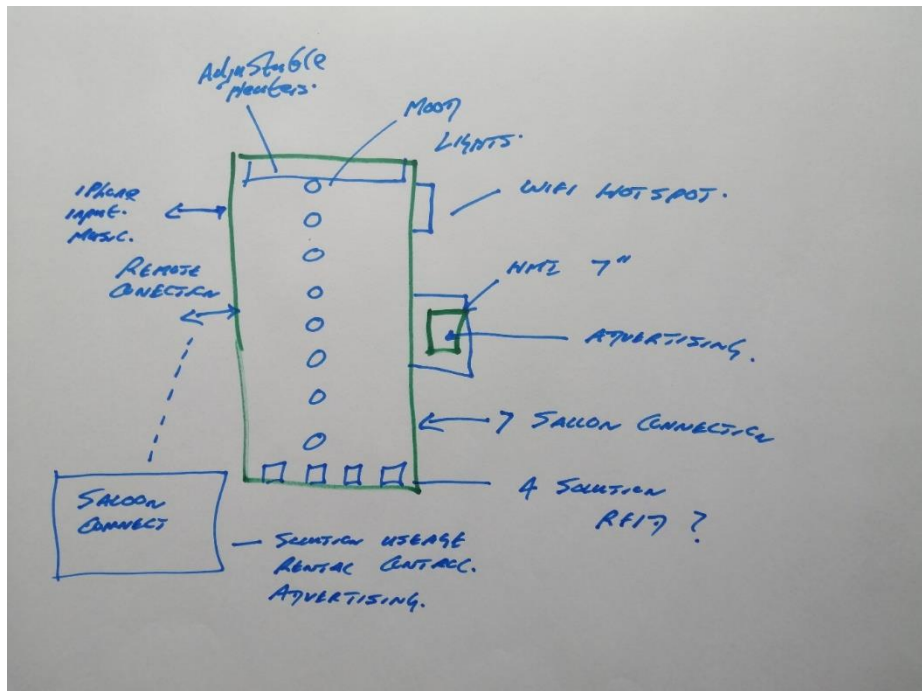
*Badri – "phew that going to be a challenge at this current time, but it is something we have discussed for future products, but I would not like to commit to a time frame"*

*Mick – "I am sure we can do this in a different way I will have a look at it next week to see what is possible"*

The next 30-40 minutes were spent discussing technical details, and I think that more important than detailing verbatim what was said during this time it is more relevant to the study to reflect on the nature of the collaboration.

The majority of the individuals involved in the network have an engineering background and as discussed in early sections this has caused issues as some members have used their technical knowledge to establish a position within the network and have resisted attempts by others to share knowledge. During this session it was notable that interactions were not siloed between the technical and non-technical group members. The director of the American customer and the design engineer of the brand holder, after a few minutes' discussion, used the white board in the room to draw what they saw as the ultimate booth this was captured on his mobile phone by Mick.

Figure 16 Booth Concept Captured at AI Summit



It is notable that these individuals, despite being from different disciplines, sales and engineering respectively and earlier clashes over who is the most experienced, shared a common desire to develop the ultimate booth. Nick driven by both finance and ego wanted a booth that would establish his company as a major player in the US market and leverage solution sales. Discussions with Steve and Richard earlier in the collaboration indicated that Neil was driven by personal pride, as an engineer he wanted to design the best spray mechanism on the market. Also prior to joining the brand holder he worked for a major tanning company and developed a number of unique products and was promised by the owner that he would be “looked after “. However, when the company was sold, and the new owners decided to close the professional spray tanning division and concentrate on just tanning solutions he received only the minimum redundancy.

These personal drivers to collaborate are an under researched area. There is a body of literature that considers the motives of cooperation—the simultaneous occurrence of competition and cooperation among firms (Granata et.al, 2016), that have found similar small and micro business have similar motives to larger businesses, increase their innovation capacity and technological performance (Quintana García and Benavides-Velasco, 2004; Ritala and Hurmelinna-Laukkanen, 2009), sales performance (Lechner, Soppe and Dowling, 2016) and financial performance (Morris et al., 2007; Robert, Marquès and Le Roy, 2009). I believe that the data indicates that although financial success is important to all members of the network there are some that are collaborating to produce a product that will define them in an industry.

*Badri*

*"WIFI and remote access is going to be a challenge if you want it built into the HMI in time for the launch"*

*Colin*

*"we could do it with a cellular router plugged in to the ethernet port of the HMI"*

*Badri*

*"of course, if that is OK"*

*Nick*

*"hey as long as it works, I don't care how you guys do it"*

*Mick*

*"I know we could spend the next few hours going through lots of details but I think we have to be realistic and say that it will take a couple of weeks to get everything buttoned down so should we work out a way that we deal with it after today"*

*Colin*

*"good idea how about we have someone as the technical lead and someone as the sales lead and the rest of us feed into that"*

The reason behind this statement was based a quote in McGuigan (2012) *"A CEO once said to me at the conclusion of a summit, 'this has been a fantastic experience, it felt like a wedding. But now we have to work on the hard part, the marriage'"* (p.79).

There was continued discussion among the group members and again it is felt that reflection on the general feeling in the room is more important than documenting every word of the interaction. Focussing on the booth development had allowed the whole group to be involved and it appeared that at this stage this had been a cathartic moment. Some of the earlier fears were ameliorated and the simple fact that we had all met and shared some experiences and ideas had given all of us the impression that we shared the overall aim of the network's inception.

### 5.8.6 Reflections on the AI Summit

The AI summit had been arranged at a time when issues of trust were stalling the booths development and the aim of the summit was to bring the group closer together and to agree a plan for the booth development. Strong ties facilitate the transfer of tacit knowledge (Regans and McEvily, 2003), social capital factors (trust, network ties, and shared goals) are also important, we characterize them as pivotal in fostering KT. (Thomas and Paul, 2019).

As the AI summit progressed there was clear evidence that the social ties had strengthened (Fig 10, p.128), this was both among the group members that were known to each other prior to the summit and among those who met during the summit. Harris (2009) describes SMEs as containing rich sources of tacit knowledge found in their individual skill, habit and abstract knowledge. In this group all members had extensive knowledge of markets, products and manufacturing processes. It was acknowledged early in the groups journey that attempting to codify this would be difficult. However, sharing this knowledge via social as well as business ties was important to the overall success of the venture. As this type of knowledge is shared then the need to codify becomes minimised as it starts to become group knowledge modified by individuals and used for the good of the whole group not just a currency used by the individual.

The singular agreed outcome of the AI summit related to the structure of the organisation and unlike both the theoretical OpWin (Miles et.al, 2005) and the Blade.org (see section 2.4.4 p.58), the group agreed to keep the structure loose with no financial, legal or administrative links.

Cooperrider and Witney (2005) discuss the main aim of AI as being to change the future state of the organisation. I believe that the AI summit laid the foundations of this change. This did not require structured tasks but was achieved by simply giving the opportunity for all group members to spend some time together, share experience, discuss concerns and to share a vision for the booth. All members left with a clearer idea of what was required and were at the beginners of an understanding of what others wanted. I think there was also more appreciation of what everybody's role was and a broad agreement that these would remain flexible to suit the changing nature of the group as the booth development progressed.

To say that all the problems that were affecting the booth development and the group cohesiveness had been ameliorated by virtue of a two and half day social interaction would be naïve, but as the summit

drew to a close and the group members departed there was more reason to be positive than there was at the beginning.

On the way home I received a call from Mick.

*“Well, that went better than expected, at the beginning I was sceptical but all in all I think it went OK and we might actually get somewhere in the next couple of months”*

On a personal level I took this call as an endorsement of my personal investment in the AI summit. At times during the various group interactions, I had to resist my natural inclination to prove my own capabilities. An example of this would be during technical conversations some group members took a lead to prove their worth. I have sufficient technical knowledge to do similar, but I had to consider why another group member felt the need to assert themselves at this juncture. In my opinion the group is better served by all group members having a voice as collaboration is not about individuals but about the group as a whole.

A collaborative entrepreneurial network consisting of small and micro business is a special form of action learning set, as it will inevitably be made up of the founders of the business and individual who are actively involved in day-to-day operations. They are unlikely to have expertise in the process of learning in a formal academic sense, but they are well versed in organisational learning as this is how their business survive and grow. Self-facilitation of the learning set will enable the individuals to learn more about other group members and their companies and have a better understanding of the social aspects of what drives these individuals.

Learning in a set such as this is unlikely to take the form of formal set meetings but will be a dynamic process akin to the “living theory” discussed by Saynal (2018) where reflection and self-enquiry is a significant component of the process.

Chapter 6  
Stabilisation:  
Data Collection and Interpretation


## Chapter 6: Stabilisation: Data Collection and Interpretation

This chapter details the group activity following the AI summit the action research generated from this data is shown in Fig 11 (p.128)

The previous period, described in chapter 5, saw the network transform into a more collaborative version and saw decisions made that would lead to the culmination of the groups initial aim, the development and launch of an innovative spray tanning booth. This chapter presents the data from a business period that was less intense than the previous chapter as the initial challenges of knowing who to trust had begun to be overcome and also there was more concentration on the task of building the booth leaving less time to focus on process issues.

### 6.1 Post AI Summit

For the AI summit to be considered a success it was essential that a booth was ready as quickly as possible and an email, sent to the whole network, from the American customer in the days following brought this in to focus.



The screenshot shows an email composition window. On the left is a 'Send' button with a paper plane icon. To its right are three input fields: 'From' (with a dropdown arrow), 'To', and 'Cc'. The 'From' field contains a redacted name. The 'To' field contains two redacted email addresses. The 'Cc' field is empty. Below these fields is a 'Subject' field containing the text 'New Booth'. Below the email header is a horizontal line, followed by the email body text.

Hey Guys

I have just about got over the jet lag and am feeling pretty pumped about the last few days

I think a new booth with the spec we discussed could be huge

We could really do with it for Spray Tan in November.....possible ???

---

*TC 2/3/17 I received a call from Steve asking if he thought the timing was realistic. I replied*

*"I had a feeling this would happen Nick was very keen"*

*Steve- "We have to keep him on side, the US market will give us the profile and the cash flow to make more impact in Europe"*



*Colin – “Give me a couple of days to work out exactly what is required, I will speak to Badri and Mick and call you on Monday.*

*Steve– “OK if you can make it 10 as Neil will be in by then and I think it would make sense for you and him to take the lead”.*

Hiekkinen et.al (2007) and Storey et.al (2011) describe task and network orientated roles in innovation focussed networks including, articulating, funding, developing, retyping, producing, connecting, integrating and endorsing.

Roles have been discussed earlier in this thesis, but this phone call was the first time that the assigning of specific roles, other than the roles the members had due to their position within their respective businesses, had been mentioned. If we considered the statement from Steve *“I think it would make sense for you and him to take the lead”*. This is a clear example of him taking on the network-orientated role of integrating. Steve was aware of a resistance on the part of the design engineer to work with anyone other than the booth manufacturer and I believe the data shows that this was an attempt to bring him and Colin closer together. It was also a role that enabled him to feedback to both Richard, Nick and Mick, a wider network role than the rather limited role of sales director of the brand holder.

*TC 2/3/17 Colin phoned Mick*

*“I have just spoken with Steve and he wants me and Nick to talk on Monday to discuss if we can get a booth ready for November and he wants us to take the lead”*

*Mick – “What does he want me to do” -tone here led me to believe that he was unhappy with the involvement of ST*

*Colin – “It is more a case of what we all need you to do, you know Steve likes to take the credit, but we know it is going to be us who are going to put in the long hours”*

*Mick – “Well I have spent too long on this for it to fail so just keep me up to date and I will do what needs to be done”*

Evidently tensions among individuals remain in the group, but there appeared to be a pragmatism, made possible by the improved group wide trust developed during the AI summit, that the ultimate aim of the collaboration took priority.

*TC 6/3/17 Colin phoned Neil*

*Neil "Steve wanted to be on this call but I told him there was no bloody point as he would just confuse us"*

Discussed earlier in this thesis was the tension between Steve and Neil which was due predominately to a lack of understanding or maybe even respect for their individual skill set.

*Colin - "I know mate he can be a nightmare but he does have useful skills and I think we have all have to just focus on what we do best, you me and Mick can work on the design and keep Richard and Steve updated on a weekly basis"*

*Neil - "I suppose it could work, what happens next"*

*Colin - "I will speak with Badri and confirm the hardware spec and then let Mick know and he can call you and confirm any booth metal work changes required"*

A meeting attended by Colin, Neil and Mick, the group members based in the UK with the technical skill and knowledge was arranged for 10/3/17 the stated aim of this meeting was to bring together all information regarding the technical aspects of the booth development and put a roadmap in place to the launch.

*FM 10/3/17 Attendees: Colin, Neil and Mick. Location: Starbucks Fosse Park Leicester*

*Colin - "I have spoken with Badri he can build a new PLC based around an existing module but add a board for the extra I/O and build in some pulse outputs for the steppers"*

*Neil - "what about the connection to the salon WIFI"*

*Mick - "I think we need to walk before we can run"*

*Colin - "yes but we need to keep an eye on the end game so as he said during the meeting a couple of weeks ago, we can put a cellular router in"*

*Neil - "I suppose it makes sense to keep some features back so we can launch updates next year"*

*Mick- "careful .... you are starting to sound like a salesman"*

*Mick – “before I forget I have sourced an audio card that we can connect to the PLC so that will solve that problem, just need to get someone to sort the audio files”*

*Neil – “I know someone who can do that”*

Considering technical meetings that had been held prior to the AI summit it is evident that tensions have reduced, specifically between Colin and Neil. Social ties had improved during the AI summit and structural holes that had been, to a degree, bridged during the first action research cycle continued to be minimised as relations between members improved. Focusing on the task of delivering a quality booth to a relatively tight deadline appeals especially to the members that have a personal investment in the capabilities of the booth. Recalled from a previously noted conversation between Mick and Colin (p.158), Mick was keen to see a good product produced and based on previous statements from Neil he was also more focussed on the quality and capability of the booth and the profile this would give him in the industry than financial reward.

*T/C 13/3/17 (this call was made via Skype) on the call were Colin, Steve and Nick*

*Steve- “ we had a meeting on Friday and have some good news re the booth development, Colin do you want to take it from here”*

Being a self-declared “people person” Steve is keen to take centre stage and claiming to be at a meeting he has not been present at is not unusual. Dealing with different personalities is common in business collaboration. Skogli (2019) describes the mediator role a coordinator who takes time to research background and understands those involved in the collaboration. Ansel and Gash (2012) cited in Skogil (2009) describe how administrative and scientific coordinators in collaborations use general communication and negotiation skills and add context-specific knowledge as required.

I was conscious of Steve’s need to be seen to be involved in this meeting so decided that the correct course of action was to simply continue with my role as the technical lead during this call and feed the information back to the American customer.

*Colin – “Nick, Me, Neil and Mick had a good meeting on Friday and we are confident we can deliver a booth in time for the show, we still have a few details to thrash out but these are fairly minor so I do not see any issues”*

*Nick – “huge news Colin, well done will it do all we discussed last week”*

*Steve – “Of course this is going to be way better than anything out there”*

*Colin – “We will have a full spec bottomed out by the end of the week and we think that some of the smarter features that will take a bit longer to implement should be held back and launched as updates”*

*Nick - “sounds good, I can see you guys really understand what I need and good to see progress is being made”*

The American customer had previously been somewhat adversarial in meetings, and on telephone conversations but during this call his tone was more conciliatory. This is further evidence that the pragmatic approach adopted by the technical members of the group was being adopted by other members of the network.

I feel it is important to discuss an aspect of the inter group communication at this time that has not been directly referenced in the data. During the earlier days of the network there was mistrust due to a perception among some group members that others were keeping key communication channels to themselves. Actions were taken to minimise this concern, action research cycle 1 (Fig 9, p.127) – the bridging of structural holes and action research cycle 2 (Fig 10, p.128) – the AI summit. But at this stage the communication still predominately followed the same channels, Colin was the only person who directly communicated with Badri and Steve was always involved when any form of communication was conducted with Nick. But there is no evidence that this was the root of any problems within the network. It appeared that once contact had been established by the core group members, those based in the UK and with specific skills and knowledge, and the outliers, members who had previously been concerned by a lack of a direct communication channels were now comfortable for communication to use established efficient routes.

*T/C 20/3/17 (this call was made via Skype, on the call were Colin, Neil and Badri.*

*Colin – “I just wanted to keep you updated re the progress and wanted Neil on the call as he has some interesting ideas for the future”*

As I had been keeping Badri regularly updated via email the main purpose for this call was to build a better rapport with Neil. This had always been a difficult relationship and although due to a good relationship between Colin and Mick and Neil and Mick this was not a hindrance to group coherence it was felt useful to improve it where possible.

After a brief chat to confirm the requirements of the control required for the launch, Neil spent several minutes discussing where he saw the control going in the future and Badri diplomatically said that he would take these on board and keep us informed of a product road map in the coming months.

April to June saw activity with the group related to booth design, metalwork manufacturer and electrical design, all of which the researcher had limited involvement in. There were regular update calls between members of the network but nothing that highlighted any changes in network cohesion or progress was being hindered.

### 6.1.1 Facilitation Post AI Summit

During the period following the AI summit facilitation of the network was undertaken by Colin and Steve. The mode of facilitation adopted during the different phases of network activity is viewed as key to the success of that phase.

Gaudsal (2015) argue, trusting relationship are a crucial condition for knowledge mobility and that the process of knowledge mobility needs to be facilitated. But whether the facilitation is required short term, in effect launching the process with occasional input to keep it on track, or for the life of the learning set is debatable. Maddison and Strang (2018) provide evidence for how inter-professional communication can be stifled by what was perceived to be an initially teacher led approach and state that the ALS becomes more participant centered as the program progressed and the group members become less reliant on the facilitator.

Facilitation at this point was not carried out in isolation, as I enlisted the help of Mick. At this stage of the collaboration and given the booth development time frame, facilitation needed to allow the technical team to focus on their work while ensuring that other group members were kept informed. This required proactive and reactive facilitation to operate simultaneously. This was possible only by sharing the facilitation between Colin, working with the technical team, and passively encouraging and contributing to discussions to ensure that they remained on track and did not, as engineers are prone to do, over engineer or try to reinvent the wheel. While Steve was actively encouraging the sales and commercial group members to investigate new markets, financing and communications methods and feeding back to the technical team as required.

## 6.2 UK Booth Launch

The booth was launched in the UK in September 2017 and at this point and in spirit of the project it seems right for me to list the innovations that occurred for this to happen.

The technical innovations were related to both product and user features. The PLC (programmable logic controller) used was uniquely packaged to allow a smaller control panel footprint. This also reduced the overall power consumption allowing the booth to be powered from a 13A socket. The booth washdown system was completely enclosed and did not need to be plumbed in. These features meant that the booth could be installed in a much smaller rooms and did not require specialist installation. The booth was equipped with a custom designed audio card that instructed the customer how to stand at different stages during the treatment which is important to ensure the optimum coverage is achieved.

Patents had been obtained by the brand holder with Neil named, for both the down draft and air recirculation system.

The technical innovations allowed for creative financing deals to be developed. Prior to this spray tan booths were a significant financial investment and were also brought out right by the salon owner and as such were normally only found in large spa type salons and chains. To appeal to the lower value market the booth was available for purchase on two credit plans, the first was a simple instalment plan over a set number of years and the second was a reduced monthly payment with an obligation to purchase tanning solution from the brand holder or the American customer depending on location. It was also possible to rent the booth with no commitment to buy. Credit plan two and the rental option were made possible by two technical innovations. The first was a solution monitoring system that alerted, via the cellular router, the brand holder, or the American customer when solution was running low and enabled them to call the salon and take an order for more solution. The second was using the cellular router to monitor the number of sprays per week to enable an invoice to be raised. It was also possible using the cellular router to shut the booth down remotely in the event of missed payments.

The plan was for the booth to be initially rolled out to five “friendly” salons, two close to the office of the brand holder, two in Birmingham, close to the office of the booth manufacturer and the design engineer of the brand holder and one in London.

*T/C 7/9/17 Colin received a call from Richard*

*Richard - "what do you think about the launch locations Steve and Neil had their usual spat about who should get them first but I think the main thing is that they are friendly and knowing that we will get some teething troubles hopefully they will call us before putting it all over Facebook"*

*Colin – "I have never visited any of the locations, I assume that you guys know them well, to me that seems the most important thing we need a smooth rollout and some time to get the bugs out before the US launch"*

*T/C 7/9/17 Colin received a call from Mick*

*"I have just had Richard on the phone asking me what I thought of the launch locations, what the fuck has it got to do with me I hope he doesn't think I will be running around making changes that some girl in a salon wants"*

The period immediately prior to the launch July/August 2017 was stressful for the technical team in the network as delivery deadlines from suppliers slipped and designs did not work quite as expected leading to workload tension. There were, at times expectations placed on some of the members that they considered beyond the scope of the collaboration. I recall a conversation with Mick when he said that he felt like the directors of the brand holder thought he was working for them.

On reflection, in the weeks leading up to the launch the network had split into two distinct group. The commercial group Steve and Richard and Nick had been focusing on branding, sales training, and financing options. The technical group Colin, Mick, and Neil. This was as a result of the facilitation by Steve and Colin who both focussed on their own specialisation and believed that keeping an engineer focussed on engineering problems and a commercial specialist focussed on sales and marketing was the best way for targets to be met. Communication between these two groups was handled by Colin and Steve with the intention of streamlining it and making sure individuals could focus on their specific tasks. While at the time this caused no obvious issues within the network, which could have been due to simply the workload, I believe that since the AI summit the whole group felt more invested in the project. This personal investment, the sense of feeling part of a team was recognised early in the project as of importance to the overall success. Rogers and Ashworth's (2017) study of respect in organisations in relation to feeling valued as "we" and "me" argue that their model indicates that organizations providing both generalized and particularized respect will help address members' needs for both belonging and status, and realize subsequent self-related outcomes. The data shows that as the network moved into a

more productive stage this feeling of belonging had reduced and it is my conclusion that facilitation had failed during this stage as it has focussed on task rather than process.

*T/C 8/9/17 Colin called Steve*

*“I have been thinking about the launch and I think we need to all get together somewhere before”*

*Steve– “I am really busy at the moment as there are other things, I need to do not just the booth is it really necessary”*

*Colin – “I think so we need to keep everybody on board we don’t want any issues during the roll-out”*

*Steve– “I will speak with Richard and see what he thinks”*

This phone call was further indication of tensions beginning to surface within the network. At a time when it would be expected that group cohesion would be high there is a risk of losing group focus which can rapidly degrade it.

Charles (2007) and Thomas et.al (2009) stated that informal communication is important for facilitating communication, improving trust, maintaining cohesiveness, and ensuring a sense of personal autonomy. The data from this study concurs with this, as informal communication in the early days of the collaboration and the AI summit improved cohesiveness. However, it appeared that this had been lacking during the activity leading up to the launch.

*T/C 7/9/17 Colin received a call from Richard*

*“I understand you spoke with Steve yesterday and you think a get together before the launch would be a good idea”*

*Colin – “I just think that we have all been so busy with both the booth and trying to keep up with our own work that a chat over a coffee or something stronger would be useful”*



*Richard – “it is not the best time, but I suppose it wouldn’t hurt, I have to be in Manchester next week I could bring Steve with me can you arrange the others”*

*Colin – “that’s good for me I will speak with Mick can you speak to Neil*

The meeting was arranged for the morning of the 12<sup>th</sup> September and was attended by all UK based members of the network.

Richard informed us of the rationale behind the salons selected for the launch roll out,

*“we wanted to keep them local to reduce down time and travel time should we get any issues, but also they are good guys so are unlikely to broadcast any problems”*

*Neil*

*“... (name of a salon) in London is the only one that’s a bit of a journey but the profile there is high so will get us some good social media presence”*

Mick looked at me with raised eyebrows, he had previously told me that he did not understand the spray tanning market and thought it was funny how much the brand holder was bothered by social media

*Colin*

*“as you know me and Mick still don’t fully understand this market and, in the markets, we tend to work in Facebook and Instagram are not something we have to think about”*

*Steve*

*“lucky you, social media can make or break a product in this market, so we have to make sure we get only good posts”*

Steve with occasional contributions from both Richard and Neil continued by sharing a vision of the roll out and discussed how, although they would only call on Colin and Mick when critical they would appreciate us all working together as a smooth roll out would benefit the network as a whole in the long term.

The informal nature of the meeting was a becoming a feature of the collaboration. As discussed, leadership in CE is a challenge as the network consists of individuals used to taking charge so an approach

more in tune with encouraging others to join a journey that will benefit all, has a longer-term positive effect.

The booth launch was not without challenges, but this is no different to any product launch. Issues with hardware and program meant that both Neil and Mick were under pressure but the foundations of a more transparent knowledge sharing climate and reduced knowledge silos made this less problematic than previously.

### 6.2.1 USA Booth Launch

The USA launch was scheduled for the Oct 6-8<sup>th</sup> 2017 utilising the stand of the American customer at the Smart Tan 2017 conference and exhibition. In preparation for the launch two booth were shipped to the USA at the same time as they were rolled out to the first five UK salons. It had been originally planned that Steve and Colin would travel to Nashville to attend the show and discuss any changes that would be required for a post exhibition roll out. Due to the changes made to the booth during the UK test roll out it was decided that Colin would be accompanied by Neil and Mick.

During the booth upgrade at the American customer premises Nick was keen to learn how the booth had been received in the UK and discuss what improvements could be made for the USA. He happily assisted Neil, Colin, and Mick as they carried out the required work. He had useful comments regarding branding and seemed extremely keen to get the booth rolled out as quickly as possible.

During the 1<sup>st</sup> day of the exhibition Neil was on the American customers stand and overheard Nick talking to what he assumed was a salon owner, he recounted this conversation to Colin.

*Nick – “well want to you think Don (name used as the individual is not identifiable) I told you it would be huge, and I always deliver on a promise”*

*Don – “WOW this is some booth I would like to speak to the guys who designed it to tell them how good it is”*

*Nick “you are talking to him man this was all me, my idea and just a few techs to bring it together”*

Neil was angry and could not believe that Nick would take the credit for something that he had limited design input to.

*Mick “are you surprised I knew he would take the credit, Americans are like that”*

*Colin “we all know the truth, I know that probably doesn’t help but looking at the larger picture if he sells the numbers he is talking about we will all benefit “*

Managing the tensions due to the different personalities in the network had become a common feature during the collaboration. I decided that in this particular situation the impact on the group would be minimal as the contact between Neil and Nick in the future would be limited and therefore did not require any specific facilitative action.

Following the exhibition Mick, Colin, and Neil had a meeting with Nick at his company’s offices to get his feedback and discuss what needed to be done next.

*Nick – “first I think I wanted to say was thanks, especially to you Neil ,I know you were all involved but we all know that the was Neil’s vision and we now have the killer booth I was looking for 2 years ago”*

This was well received, and a Neil become very involved in a conversation with Nick regarding he vision for future adaptations of the booth and how his view of the spray tanning market in the US.

Me and Mick were less engaged in this conversation and after the meeting I asked Mick what he thought.

*Mick – “Nick has some mad ideas and Neil is not much different but as long as they work together, I should have some good repeat business”*

The difference in why he collaborated is evident in this statement, Mick is mainly interested in financial gain from the collaboration and was not particularly interested in status or recognition.

He asked me what I thought

*Colin - “the same really, I do like to see a good product and know that some of the ideas will push us into new products and maybe new markets, but It will also increase our purchases from .... (name of the automation manufacturer) which is not bad thing”*

### 6.2.2 Summary of the Launch

During the launch facilitation became more proactive than it had been prior to the launch, which was necessary to remind the network of the reason why they collaborated in the first place. Badri was the least involved at this time, due to the fact that the product had been developed and Colin had sufficient skills and resources to deal with any issues.

The collaboration had seen members involved to a lesser or greater extent at previous times and as some of the members shared skill sets it was not a hindrance to progress. Also, although Badri was interested in new products and new markets, as mentioned earlier he, was mainly in the collaboration to keep the factory busy.

The UK and USA launch had been new experiences for both Colin and Mick, as neither had been directly involved in a product launch in a specific industry before. To clarify this comment, they had both been involved in discrete products launch with the automation market, such as a new PLC or HMI but these are used in many different machines which are used in many different industries. The spray tan booth is a specific product for a specific industry, so both needed to understand the drivers that are present in that market.

During the USA launch when Colin and Mick were in a bar in Nashville while Neil was attending a seminar, Mick started to talk about the tanning industry.

*Mick "this is nothing like what I am normally involved in I mean even the show I was at, at the NEC was nothing like this, the money these guys make is obscene"*

*Colin "I know did you see that stand opposite they had some reality TV stars on it, Jersey shore I think"*

*Mick "I think when I first got involved, I just thought of it as a normal machine but being here this week, even though I find some of the people involved a bit odd I now think I understand why we have had some problems and what we need to do to make things better"*

*Colin "I know what you mean I don't think I would like to be involved in this market all the time, but I think I have a better idea of why they need what they need"*

This short period of reflection was important as, with the exception of Badri, Colin and Mick are the only group members not involved in the tanning industry on a day to day basis. These insights would hopefully enable them to take a more informed approach to future developments.

The booth was well received in both the UK and USA and orders were placed with the supply chain. There was also a desire from both the brand holder and the American customer to consider how the booth could be improved and to pursue the development of additional products and services that could be used to add value.

### 6.3 Post Launch Activity

Following the launch of the booth there was a lull in active innovation, communication and interactions among the group members in relation to the booth. There remained a level of commercial communication as orders were placed between network companies.

There was regular communication among individual group members in relation to activities not directly related to the booth which indicates improved relations between some of the group members which I think can be confidently attributed to the trust gained in the preceding twelve months.

During a conversation with Steve, I raised the question of how we could all stay in touch on a group basis with formal emails or phone calls.

*Colin - "Conference calls and video meetings are fine, but they need a topic and a take away and also means we all have to be available at a certain time, so I was thinking of something more informal and something that we don't all have to input to but can at least see what is going on"*

*Steve- "sounds like a good idea especially with the time differences it would mean that Nick can still be updated even when he is asleep"*

*Colin - "it also means that you might not get so many late-night calls looking for updates"*

We discussed the idea of a WhatsApp group and decided that rather than discussing it with the other groups members and trying to seek approval that we would just set it up and see who wanted to join.

WhatsApp is a cross platform instant messaging application for smartphones. It enables user to send a receive location information, images, video, audio and text messages in real-time to individuals and groups of friends at no extra cost (Church and Oliviera, 2013)

Mittal (2016) described a project team using WhatsApp during a large infrastructure construction project. He described how the WhatsApp group systems between teams, overcame the barrier of communication, improved project management efficiency and led to faster flow of information, transparency in information sharing and timely troubleshooting of the problems.

Ponzin et.al (2019) suggest that WhatsApp is especially useful as a method of improving communication among projects teams in projects characterised by numerous parties, objectives and different culture that need a different method of information dispersal through supply chain phases.

The rationale for the creation of this WhatsApp group was based more on the need to share ideas and ensure that group members did not, as had been experienced previously, feel marginalised during times of communication lulls.

The WhatsApp group was setup, and within a few days all group members had joined. The involvement was variable. The sales orientated members Steve and Neil were the most active with market information and the occasional video that really had nothing to do with the booth or group activity. Richard and Badri were the least involved. Neil, Mick, and Colin broadly contributed when they had something to say but were less prone to simple update posts.

The individual's involvement in the WhatsApp group mirrored that of their involvement in non-virtual group activities. Those of a less gregarious personality become involved when they have something substantive to contribute. Those that like to be seen as taking charge and pushing the narrative tended to be more active in all types of interaction and are more likely to instigate a conversation.

A WhatsApp group post from Neil in early November is an example of how the group communication method was used.



This message prompted several telephone calls between the UK based group members which led to a meeting the details of which are given below.

*FM 10/11/17 Attendees: Colin, Neil, Steve and Richard. Location: Offices of the brand holder.*

*Steve – “as discussed I wanted a get together to discuss what Nick has been talking about on WhatsApp re the T Max link and if we can do anything to replace this with something better”*

*Colin - “sorry I have not been involved I have been working on a project in London that has taken most of my time I assume it is the WIFI connection”*

*Neil – “I think what we really need is something more like a PC based system in the salon that allows the girl at reception to run a particular treatment on a particular booth but also logs run time data and solution usage”*

*Richard – “let’s not get carried away most of the booth we are selling at the moment are single installs”*

*Steve– “but the ones in the US are likely to be multiple”*

*Richard – “hmm do you really think that is going to happen”*

*Neil – “how about a simple but scalable solution so we can offer it to different salons and add to it as they grow”.*

*Colin – “I would like to get both Mick and Badri involved and they maybe meet with Neil in a week”*

Neil agreed and then left the meeting as he needed to field a technical support call from a salon owner

*Colin – “so the launch seemed to go well, and booth sales so far look promising what’s the projection for next year”*

*Steve – “it’s a bit early but so far so good and hopefully I can give you a better idea by the end of November”*

The general positivity that had been evident in the group since the launch was keeping momentum and this was expected to be the case, as long as sales continued. The only concern was what appeared to be reluctance from Richard to get involved in new developments, he seemed sceptical regarding potential in the US, and I was concerned that this could demotivate Neil.

I spoke with Badri in the following days and he was happy to look at solutions for a salon management system and as was normal in these interactions said.

*“anything that increase sales in the UK is always interesting as unlike a lot of the markets we are in price is not always the first consideration”*

FM 25/10/17 Attendees: Colin, Neil and Mick. Location: Offices of the booth manufacturer.

*Colin – “so I have spoken with Badri and he is happy to look at a solution for the salon management, so we need to get a spec sorted out and a time scale”*

*Neil – “what do you think of Richard’s attitude”*

*Colin – “I ignored it, you know how tight he can be, you think there is a market for it so that is good enough for me”*

*Mick – “I suppose Steve was saying you will do a million in the first year and Richard was saying you will be lucky to do a tenner”*

*Colin – “sounds like you have been here before, anyway I think that between us we need push it and get Steve and Nick on board, then maybe he will find it difficult to resist”*

Facilitation at this point had again become proactive, taking on the role of advocator and communicator to help group members work toward a goal set by themselves to offer a new salon management solution.



It is evident that communication within the group at this stage was mainly between the UK based members. There was commercial communication between the brand holder and the American customer, but I was not involved in this and it did not affect group cohesion, so is not considered important to this study. It should also be acknowledged that in a network that has a technical and engineering core, focussed on certain companies with the other involved in discreet product design and manufacture (the automation manufacture) and regional sales (the American customer), activity among those companies is likely to be more regular than group wide communication.

By the end of January 2018, the network (Fig 11, p.128) had shifted slightly away from a collaborative innovative focus. Some of the group remained focussed on developing an innovative solution to salon management but this did not require a whole group collaboration as the hardware developed for the booth were technically capable of the requirements and it just needed software to be developed in line with a specification that was a work in progress.

The progress was affected by technological hurdles and the general seasonal lull in the tanning industry that sees focus move away from capital investment in tanning solution marketing. This gave the network members, not involved solely in the tanning industry, the automation supplier and the booth manufacture time to work on other projects and seek other markets.

The network was healthy, targets both commercial, professional and personal had been met, money had been made and a "Killer Booth" was in salons on both sides of the Atlantic so by those metrics the last 2-3 years had been successful.

#### 6.4 Maintaining Momentum

During a time of innovation lulls, due to technological, investment or market conditions and the inevitable subsequent communication drop-off there is an increased risk of group degeneration.

Wenger et.al (2015) argue that their life cycle model overcomes limitations of previous models as it considers the characteristics of small firm networks and broadens our understanding of their changes overtime (p.41).

Decline the fifth stage of their six-stage model is of particular interest to this study, at a time when a network that had achieved its stated aim and was now moving into a stage where whole group communication could reduce. They state that decline is caused by side groups with self-interests that try

to influence management and cause internal competition for power and space in the network management and that most entrepreneurs prioritize sole action within their own firms instead of collective goals.

The period leading up to and during the AI summit had seen the UK based group companies spend a significant amount of their time on network related business. It was already notable that some group members had mentioned that they had been working on other projects or that the booth was not the only thing they had to do.

In early 2018 Colin and Mick were working on a project unrelated to the booth or network activity. During a meal one evening Colin asked about the salon monitoring solution and Mick replied:

*"I am sure you can guess it was all panic and now they have gone quite again"*

*Colin "Steve or Nick?"*

*Mick "Christ knows as usual me and Neil are kept in the dark, I don't think they want to spend the money for something decent"*

This comment and the associated frustration, that it was delivered with, shows examples of what two writers describe as the challenges faced by business networks as they look to maintain momentum.

Pinto et.al (2015) describe the *raison d'être* of networks with innovation at their heart as economic, and states that if they do not bring economic benefit, they risk their own degeneration and loss of internal dynamics. Zilneldin (2002) states that within business relationships the best method for survival is to for the partners to develop linkages and shared ways of operating so they can work together smoothly (p.557).

Cornforth et.al (1988) in their analysis of worker co-operatives describe three form of degeneration. Constitutional degeneration where membership becomes restricted, and employees are taken on to secure a greater proportion of the surplus for members. Organisational degeneration where the participatory structure of the co-operative becomes dominated by an elite. Goal degeneration where the goals of the cooperative change so that it becomes no different from a small capitalist business in the same sector.

I am not suggesting that the network is a cooperative, but as it started with a collaborative aim and has no traditional capitalist hierarchal organisational structure it is possible to draw some comparisons. It is evident from the above comment and some of the previously documented dis-engagement among the network, when they described themselves as not fully up to speed due to other priorities, that there was a potential risk of goal degeneration occurring.

As previously discussed, the busy period after the AI summit, that culminated in the launch of the booth had not given time for considering issues of process and in hindsight some of the issues that had blighted the network in the past were simply subdued by workload. This raises the question is this an inherent problem with internal facilitation.

As the facilitators were actively involved in the delivery of the goal and also had a financial interest in its delivery it is feasible that once the goal has been achieved and sales have plateaued their interest will wain unless they can see additional revenue from the collaboration. In addition, unlike strategic alliances which, in many cases have the size and structure to appoint an individual in a role that oversees the alliance, this collaboration was made up of, and facilitated by individuals that needed to “keep the fires burning” at their respective companies.

Facilitation would need to tread lightly at this time as the priorities of the individual in the group had changed.

Schwarz (2002) states that there is no difference between effective facilitator behaviour and effective group member behaviour and that the facilitators core values and ground rules and their own behaviour serve as a model for the group. The expectation of the group, he continues, is that the facilitator is neutral.

Bens (2017) describes facilitation as created to be a neutral role played by a biased outsider. This neutral outsider is in place to support group decisions without exerting influence over the outcome and focus on process not content.

Both authors question the ability for the facilitator to remain neutral and Bens (2017) highlights how neutrality is made more difficult by the fact that a lot of facilitation isn't done by disinterested outsiders but by someone from within the group who has a real stake in the outcome (p.7).

On the face of, it in the case of this network the neutrality of the facilitator was never an expectation. But this a risk that an individual trying to facilitate an innovation that they or their company are not directly involved, in essence neutral, could raise suspicion as to their motives.

*T/C 11/4/18 Colin called Neil*

*"I was speaking with Mick last week and he said that the salon management system had stalled I was just wondering if I could help"*

*Neil "I don't see how, there's nothing in it for you so why would you want to spend any time on it"*

*Colin – "Well it is not about making money even though if it takes off, Nick might sell more booths and that is good for all of us"*

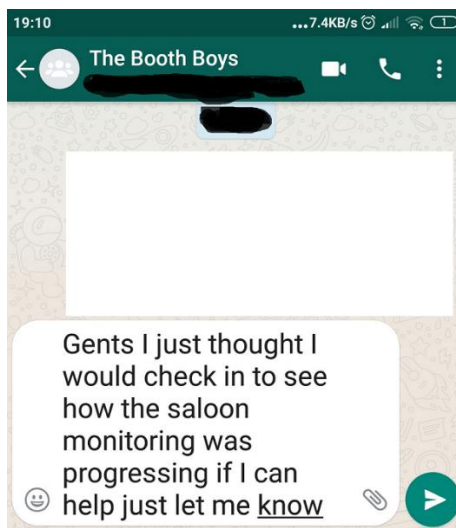
*Neil "I suppose you could contact Nick or Steve but you know what they can be like"*

*Colin – "I could just ask for an update on the WhatsApp group as see what response I get"*

*Neil "Could work"*

The evidence indicated that tensions remained between the sales group and technical group. There had been times in the past when features were requested, and the sales group had pushed the technical group to come up with a specification and price and then the sales group moved on to something else.

WhatsApp group message sent by Colin 15/5/18



The response come almost simultaneously from Steve via a phone call

**TC 15/5/18**

Steve "I didn't think you were involved in this why are you chasing it when there is nothing in it for you"

Colin "I thought we had moved past this you know I just want to see things move along whether I am going to make any money or not it is just about getting the product right"

Steve "have you seen the message from Nick"

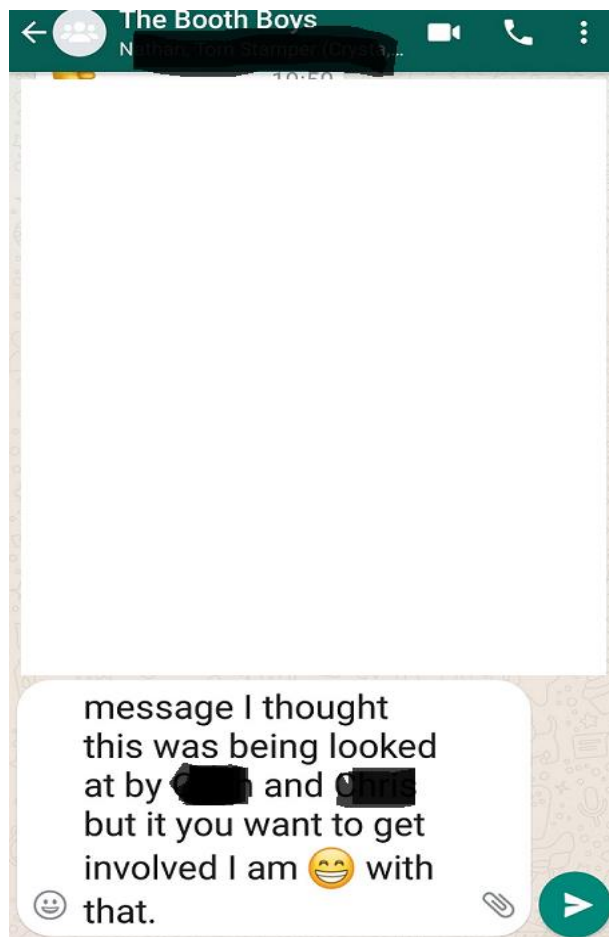
Colin "No I sent it and then got straight in the car to go and collect my daughter, what the gist of it"

Steve "I think he is a bit pissed that nothing has been done and your message has just reminded him"

Colin "give me 30 minutes I will look at it and call you back"

The WhatsApp group message from Nick was not as troublesome as the comment from Steve indicated.

Name of the director of the booth manufacturer and the design engineer of the brand holder redacted.



**TC 15/5/18**

*Colin “ Nick seemed OK to me you know he likes to be kept in the loop and I think that I have no real skin in this particular game if I keep him updated and see if I can help Mick and Neil it might come together a bit quicker”*

Steve “just make sure I am kept in the loop”

Maintaining momentum in a network that experiences ebbs and flows of involvement among the members differs from that of a network that has structure and defined roles. Lacking a formal group leader, it fell to facilitation to ensure that the group keeps on track and I think that in a group such as this neutrality becomes immaterial. All group members have a degree of involvement in the group regardless of being directly involved or not in a particular development or innovation that is related to the first innovation, in this case the spray booth, as there is a probability that such innovation will influence future booth sales. Facilitation thus becomes, and this may seem a contradiction of my earlier statement, neutral, not in the approach but in the actions of the facilitator.

Enablers of innovation are normally described as factors including, vision, culture, interfirm relationships, knowledge, resources (Sisodiva et.al, 2013, Esterhuizen et.al, 2012). Johnson (2016) posed the question whether an innovation facilitator could be seen as an innovation enabler.

He describes the innovation facilitator as needing the skills and experience to move between intrapersonal content and interpersonal dimensions to support the team in real time, but cautions that although steering the team back on track when needed should be considered, championing or leading the team should not be. He concludes that the facilitator needs skills that relate the current situation to the innovation and process enablers.

It is evident from the work of Johnson (2016), Sisodiva et.al (2013), and Esterhuizen et.al (2012) that the facilitator is an enabler of innovation and that one of the most important skills they need is to understand when they are required and when they are not.

Johnson (2016) states that the innovation facilitators involvement and presence in the innovation teams decreased as the innovation projects emerged, from being crucial in the first phases to becoming needed on demand (p.77).

The facilitator, in this case myself, needed to encourage more focus on the task without being actively involved in any implementation or commercial activity. Actions such as speaking with salon owners to get a feel for what they were looking for, feeding this back to Neil and Mick. I needed to employ technical skills for assisting in basic testing and feeding back information relating to issues, but resist the natural urge to suggest how to fix them.

## 6.5 Summary

The business milestones met during this period included an order for 100 spray booths manufactured and delivered to the American customer and the subsequent roll out of these booths to multiple US locations. Work had begun on a booth monitoring system to allow salon owners to control the booths from a central reception desk and monitor some key metrics including, booth usage and peak operational time. This was due to be tested within the UK during the first quarter on 2019 with a joint UK/US launch due for the second quarter.

This period of network activity saw reduced whole group interaction. Richard who is more involved in the strategic and financial aspects of the brand holder became less involved in operation aspects of the booth production and subsequently was less involved with the group. Badri who had mainly been involved to deliver a specific product for the spray booth and although he and his company were likely to be involved if other hardware as required in the future, he would not play a central role in future group wide activity.

Transitioning from group activity that involved regular contact, often daily and at a minimum every 2-3 days, to contact that at the end of this period was regularly less than weekly presented new challenges to facilitation.

During the life cycle of the network facilitation had moved between proactive and reactive stages, reacting to situations within the group and at times proactively taking the lead to push the network towards a short-term goal. But as the network moved on from its initial target facilitation adopted characterises that resembled an external approach rather than the previously internal. The facilitator/s were not waiting for call from a senior manager or looking to establish a formal contract before staging an intervention but was effectively seeing an issue developing during normal business interactions and deciding how and when to get involved. And of course, there was a vested interest in the success or failure of a new development as this would have an impact on their own businesses. This required a hybrid form of facilitation that blended the involved, invested and hands on approach common with the internal model and the holistic, neutral, hands off approach more analogous to the external approach.

## Chapter 7

Legacy and Readiness:

Data Collection and Interpretation



## Chapter 7: Legacy and Readiness: Data Collection and Interpretation

The previous chapters of data collection and analysis have predominately described the network evolution during active stages of innovation and collaboration. This chapter will focus on the period when in-group innovation had effectively stopped and the focus within the network was on delivering completed products as market demand required. The data generated in this period was a driver of the third action research cycle (Fig 11, p.128) that began in the previous chapter.

This period was notable by the innovations made by the individual companies either individually, in collaboration with other network companies, or in collaboration with new partners that were at no point involved in the network.

It will discuss issues of legacy as in-network innovation slows and out-of-network innovation accelerates and how facilitation can maintain links among group members to ensure the network is ready to respond to new opportunities.

The final section of this chapter details the reflections of the original network members which were as the result of individual sessions arranged by the researcher to give them the opportunity to give their voice to this research project.

### 7.1 Out of Network Innovation

At the core of the collaborative entrepreneurship model developed by Miles et.al (2005) is the concept that innovation should occur both within the collaboration and in the individual companies outside of whole network collaboration.

As the booth launch had been successfully completed, it now seems the right time for me to discuss and reflect on the innovations within the individual companies out-of-network activity. To do this I will mention conversations held with the relevant directors and reflect on other interactions were appropriate. Exact dates will be used when recorded but this was not always done as some data emerged during normal business interactions.

The innovations that occurred during the collaboration were incremental in nature. There was no revolutionary technological change, or did they represent clear departure from existing practice definitions used by Duchesneau, Cohn and Cotton 1979, Ettlie 1983, for radical innovation (Dewar and Dutton, 2016).

For reasons of clarity out-of-network innovation is considered as a product or service that has been developed without the direct collaboration of a minimum of any two of the companies involved in the network. The rationale for this is that there was an existing relationship between all members of the network so after a 2-3-year collaboration there is a possibility that a closer working relationship and increased market knowledge will make offering new products or services to an existing customer more likely.

The following sections will outline the innovation delivered by each of the individual companies that were as a direct result of their involvement in the network collaboration.

### 7.1.1 Automation Manufacturer

The literature reviewed in this thesis and the data collected during the study provides sufficient rationale for stating that, change is delivered through knowledge, whether explicit or tacit, and collaboration expands knowledge at an individual and organisational level. The relationship between the automation supplier and the automation manufacturer prior to the collaboration add further evidence that knowledge is enhanced through collaboration.

In late 2018 Colin met Badri at a trade show in Germany. This was an annual meeting which Badri once described as a pilgrimage. During these meetings Badri provides Colin with a roadmap of product development for the next 12 months and Colin informs Badri of UK market trends and ideas for product improvements, software additions and new products.

As would be expected this year's discussion was dominated by the knowledge gained during the booth development.

*Colin "while I was in the US one of the things that struck me was that usually we are dealing with people who are made to use the HMI and as long as it works, they don't really care"*

*Badri "I not sure I am really with you the surely the most important thing is that it works"*

*Colin "yeah it has to work but we are dealing with users not operators the person paying for the spray is the one using the HMI and also they are, shall we say, fairly self-obsessed"*

*Badri "so it not a technician who starts the spray"*

*Colin "no"*

*Badri "I didn't know that well that does make a difference"*

*Colin "I think a simple change would be to mount the HMI in portrait mode and have some sexier button styles"*

*Badri "so it looks like a cell phone"*

*Colin "well having been in a few salons recently the user is very attached to their phones so that sounds right"*

*Badri "I have never really thought about our products being used outside of a factory environment, I think some have been used on farms and the suchlike"*

*Colin "I suppose if you look at some of the advancements in home automation it only really differs to what we do in the look and feel"*

*Badri "connectivity is a big issue in that space I would think"*

A discussion between Colin and Badri at a trade exhibition in late 2018 highlighted a change of perception that subsequently led to a new business unit at the automation manufacturer.

Within a year the automation manufacturer opened a business unit and was actively researching and developing a range of home automation products for single home, apartment blocks and university campus accommodation. This was started with a brief from the director to develop technology that the user can become immersed in and uses it to enrich their lives. This was driven by the experience learned in the collaboration that there are users who chose to interact with technology as part of a leisure activity instead of as part of their job which is the norm in the industrial automation market.

There were also innovations by the automation manufacturer which were directly related to the spray booth project. The HMI product range now has a version which has Wi-Fi built in and has other features more in line with a general market trend towards the Internet of Things.

"The Internet of Things (IoT) refers to a network comprised of physical objects capable of gathering and sharing electronic information. The Internet of Things includes a wide variety of "smart" devices, from industrial machines that transmit data about the production process to sensors that track information about the human body."

(<https://www.investopedia.com/terms/i/internet-things.asp>: accessed 6/4/20)

There is no doubt that the automation manufacturer would have at some point in the future developed products for this market, but I believe the collaboration took them to this point quicker as there were clearly identified parameters and a customer with an immediate need.

The IoT features of the HMI made it possible for the booth manufacturer and the brand holder to work together on new services for the spray tanning markets. As discussed in an earlier section of this thesis one of the financing options for the booth a rental package. This was based on a monthly fee which could be reduced if the salon signed an exclusive deal with the brand holder to only use their tanning solution.

Further innovations by the automation manufacture have seen them move into the home automation space. Home automation is a range of product and software that allows homeowners to control items such as, lighting, heating, window blinds and alarm systems, from a central point within the home and from a mobile phone app both within the home and from outside. The driver behind this product range development was according to the Badri.

*“I thought about getting into the market after seeing how users’ interface with the spray booth and also working with another distributor in Singapore looking at controller access to some student apartments, it seemed a logical next step to move what we know from the factory floor to new spaces”*

Innovation capability leads organisations to develop innovations continuously to respond to changing market environment (Slater et.al, 2010) and it’s embedded with all the strategies systems and structures that support innovation in an organisation (Gloet and Samson, 2016). Absorptive capacity, the ability to recognize the value of new information assimilate it, and apply it to commercial ends (Cohen and Levinthal, 1990) has been linked to innovation capability (Liao et.al, 2007: Martín-de Castro, 2011: Xie et.al, 2018).

The absorptive capacity of the automation manufacturer, driven largely by the director. And the structure of organisation in which employees and overseas partners are encouraged to drive development of the products and services of the company not simply sell or support existing products or customers enables, it to quickly convert knowledge learnt during the collaboration into new products and services for new and existing markets.

### 7.1.2 Brand Holder

In mid-2018 Colin and Mick were working together on a project unrelated to the spray booth.

*Mick – “Neil called me last week and wants a way to monitor solution usage but not using the current test message setup”*

*Colin – “won’t the salon management software you are working on do that”*

*Mick – “I think it is just proving too much work for someone to collate the information every day and he is certain that some of the information is being lost as some of the salons are not buying the amount of solution they should be”*

*Colin – I know that (name of automation supplier) have been working on their IOT offerings and I think by incorporating this into the saloon management software you could probably do all that is required, and it would be future proof as well”*

*Mick “to be honest I don’t want to get involved with it too much as I need to focus on some other things and I think that they have the right contacts on the IT side, the guys that do their website, so they can probably do it themselves with some advice from you”*

*Colin” I am due to meet with Steve for a general catch up in a couple of weeks, I will bring it up and see what he says”*

The meeting discussed was held at the brand holders’ offices on the 12<sup>th</sup> September and in attendance were the two directors and the design engineer. After a general discussion regarding the booth sales, I moved the conversation on to the saloon management software.

*Colin – “so how is the saloon management software coming along, I know we did some hardware testing in January, so I assume it is just down to the software”*

*Neil “it has actually moved along well and now we are looking at how to make it accessible from outside of the saloon so we can collect usage information without using the text message which is taking a lot of time for people here to collate”*

*Richard “Mick seems to have lost interest has he spoken to you “*

*Colin “We did discuss it a couple of weeks ago and I don’t think he has lost interest I just think he has got busy, and he feels that it is easier for you to work with the guys that do your IT and website as they are local”*

*Steve “do they know anything about the control panel or that side of the programming”*

*Neil “I don’t think they would need to would they as this is more about what goes on outside of the PLC and HMI”*

*Colin "That is right the PLC and HMI is ready and it is just a case of developing some software at the server side that can take that data and put it in the right place, I can send you an active x component that will make it easier for your guys to link you database to the automation suppliers client side"*

*Richard "you lost me 10 minutes ago but if Neil is happy then I am happy to leave it to him, are you happy to be on the end of the phone if he needs some pointers"*

*Colin "of course happy to help in anyway"*

Cecil and Lubatti (2010) discuss the importance of personal relationships and innovation in SME networks. They state that personal relationships when supported by informal contracts, enhance embeddedness, which in turn allows firms to obtain significant outcomes, such as knowledge transfer and the diffusion of innovation (p.567). The personal relationships that had developed during the collaboration had created a climate where there was a clear willingness among some network members to communicate and assist other network companies to innovate without a direct financial benefit.

The resultant service developed by the brand holder was in simple terms a server-based application and website hosted by the brand holder. An access database was populated automatically at midnight with the number of sprays each booth had completed in the preceding 24-hour period and from this the solution remaining for each salon was calculated and this information was then made available to the brand holders' sales team.

Future developments discussed included a website hosted by the brand holder in Europe and the American customer in the USA. It was envisaged that each booth would be fitted with a cellular router and the website would display the individual installed booths and provide live information relating to usage. Discussions were also ongoing in the USA, where they have customers with multiple booths at multiple state-wide locations, regarding the ability to give customised pages on the website where they could see key metrics regarding their booths and how this could be monetised.

The innovations of the booth manufacturer were focussed on the market they were in and this time there seemed to be no desire to take lessons learned from the collaboration into new markets.

Assink (2006) describes inhibitors of innovation capability which provide insight as to what maybe the reasons for this.

Organisational rigidity is cited as a reason limiting innovation. The brand holder was driven to innovate due to regulatory changes potentially having a considerable negative impact on an existing market. The innovation had been financially beneficial but there was a feeling that they were happy to simply maintain the relationships that led to this and did not want to spend time or money looking for new opportunities.

### 7.1.3. Booth Manufacturer

During the latter stages of the initial innovation I asked Mick if he foresaw any individual innovation coming from the collaboration.

*Mick "weird that you asked that now I was talking with one of our customers last week and there is something we are talking about that could be a bit different and you might be able to help"*

*Colin "I didn't really ask hoping to benefit from it but if there is something it for us, I won't say no"*

In the subsequent few months, the product discussed developed further and believe that it is best for the words of Mick to describe the product developed. These words were recorded in my field diary by a meeting on 15<sup>th</sup> November 2018.

*"As you know we were speaking with a long-term customer for well over six months about a new product that would need to be solar powered. It would be used to dose a special additive into fuel mainly on small farms, very small factories and large homes that use diesel generators as their main source of power.*

*"The main requirements of the control are the 12vdc supply and as they were going to be installed across Europe it needed to operate down to -20 and up to +40."*

*"And as you know you guys managed to come up with something that could do all that and also based on what I learnt with, the brand holder, I was able to connect it to a standard AT modem and get it to send a message to a server the customer setup to report additive usage every night so they could estimate when a sales rep needed to call to sell them more additive"*

*“The product seems to be going well a few standard niggles but all in all the customer seems happy, but I suppose we will know once his sales team really get on board and we will see how sales go”*

The product developed by the automation manufacturer was based around the specification developed by Mick and was communicated to them via the automation supplier. This innovation did not directly involve either the automation supplier or manufacturer they were simply a design, and manufacturing and supply chain resource. The idea was the booth manufacturers response to a customer enquiry and the resultant product was a first for the automation manufacturer who had not previously manufactured a product that was solar compatible or one with such a wide operating temperature range.

In addition to this product innovation Mick was keen to discuss how he had changed the process within his business to accommodate the regular orders from the brand holder and, also what he hoped, would be regular orders from the customer for the new product.

Process innovation, defined as the application of a new or improved production or delivery methods, which consist of important changes in techniques, equipment, and software (OECD, 2005), has gained more importance in recent years (*Trott and Hartmann, 2009; Van De Vrande et al., 2010; Lichtenthaler, 2011*).

*Polder et.al (2010) states that process innovation involves either improvements in the production and logistic methods or improvements that include several activities such as accounting, computing, purchasing, and maintenance. Organizations that use process innovation aim at producing innovative products and new products as well (Shaukat et al., 2013).*

Prior to the collaboration the booth manufacturer was predominately involved in project work and rarely involved in multiple manufacturing of the same item. As discussed in chapter 4 there was a desire on the part of the director of the booth manufacturer to seek more standard product work and this was a driver to them becoming part of the collaboration.

The initial order from the USA was 100 booths which meant 100 electrical control panels and associated cable looms. Combined with regular orders of 25 from the UK this represented a diversion from the normal work of the booth manufacturer.



This led to some innovations in how the booth manufacturer organised workflow and approached their manufacturing.

*Mick “it was a real difference for us and took a change in mindset for us to understand the best way to manufacture and test without the need for larger premises and increasing staff which is difficult, unless we had promises that the business level would stay the same for 2-3 years at minimum.*

The manufacturing changes adopted the principle of one-piece flow manufacturing tailored for a micro business in a small industrial unit.

*One Piece Flow manufacturing refers to the method of production that moves product along the stages of manufacturing once a single piece is complete, regardless of that piece’s relation to a batch or not. For example, when a glass bottle is produced for a six pack of soda, it does not matter if the other five bottles are completely labelled before moving on to its bottle being capped, the other five will move along when they have individually completed the steps required to finish that stage of production. The six pack, or batch, is bundled at the end of production, not at every step. Like batch manufacturing, all variables must be accounted for if this is the right manufacturing process for you.*

[\(https://cetecerp.com/blog/one-piece-flow.html\)](https://cetecerp.com/blog/one-piece-flow.html)

This booth manufacturer constructed three small production stations and a test rig that were installed on existing work benches in his industrial unit. This change in approach to his manufacturing facilitated an average increase of four control panels manufactured per day. The addition of the end of line test rig enabled each control panel to be fully tested prior to despatch which initial results point to a significant drop in issues when commissioning the completed booth.

#### 7.1.4 Automation Supplier

In late 2018 the automation supplier was approached by an existing customer, company A, regarding a potential project for an end customer involved in the aerospace industry.

The project was for an automatic torquing wrench to be utilised in the manufacture of aircraft wing substructure. The method used by the end customer at the time of the contact involved a technician climbing into the aircraft wing during the manufacturing process and tightening bolts using a manual torque wrench. This had two main limitations, the first being that the incidents of technicians being

injured during the process was increasing and the second related to work traceability as this was carried out manually and manging this was proving difficult.

The proposal developed between the automation supplier and Company A was to develop a product based around automating an existing hydraulic torque wrench.

*“A **hydraulic torque wrench** is a power tool designed to exert torque on a fastener to achieve proper tightening or loosening of a connection through the use of hydraulics. A torque wrench is applied to the nut either directly or in conjunction with an impact socket. Hydraulic torque wrenches apply a predetermined, controlled amount of torque to a properly lubricated fastener.”*

[https://en.wikipedia.org/wiki/Hydraulic\\_torque\\_wrench](https://en.wikipedia.org/wiki/Hydraulic_torque_wrench) accessed 10/5/20

A specially designed portable rig was built by company A and the automation supplier designed and programmed the control system using a standard PLC from the automation manufacturer.

A requirement of the systems was that the head of the torque tool (the part that fits on the nut) should be specific to a size of nut and be interchangeable between portable rigs. It was also essential to ensure traceability that the system could log information such as date and time of operation, technician name and torque achieved. This information needed to be saved in a common format that could be used by other departments within the end user.

This involved a way to identify each tool, 65 different sizes in total, and link this to the control system. Due to the size, power requirement, connection system and low quantity it was not possible to use an off the shelf product or get a product developed by a major electronics component manufacturer. Colin decided to contact a customer (Company B) who he knew had experience in electronics manufacturer.

In collaboration with Company B the automation supplier developed the Tool Identification Device (TID) utilising an Arduino Uno.

*The **Arduino Nano** is an open-source microcontroller board based on the Microchip ATmega328P microcontroller and developed by Arduino.cc. The board is equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards*

*(shields) and other circuits. The hardware reference design is distributed under a Creative Commons Attribution Share-Alike 2.5 license and is available on the Arduino website.*

[https://en.wikipedia.org/wiki/Arduino\\_Uno](https://en.wikipedia.org/wiki/Arduino_Uno) accessed 10/5/20

The TID itself was a technical innovation, the Arduino had, to the knowledge of those involved, not previously been used in an industrial setting and the open communication protocol developed to enable the torque tool to communicate with the hydraulic rig was the first time this had been implemented in this industry.

There was also a process innovation that was equally unique to the automation supplier and has more relevance to this research project.

The automation supplier had often utilised the resources of other companies, known to it, but only for the purposes of resource addition, when a project required more personnel to complete in a set time or because of workload pressure, the lacking of a requisite skill was previously never a reason for this action.

This project required a change of mindset on the part of the automation supplier. Previously when approached with projects that required products that were not standard products supplied by one of their suppliers, they would have pursued a product modification or declined the project.

But in this case, and based on the experience of the collaboration that produced the spray tan booth the directors felt sufficiently comfortable to approach an existing contact (company B). This meant opening the knowledge silo in respect of customer details and at times putting company B in direct contact with company A. It also meant sharing details of programming techniques of the PLC and giving company B access to a knowledge base in the automation manufacturer which is normally only available to national distributors (this was done with the permission of the automation manufacturer).

This change in mindset on the part of the automation supplier enabled them to take on more complex projects and in addition strengthened the relationship with company B, that has led to further collaborations instigated by both parties.

Being more open to collaborate, was the key change in the mindset of the automation supplier and the innovations discussed above are broadly forms of, recombinative innovation (Gallouj and

Weinstein,1997). Existing products were combined with new products in ways not previously done to deliver products to a new market.

The evidence indicates that the absorptive capacity of the directors had increased during the collaboration. This led to knowledge learned being used to leverage products and services into new markets through collaboration with other companies that have different skill sets.

#### 7.1.5 Summary

An organisations systems and structures have an impact of its innovation capacity (Ravichandran, 2018). In SMEs the development of knowledge starts from its owners or managers (Indarti, 2010). Both the owners and managers of SMEs possess the highest responsibility for developing and sharing the knowledge with others. In addition, they are also responsible for motivating employees to actively participate in giving new ideas relevant to solving problems and to ensure organizational change (e.g. innovation) (Yukl, 2006).

These factors impacted on the post collaboration innovation experience of the four companies discussed in this section.

The size of the brand holder and the automation supplier means that the absorptive capacity of the director directly impacts the innovation capability of the organisation. Their organisational agility (Dove,2002), a function of their simple flat structures gave them the ability to leverage the knowledge learned during the collaboration to develop new products and systems.

The automation manufacturer was the most experienced collaborator of any of the companies involved in the network and their structure and systems were adept at turning the knowledge learned during the collaboration into new products and services.

The brand holder's post collaboration was arguably the least impressive of the four companies discussed. This was in part due to the limitations of the markets they are in but there are also questions regarding what appeared to be the lack of desire to innovate outside of their normal market. Considering the directors, the sales director has been involved in the beauty industry for over 30 years and has established a good reputation in the market. The managing director has won world titles in indoor and outdoor bowling as was passionate about the other main activity of the company, the supply of surfaces, equipment and consumables to the bowling market. There was also a documented lack of trust between the directors and the design engineer (section 5.2.5, p.150).

The collaborative entrepreneurial model encourages knowledge transfer which is a key antecedent to innovation. But based on the evidence presented in this section the absorptive capacity of the firm, and in a network of small and micro business, the director/owners, combined with the structure of the organisation and the desire of those of the director/owners influences the innovation outcomes.

## 7.2 Network Longevity

Rahman and Korn (2014) state that factors such as, time, effectiveness and efficiency are likely to lead to short alliance duration, while relational factors and impact on each other are likely to extend alliance duration. Pangarkar (2003) found that prior experience of alliances had a positive impact on alliance duration while prior relationships between partners did not.

In section 6.4 (p.216) the fifth stage of Wenger et.al's (2015) six stage life cycle model applied to small firm networks was discussed. The sixth stage discusses dissolution and although they discuss a management board and governance rules which are more applicable to structured networks or cooperatives, they do mention one factor that does resonate. They state that as the commitment of network members wain and participation in activities is almost null, members leave and only the ones strongly interested in the cooperation remain.

The network at the centre of this study was focussed on one main objective, to develop an innovative spray tanning booth. Once this objective has been achieved how can the initial momentum that pushed the network to this goal be maintained, especially when some of individuals involved need to seek new business, remain profitable, pay the bills and put food on the table.

Social capital theory (Coleman:1988, Burt:2004, Iaquinto et.al:2010, Huggins 2010, Thomas and Paul:2019), has been discussed in previous chapters to provide insight as to how networks are formed and the same can be said for how networks can be maintained long after the initial objective has been fulfilled.

Ostrom (2000) sates that unlike physical capital that wears out with use, social capital wears out with disuse. Jackson (2019) states that forms of social capital, including friendships that can be counted on to provide favours and knowledge are stocks in the sense that they exist in measurable quantities that last over time, and they can be called on for productive purposes. This he argues is no different to forms of physical capital that can be converted into something in the production or distribution of goods, service, skills, or knowledge (p.4).

Equally like a tool, that is used to create a product or perform a service, needs regular maintenance to perform at an optimum level, relationship whether personal or business require attention to endure long term. The maintenance of social capital requires investing time and energy in one's contact and since people have limited time and energy, pressure to maintain relationships that are no longer advantageous, may hinder the ability to cultivate other relationships necessary to renew social capital (Gargiulo and Benassi, 1999).

Brokerage capital, as a form of social capital, was discussed in chapter four and to bridge the structural holes that existed as the network formed individuals reduced the capital stored within relationships by opening these up to the network. But once the social network that lies within the business network becomes less reliant on specific individuals, maintaining relationships become more difficult. The simple reason for this is that as key individuals are no longer relied on for access or communication between companies in the network, they then become suspicious or wary of what is being said or what is being done without their involvement.

The sales director of the brand holder was one person who was troubled by some of the out-of-network innovation that occurred after the booth was successfully launched. After a meeting at the brand holder office in March of 2019 he walked with me to the car park and began to quiz me regarding the activities of the booth manufacturer.

Due to the nature of the discussion, I was not able to make notes but after leaving the car park I stopped and wrote a brief synopsis of the discussion in my meeting notebook.

*He asked about the activities of the booth manufacturer, as he had heard that he was working with another company to develop a remote monitoring software package that could be used for different type of machines and he wondered if I was involved.*

*I explained that we had received an order for some hardware that would enable him to connect various hardware to a cloud-based application, but I was not fully aware of the details of what he was planning to do.*

*He continued that he would think that if he was using anything, he had learnt during the development of the salon monitoring system he would have at least discussed it with the brand holder.*

*He then asked me if I have spoken with Nick recently and was he thinking about any changes to the booth.*

As discussed in chapter 4 the Nick was one of the outlier companies, access to who very much controlled by Steve. This changed during the collaboration as gaps in the knowledge led to direct contact between, the technical members of the group and Nick to confirm requirements and solve technical issues.

At the time, Steve was happy with this as he saw it as the quickest way to expedite the booth development, something that directly benefited him financially. But as the initial excitement following the launch faded and sales plateaued, he was keen to be more involved again and looking for the next opportunity that could boost revenue.

The brief conversation indicated that he was feeling less involved and less important, a direct result of the reduction in his brokerage capital. He was also beginning to have concerns regarding the out of network activities of the other network members, and was feeling marginalised as communication between him and Mick and Nick had reduced.

Being “out of the loop” as the network evolves can be a significant problem in interfirm network generally. Different skills and personal resources are required and considering the specifics of this network social skills and the bringing together of the network members were critical at the forming stage. Steve was very adept at this due to a combination of his personality, market knowledge and experience in the market, that was unmatched among the UK based network members. As the network developed and relationships strengthened among group members and market knowledge was disseminated throughout the group, technical knowledge became a more important currency, and Steve was somewhat poor in this respect.

### 7.2.1 The issue of Legacy

As the network moved from the previously closely engaged stages, during the booth development and launch, to a time when interactions were likely to become less frequent, it is important to consider the issues that will arise and how facilitation can be used to maintain the network long term.

The concepts of bonding and bridging social capital are associated with the network theories of structural holes and network closure (Adler and Kwon, 2002). The social network theories provide a rich tradition of research that social capital theorists find highly applicable (Claridge, 2018).

Bonding social capital involves connections between people with similar characteristics and/or interests, and tends to reinforce homogeneity and exclusivity (Field, 2003). Bridging social capital, in contrast, involves connections between people from diverse contexts and is seen as more inclusive (McGonigal et al., 2007).

A third concept, linking, is described as referring to the 'norms of respect and networks of trusting relationships between people who are interacting across explicit, formal, or institutionalised power or authority gradients in society' (Cofré-Bravo et al., 2019). Linking social capital refers to the type of weak ties (Granovetter, 1985) that allow the use of resources, ideas, and information from formal institutions beyond the community (e.g. government agencies, research centres, banks) and links to open networks (Cofré-Bravo et al., 2019).

Putnam (2000) describes bonding social capital as "getting by" and bridging social capital as "getting ahead". Galbraith et al. (2007) and Nahapiet (2009) discuss the norm of reciprocity as an asset that can be mobilized through networks.

The three concepts were employed by the network as it evolved into a collaborative network. The members bonded within their own established supply chain where the concept of a fully automatic spray booth was born. They bridged the structural holes both within the supply chain and with the outlier companies and developed links throughout the network to mobilise knowledge to achieve its initial goal.

In contrast to, Cofré-Bravo et al. (2019); Clardige (2018); Galbraith et al. (2007); Nahapiet (2009); Putham (2000), other studies have considered the dark side of social capital, Shi (2015); Light & Dana (2013); Dana & Morris (2007). The consensus of these and other studies is that while social capital is a catalyst of innovation the positives have been over emphasised. This, they argue ignores underlying issues, including familiarity leading to mental conformity that prevents innovative thinking and a dark side of trust that incurs extra cost and commitment to SMEs in their entrepreneurial processes.

In a collaborative entrepreneurial network where innovation outside of the network is encouraged (Miles et al., 2005), this is unlikely to be an issue. But if not all members of the network, due to market factors or



skill set are not as actively involved as they were in earlier stages this can lead to discontent which may affect network legacy.

Once the reason for collaborating had passed and the network companies were innovating independently, and it becomes less reliant on those actors that performed the positive roles of social capital, does the dark side begin to take over.

Reflecting on the roles and activities of the other network members at this stage in the collaboration it provides insight regarding their initial and future expectations, and how this may influence their motivation for continued network involvement.

Richard was a major shareholder in the business and actively involved in the other market sector served by the business, indoor bowling equipment and apparel. As such he was not as personally invested in the spray tan booth, it was important from both a financial and profile viewpoint but his position in the business did not rely on its success or failure.

Badri, Colin and Mick were remarkably similar. They had all benefited from the collaboration, but their business traversed several industry sectors, so they were not expert in, or reliant on one.

Nick, Steve and Neil were those that were most affected by the success of the spray booth but were also those that were most likely to be affected by a downturn in sales or changes in the market that could make the booth obsolete.

Considering the individuals as three separate groups, least affected, moderately affected and most affected, it is evident that the individuals in the most affected group are likely to be the most concerned regarding innovation outside of the network. They may ask, if they spend their time focussed on outside activities how much time can they give to the network, how much money are they making outside of the network and should we be benefitting from this.

Equally the least effected group could well consider that they have dedicated considerable time and effort to the in-network innovation and if sales do not match expectations, they could easily become disillusioned and be less receptive to new ideas generated within the network.

These feelings and concerns can adversely impact group legacy. The commitment and strong shared social capital among the groups members that led to a successful innovation needs to be maintained to ensure that the network is on standby to redeploy and respond to changes in the market.

Based on the conversation with Steve I spoke with both Neil and the Mick and suggested we arrange a meeting to discuss market trends in the spray tanning market and if there was anything, we needed to look at to keep the booth relevant for the next 2-3 years.

*“Is it just going to be the three of us” as I don’t want any bullshit promises of a thousand a year that never comes off”*

Was the typical blunt response from Mick. There was clearly some tension in the comment and although not explicitly said I assumed he was refereeing to Steve with whom there had been previously documented issues.

Neil was more receptive but interestingly he asked that it not be mentioned to the directors of the brand holder.

A meeting was arranged at a pub local to the booth manufacturer and as I did not want to make it formal, I will summarise the interaction.

Mick commented that he was surprised that once the original order for 100 units for the USA had been delivered there was not much talk of future orders. Neil agreed and commented that he did not think either the Richard/Steve or Nick was selling the concept very well to the market.

I mentioned the discussion I had had with the Richard/Steve and my feelings that he was concerned about what others were doing outside of the network. The Neil commented that was the main reason that he did not want him to know about the meeting.

Mick was confused as he really could not see what it had to do with anyone at the brand holder what he was doing with other customers, that had nothing to do with the booth or the spray tan market.

It is intriguing how quickly the social capital built up over the period between formation and the delivery of the spray tan booth had degenerated (Cornforth et.al,1988). Of course, this was not the case among

all the group members the relationships that were in place before the collaboration were as strong or stronger and new relationships had been forged. But it appeared that some relationships within the network were struggling and this raises three questions.

The first, is there a consensus among the group members regarding what they want and expect from the network long term. Secondly, do all relationships matter for the legacy of the network and finally how does facilitation assist the network in managing these factors to maintain long term collaboration.

### 7.2.2 Dealing with Expectation

#### **Personal Reflection**

During this period of analysis, I was reminded of an interaction between Steve and myself earlier in the collaboration, at the time I did not make a note in my field diary as I considered it unimportant. He phoned me one morning and questioned why I had been talking to the Nick the previous evening and mentioned that there had to be a chain of command and asked how he was supposed to know what was going on if he was not involved. At the time I quickly dismissed it and just felt that he was feeling insecure. But now I was conscious that should he feel marginalised, as he had in the past, he had the potential to destabilise the new relationships that had been established during the collaboration.

It we consider the relationships detailed in Phopelian's (2013) study of food truck owners in California. These were fleeting and aspects of social capital such as reputation and ability were traded to build relationships, that would benefit the owners as they sought new ideas and new supply links to create new menu items. Compare this to Blade.org the collaborative community of firms (Miles et al. 2005), formed by IBM and others to develop new server technologies. These relationships were formed by design as the collaboration firms selected the right person for the task and were maintained though an organisational structure.

Legacy, in the Phopelian's (2013) study was not assumed and possibly not even considered. The food truck owners were constantly following and creating trends and the relationships would change as individual requirements changed. Legacy in Blade.org was always in the hands of the forming companies and as its demise in 2011 indicates, once it had achieved its goal the financial cost of maintaining it was no longer deemed commercially viable.

The initial consideration regarding the current network, as it had been successful in achieving its stated aim, is that it was financially important for all parties to keep going, but the evidence indicates that maybe this is not the case for all those involved. Legacy in this network bears similarities with the lack of legacy consideration in Phopelian's (2013) study. The individuals in the network had benefited from the collaboration but some were considering that they could benefit equally, if not more by taking the lesson learned into new collaborations.

There was also a feeling that the market has innovation limitations. I recall a conversation with Mick where we generally discussed what else could be done with the booth. We both struggled to come up with anything that could greatly improve the booth and felt that the market is so cost driven and susceptible to societal influences that there was a limit to what the market would accept.

Reflecting on the role facilitation should adopt and considering the data presented in chapter 4-6 and the current issues the network was experiencing, there was evidence to indicate that the expectations of some members were not being met.

The Psychological contract (Argyris, 1960; Rousseau, 1989; Schein, 1980) is an exchange concept providing a broad explanatory framework for understanding employee-organisation linkages (Shore & Tetrick, 1994). The psychological contract is viewed as a dynamic process being 'affirmed, altered or denied in day-to-day work experience' (Levinson et al., 1962, p. 21). It is important to note that unlike formal employment contracts, psychological contracts are unwritten and unspoken, and usually understood over time by social interactions, experience of an organisation's culture and informal discussions with colleagues and senior managers (Guest, 2016; McInnis et al., 2009; Wellin, 2007).

Sharma and Chahal (2020) describe the psychological contract as of a much greater relevance in small and medium enterprises, in today's millennial times (p.199). A breach of the psychological contract can reduce worker efficiency (Guchait et al., 2015; Thomas et al., 2016).

Ho et al (2006) discuss the psychological contract expectations of individuals who span structural holes (Burt, 2000) and broker link between otherwise unconnected groups or individuals. They argue that these individuals are in a position to receive more positive cues regarding their value and consider that their organization is more obligated to them.

Extending this argument to the network at the centre of this study and SME networks in general it is evident that some members have a larger role to play during the formation, and that this role can fade as the network evolves. Steve had the contacts, social skills, and market knowledge to build relationships between the UK based companies and the American customer.

Given his position in the early stages of the network (section 4.3;4.3;4,7) and his comments in the latter stages (section 7.2, p.225) it is evident that his expectations were that he would retain this status in the network. Compare this to the expectations of the other members of the network (section 7.3). Mick was focussed mainly of numbers, to get a return on the process changes he had made to his business and was frustrated when large orders were discussed but did not materialise. Badri, Colin and Richard were focussed on other aspects of their businesses and although they were always interested to do more with the network their businesses did not depend on it. Neil was always looking to develop something new but understood the limitations of the market.

### 7.2.3 The Relationships that Matter

Jackson (2019), Letaifa and Rabeau (2013) and Zhou et.al (2010) refer to friendship from an organisational perspective. Ceci and Lubatti (2012) describe business activities based on close personal relationships are facilitated through the development for a sort of “business friendship” (p.567).

Business friendships are friendships that coincide with a business relationship, which we recognize as either competitors, buyers or suppliers in a market, co-workers within an organization, or actors that occupy similar positions in different organizations or markets and may therefore provide each other with useful business information (Ingram and Zou, 2008).

Gao et.al (2016) argue that business friendships differ from, pure business transactions that involve no personal emotion and are conducted based purely on merit and personal friendships that pay great attention to personal feeling and feature continuity and stability over time. Business friendships, they state, are located on a continuum, between the pure business transaction and personal friendship, embodying personal relationships that are confined to the business context where it occurs and evolving with the development of the inter-organizational exchange (p.474).

There were different relationships between different individual in the network, but the evidence indicates, using the definition above, that they were all located between business friendship and personal friendship. I state this as there was occasional socialising between some of the network

members which involved their families, and were, as much as it possible when you have a business relationship, purely social interactions.

These relationships were the glue that kept the network together. Colin and Badri ensured that new products were developed in-line with market trends, products that could be used to improve the booth or the services associated with it. Nick and Steve kept the whole network informed of the changing landscape in the tanning industry and the macroeconomic drivers in the USA. Mick and Neil provided feedback related to user trends and requirements. Colin and Steve were the links between the commercial and technical groups that had developed as the group evolved.

The network had begun with gaps in disparate groups and gaps in communication which stalled progress but now these strong relationships that were reciprocal in nature and kept knowledge flowing were the key to ensuring that the network remained ready to respond to new opportunities.

#### 7.2.4 Facilitating Legacy

The issues faced by the network at this stage in its evolution are no different to other forms of interfirm alliances. Supply chains, for example, only continue while they remain commercially viable, or the involved parties still require the skills, assets, or knowledge of each other. The difference with a collaborative entrepreneurial network, where the cohesive factor is the relationships between individuals and not a formal structure, legacy is achieved by maintaining these relationships.

To maintain these relationships and to enable in-network innovation to occur again when market demand requires it, facilitation needs to play a role that is subtly different from that of the previous stage of network evolution.

In section 4.9 (p148) I discussed how the role adopted by Mick and Colin (related to Lessard et.al's (2016) nine roles of facilitation. The delivery of tangibles is a focus of the majority of the roles as defined by Lessard et.al (2016) but to maintain the relationships within the network facilitation would need to consider factors that are harder to quantify.

The evidence-based decision, regarding the long-term facilitation required to maintain the network involved using the relationships described in the previous section to keep the network up to date both from a technological and market perspective. This means that facilitation became more about communication than about providing network linkages to complete a task.

Cornelissen (2008) states that corporate identity, “the way in which an organization’s identity is revealed through behaviour, communications, as well as through symbolism to internal and external audiences” (van Riel and Balmer, 1997, p. 341), holds a central position in corporate communication, literature concerned with the strategic, integrated communication applied by an organization with the purpose of creating and maintaining relationships with numerous stakeholders.

Although the network could not be described, in traditional terms, as a corporation it had an identity that had been cultivated during the collaboration. This identity, centred on maintaining good communications with each other and with customers to improve the user experience, was key to the successful roll out of the booth. It therefore seemed logical that maintaining communication between the network members was key to maintaining a legacy.

The facilitation approach taken during the final stages of this research project can be best be described as something that “felt right at the time”. Combined, Steve and Colin spanned the commercial and technological sub-groups in the network and working together we that the silos of knowledge, referred to in section 4.1 (p.129) remained accessible to all members of the network.

Borch and Madsen (2007) found a positive relation between communication with suppliers/customer and innovative strategies. Martin-Niemi and Greatbanks (2008) describe storytelling coupled with social media as a method for SMEs to leverage knowledge.

Regular communication was the principal facet of the facilitation. A logical and somewhat obvious approach but considered in respect of a collaborative entrepreneurial network there are differences. In line with the principle of collaborative entrepreneurship the network members were actively working on individual projects maintaining communication when there is no direct immediate benefit the individual is more challenging.

It was decided by all UK based network members that we would try, at least on a quarterly basis, to meet for lunch. These meeting would be attended by the most involved network members, Steve, Neil ,Mick and Colin

These sessions usually began with discussion regarding the sales of the booth and the spray tanning market generally. This was followed by discussions regarding projects or products that the individuals were working and moved on to looking for oppurtuites to work together either with enhancements

to the booth or unrelated projects. A proportion of the time was spent reflecting on events that happened during the booth development and the booth installs.

These sessions recreated some of the enhanced social experiences that occurred during the AI summit and initial results indicate that the relational social capital, which is created through interaction and builds on levels of trust between partner (Al-Tabbaa and Ankrah, 2016), was beginning to return to the levels previously seen.

Steve had always made a point of contacting Nick within a few days of the meeting to update him, and I did the same with Badri. And Richard was updated by either the Steve or Neil or sometimes both.

In conclusion there were important relationships that kept information flowing around individual channels within the network and there was one relationship, Colin and Steve, that provided a link between the technical and commercial internal groups within the network. These meetings and the inclusion of the overseas network members through communication of the details of the meeting ensured this flow was maintained even during lulls in commercial activity.

### 7.3 Reflections on the Collaboration

In late 2019 I decided to speak to each member of the network Individually to attempt to get an understanding of how they viewed the collaboration.

Turkulainen et.al (2015) describe communication post-project as focusing on ensuring that information exchange related to documenting the project activities and results and gathering and storing the lessons learned for future projects.

Archibald et.al (2012) describe four dimensions for determining project success during the post project evaluation phase; 1) the project from the project management viewpoint; 2) the projects products and results; 3) all project stakeholder perspective of the project and it results; 4) the overall project and its products from the cognitive constraint perspective. They offer several suggested questions that address the requirements of the dimensions and similarly Key Consulting (2006) provide a stakeholder post-project evaluation form.

While these questions, which are focussed on effectiveness of personal, project deliverables against targets and project management processes, offer useful insight, I feel that to fully understand the



members reflection on the collaboration it needed a single question that allowed them to speak openly. This I believed would provide knowledge as to how the network was positioned for future collaboration.

“How do you think the collaboration went and what have you personally gained from it”

The question was asked to each network member, by telephone and the response was written in the field diary that had been reserved for my own reflections during the field research.

### 7.3.1 Brand Holder

*Richard – “mainly positive to be truthful, from a purely financial point of view the booth and the other bits we are doing have proved to be good. The company has gained a better reputation in a market where style is sometimes more important than substance and I think we are better placed to meet future challenges. Personally, dealing with some of the people involved was challenging and more than once I wish we had never got involved but in the end, I was pleased with what we all achieved and, yeah all in all I think it went OK.*

*Steve – “Loved it, the booth is really bringing in some revenue and we have increased across the board on solution and consumables which is down to us having our own booth and building good relationships with the salon owners. I think we both know that some of the guys were awkward to deal with from time to time, but we got them onside in the end didn’t we.*

*Neil - “I learnt a lot about some people I knew and it has made me question if I would work with the same group on a different project but I think I have delivered something that I always thought I could and with that I am pretty pleased. The software products we have developed and are still developing are interesting and I have learnt a few new skills.*

### 7.3.2. Automation Manufacturer

“do you really need to ask me that question, you know that as long as the numbers are I up I am happy”

“Seriously though and as I have said before it was interesting working with some different people and helping to develop and interesting product, It is why I do this but also I think it has helped us to understand the market better and I think our products have benefitted from it”

“I am sure I have mentioned it in the past that we need to work with people that improve what we do, we need to learn from collaborations to become better at what we do and I think this one did that. I have never been scared to collaborate and sometimes I have been burned but this one was OK”

“I think that you should keep working with Mick he seems to know what he is doing and it pretty straightforward so you know what he is thinking, and he has some contacts that could help us develop new products and get us into some new markets.”

### 7.3.3 Booth Manufacturer

“I think we have just about flogged this to death over the last few months, but I suppose you need something for the PhD”

“I have likened it to a roller coaster many times, the highs of the initial concept the lows when no one seemed to trust each other to the highs of the booth launch. As you know I have worked in a similar way with other customers since we did this and I have to ask myself would I have done it without the experience of the booth and to be honest I probably wouldn't have so maybe I have learned something.

“Would I do it again with the same people, I don't know as I think a lot of the issues were down to personalities and I am getting too old for that crap now”

“I think our businesses are working better together now and I am sure that both our turnovers reflect that, is that to do with the work we did on the spray booth I suppose so as it is easier to deal with someone you know.”

#### 7.3.4 American Customer

“Wow what a question how do I answer the without pissing someone off, the product is great and although it could always be better what we have now is how I imagined it when I first came up with the idea”

“In think that the technical side went pretty smoothly a few problems here and there but nothing we can't fix although sometimes getting updates can take longer than it should”

“The commercial side not so good I keep trying to get Steve to take more of our product as I know he must be selling more solution now but no dice, if you talk to him anytime maybe you could mention it.”

“The sales guys love the booth and the girls in the saloons are happy with the extra revenue it is producing so I am feeling a lot of love at the moment”

“Richard always wants us to commit to bigger numbers, but he needs to understand this market better, if we standstill and stop bringing new ideas to the market we will fall behind, so if he doesn't want to do that then maybe we look somewhere else”

#### 7.3.5 Automation Supplier

This is a personal reflection but, in an attempt, to replicate the process of being asked a question and responding I asked my wife to ask me the same question and she wrote my response”

“well, you know that at times I was pulling my hair out with some of the people, trying to get them to decide exactly what they wanted and trying to get people to work together”

“At times I would have happily taken charge, but it was important that everyone played a part as I did not want to alienate anyone”

“You know what Mick can be like so I felt it was down to me to manage the relationship with Steve as if he had told them what he felt in the early days the booth would never have happened”

“I know you worried about the money but hopefully it has worked out ok and I also thing that it has strengthened our relationship with (name of the automation supplier) which was one of the reasons why I wanted to get involved and as you know despite all the hassle, I would probably do it again”

“Also, when I see the product on YouTube and people talking about it on Facebook, I am a little bit proud that I was involved”

“And the first year after the launch was our best year yet turnover wise so that must make you happy”

### 7.3.6 Reflection on the Reflections

At the end of each phone/skype call I spent a few minutes to reflect on the individual’s comments and noted these in the field diary used for my personal reflections.

The different responses from the individual at the brand holder are not surprising and the data in the preceding chapters shows that they are different personalities.

Steve has previously been described, by himself, as a people pleaser and his reflection shows that he was keen to be seen as working with others to bring other group members “onside”. He placed greater emphasis on the direct financial outcomes of the collaboration, than Richard, but as he is the sales director of the company and is the individual most directly measured and remunerated based on sales targets it is to be expected.

Richard – took a more conservative and pragmatic view of the collaboration, the position of the company at the end mattered and despite his previous reservations regarding the spray tanning market he did appear to be more optimistic for the future. As the managing director of the brand holder the emphasis on reputational gain rather than financial gain was expected as he was always seen to be using the booth to re-position the company in the beauty market.

Neil – Considering these comments within the wider scope of the data presented in this thesis, Neil thought of himself as the inventor of the booth and his reflection highlights this as they are very much focussed of himself rather than the collaboration. He was, at times during the collaboration one of the

most divisive characters which, as discussed, I believe was due to him being the only non-director in the group and the need for him to cement a place of importance within the network.

Nicks comments were in parts strikingly similar to those of Neil, where he was taking credit for the idea, which gives an insight into some of the previously documented clashes between these individuals. He had also at times been divisive and was keen to attempt to build groups within the wider group to enable him to push through ideas. The fact that he took the opportunity during what was a reflective session and not intended to discuss business indicated that he was still attempting to build alliances and trying to get me to advocate for him with the brand holder.

Badri's comments were as expected, conciliatory and focussing on what he and his company has learned from the collaboration. He also offered suggestions for how my business could benefit.

Mick has always spoken directly, and he was at many times troubled by what he saw as a focus on style rather than substance that is prevalent in the tanning market. The blunt comment he made regarding the challenges of dealing with the different personalities were a common thread in the reflections.

Collaborative entrepreneurship remains an under researched area and real-world examples are rare. Considering this network which was formed organically from existing contacts it differs from the more prescriptive nature of Blade.org (see section 2.4.4 p.48) and the fictional OpWin described in Miles et.al (2005). And considering that all members are senior stakeholders, an individual that influences the work or outcome of the activity from an upward direction (Bourne, 2011), the individual differences in their perception of the outcome of the collaboration could influence its future.

Andresen et.al (2014) describes initiators as being active in the processes of collaborative entrepreneurship. They describe these individuals as, choosing to act without complete information regarding what the cooperation opportunity would entail, initiators acted and interacted to exploit the opportunities and were able to discover new opportunities. They conclude that Initiators in high positions may fuel the opportunity conceptualization dialogue through the personal legitimacy of their positions and have the ability to spearhead the effort. Sorenson and Rogen (2014) discuss how individual that knows how to perform a particular task to a high level can use this skill for personal gain and that social capital is different as it is based in relationships.

Within a collaboration where special skills are required to achieve a goal the ability to introduce individuals or companies that can aid this increases the social capital of the individual. But what should also be considered is the different personalities with a small group where each member has a key role to play and where progress is easily stalled by an individual that does not fully cooperate. In these types of network, the risk of affecting your own social capital either with the person you are bringing to the group or with the wider group, if personality challenges are not addressed early is high.

It is clear from some of the comments of individual reflection sessions that even at this stage of the network life cycle there were still underlying issues related to personalities and these still have the potential to have a long-term corrosive effect of the network. This is especially relevant when a decrease in the social capital that was important in the earlier days of the network, becomes less important to some members as the financial gains and more importantly, professional and personal interest reduces.

In section 7.2.2 (p.241) I discussed the Psychological contract (Argyris, 1960; Rousseau, 1989; Schein, 1980) in relation to the expectation of the network members and how this impacts longevity. The reflection of the individuals also indicates that the expectation of those involved in the collaboration is an important aspect of collaborative entrepreneurship networks.

The reflections indicate that, Colin, Mick, Badri and Richard were similar in their expectation which were simply to build their businesses, improve turnover and learn new ways of working, leading to possible future financial gains. Steve, Nick and Neil were primarily interested in professional recognition.

Bourne (2011) describes the active support of senior stakeholders as critical in creating successful outcomes for an organisation and that this requires skill at advising upward using effective techniques and appropriate information to manage their expectations.

In a collaborative entrepreneurial network consisting of directors of individual businesses, there is a lack of stakeholder hierarchy in the traditional sense. No one individual is significantly more or less important from a financial viewpoint, but from the viewpoint of importance to network longevity there are some differences. Keeping relevant in the spray tanning market relies on feedback from the Nick and Steve. These are also the people whose relevance Mick and Colin varies depending on the level of business and the interest they generate regarding new innovations.

Effective communication can help change perceptions and expectations of unsupportive stakeholders (to make them realistic and achievable); as well as helping gather the required support (Bourne, 2011). Blomqvist et.al (2005) state that contracts may create a common ground and future expectations and that understanding the emotional side is the key to successful R&D collaboration.

There is evidence that promises of large orders, that do not materialise, reduces trust among members, but there is no evidence to indicate that future innovation would be enhanced by written contracts. What is evident is that, in a collaborative entrepreneurial network where continuous innovation is the aim, but realistically where there will be lulls in the innovative activity, creating a common ground where expectations of all stakeholders are understood and acknowledged by each member is likely to reduce trust erosion and improve network cohesion for future projects.

The management of expectation as discussed in sections 7.22/7.23/7.24 (pages 241-244) is an ongoing process and is likely to continue for as long as the involved companies and market remain viable for innovation.

In section 7.3.5 I provided my own reflection of the collaboration, as a director of one of the companies in the network. As I complete the data collection and analysis section it seems the correct time to document my reflection as the researcher.

I have previously stated combining the dual role is problematic for any researcher, but when operating in a network where social capital is a primary importance to the development of the network relationships, there are additional problems.

The issue I believe becomes one of identity, by this I mean that to certain members of the network, those who had known me for several years prior to the collaboration, I identified as a business owner and a peer. When I took on the role of a researcher, I sometimes felt that my standing in the network was lessened as I was being viewed almost as a student. I do not believe this was done intentionally but was more of a reaction from those who had limited experience with academic research and in the case of the Badri someone who is used to mentoring university student in research projects.

At times this made me pull back from the academic role and over emphasise the importance of the business outcomes of the collaboration. This resulted in me spending more time in the field and subsequently the time to complete the research was increased due to times of uncertainty that

affected how I moved forward. I conclude that taking on a role such as this in a different network would be potentially less problematic due to the knowledge, I have gained during this study, but I would need to give careful consideration to the potential affect it would have on my business before taking on a similar role again.



# Chapter 8

## Conclusion

## Chapter 8: Conclusion

### 8.1 Introduction

This thesis has documented the journey of five micro/small business, as they transformed from a traditional supply chain, to a network that embraces the principles of a collaborative entrepreneurial (CE) network (Miles et.al, 2005).

Micro and Small businesses make a significant economic contribution to the UK economy with 95% of UK business being classified as micro business (<https://www.merchantsavvy.co.uk/uk-sme-data-stats-charts/> accessed March 2020). Small firms are usually described as flexible and highly adaptable to customers and markets, however, they suffer from the liabilities of smallness, making them vulnerable to resource constraints (Hanna and Walsh, 2008). To overcome resource constraints collaboration is important to the success of micro and small business as it enables innovation through knowledge transfer.

Prior to 2014 spray tanning was dominated by small handheld machines used by a spray technician to apply the tanning lotion to the customer. This required a trained member of staff to apply the tan to the customer. In the UK the normal tanning salon is operated by a single member of staff meaning that while they are engaged with a customer performing a spray tan, they are not available to take bookings or deal with customers looking to purchase consumables.

A changing market landscape led the brand holder to look for products and solutions that would propel them into a premium market, to create a spa experience more than a saloon experience, leverage tanning solution sales, increase profile and improve profit margins.

While looking at ways to increase the profile, sales and profitability of my business I read an article on google that led me to the Miles et.al (2005) - Collaborative Entrepreneurship How Communities of Networked Firms Use Continuous Innovation to Create Economic Wealth. As I continued my research two articles resonated with me regarding the concept of collaborative entrepreneurship related both to my own business and the network as it was constructed in 2012.

**“the creation of something of economic value arising out of new, jointly created ideas that emerge from the sharing of information and knowledge”** (Franco and Haas, 2003, p.681)

And Ribero-Soriano and Urbano (2008) who described two essential characteristics of collaborative entrepreneurship as (1) collaborative relationships are voluntary and (2) collaborative relationships facilitate knowledge creation and in turn continuous innovation.

The coincidentally simultaneous seeking of new ways to improve business by two of the businesses involved in the original supply chain network provided an opportunity to discuss a new collaborative structure. This structure had to address the driving premise of the brand holder, the logical next step of which was to fully automate the spray tan booth and take it to a level that appealed to a higher class of tanning salon.

The principles of CE provided a suitable organisational structure to accommodate the requirements of the three companies involved at that time. The brand holder needed a new source of income that required innovation, but they lacked the resources to do this alone. The automation supplier and the booth manufacturer were both looking to develop their business in similar ways but were not looking to create a new legal entity and they wanted to continue to innovate outside of the network activity.

## 8.2 The Studies Purpose

The overriding objective of this study was driven by the desires of three small/micro businesses involved in a traditional supply chain that needed to change to suit market requirements. This presented the opportunity to expose the principles of collaborative entrepreneurship to a real-world examination in a small/micro business network, which, to the knowledge of the researcher, would at the time, offer a unique perspective into how these types of networks collaborate and innovate.

The research question that organically developed during the interactions among the group members, as the idea of this research project was forming were.

- Does the collaborative entrepreneurship model provide a suitable structure for continuous innovation in a small/micro business network.
- Does internal facilitation provide the support needed to help a group of small/micro business owners/managers navigate the transformation of a traditional supply chain to a collaborative entrepreneurial network.

This was achieved through four specific objectives.

- To facilitate the transformation of the network, involved in the development of innovative products for the spray tanning industry from a traditional supply chain to one in which all

members collaborate fully, input openly in all aspects of the business and are confident of an equitable distribution of wealth generated by the network.

- To examine the Miles et.al collaborative entrepreneurial network model within a knowledge diverse network.
- To critically evaluate the use of action research as a method of facilitation in a collaborative network.
- To develop a model of internal facilitation for a collaborative entrepreneurial network.

The primary stated business objectives for the companies and individuals involved was to develop a new spray tan booth. Also, in the earlier stage of the network development an additional objective became apparent. This was to develop a collaborative spirit within the network that would enable long term collaboration among network members that would extend beyond the short-term collaboration required to develop the spray tan booth.

Heron and Reason (2008) describe action research as a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview. Somekh (2006) argues that action research methodology overcomes the limitations of traditional methodologies when researching situations, as change in organizations often does not take place as planned but using an action-reflection cycle helps to keep the implementation of change on track, as far as feasible, by involving the very people who will be affected by the change.

The choice of action research as the overriding methodology was driven by this need for change and that it places the researcher at the heart of the change, and both encourages and requires those involved in the research to be equal participants.

Action research is a well-established methodology when change is the aim of the study, but the majority of published action research studies remain focussed on educational, clinical and healthcare settings. Also, appreciative inquiry (Cooperrider & Srivastva, 1987) has predominately been used in large organisations with the AI summit seen as a way to bring together hundreds of employees in one room to enable the whole organisation to learn from the actions and processes of each other.

This study aimed to investigate how action research and specifically, appreciative inquiry can be used in a small/micro business network, in a collaborative entrepreneurial setting where financial gain is a primary aim of the organisations and individuals involved.

There were also personal aims of the Colin and the Mick, owners of the two smallest companies involved in the network. These aims were not explicitly declared or discussed with other network members at the start of the project and in respect of Mick was not known to the researcher before the reflections of the collaboration discussed in section 7.3.

Both individuals were keen to learn from the collaboration and to develop personally so they could take the lessons back in to their businesses and help to develop both their business and the people they worked with. This personal development is an important aspect of Action Research, but it must be taken into account that this project was dealing with established business owners focussed on financial gain, either directly or through ideas that develop during the collaboration, so hearing that at least some of them were interested in personal development, that cannot be easily measured, was an unexpected but welcome aim of their individual involvement in the collaboration.

### 8.3 How

The research project was a participatory appreciative Inquiry with the researcher embedded in the network collecting qualitative data during normal business and social interaction among the individuals involved in the network.

Qualitative research methods within a framework of appreciative inquiry are considered to be more in tune with the action process followed by the network, as it navigates the organisational change and the researcher, as he attempts to make sense of the data collected during the varied interactions of the network.

The nature of the business and social interactions of the network made the use of formal interview, focus groups or questionnaires infeasible, so the decision was made to collect data during these interactions. This was done with the explicit knowledge and permission of all network members.

These interactions were recorded in a series of field diaries and again given the nature of the interactions the data collected was in the form of notes and reminders. Occasionally when the nature of a particular comment was deemed important to the project, the words of the individual were

recorded as accurately as possible in a notebook and then copied to the relevant field diary when time allowed.

The field diaries were categorised as follows.

TC – for telephone calls (including skype and WhatsApp calls) between the group members. This field diary was updated during or immediately after the call.

FM – for formal meetings between two or more of the network company individuals when discussing network business.

IM – for informal meetings, these were when network members met during network business (installs, commissioning, travel to/from meeting) or during out of network business and issues related to the network were discussed but not the primary reason for the meeting.

These individual sources provided data that varied between the sanitised prepared responses of a formal meeting with a planned agenda to more off- the-cuff remarks, that were more commonly found in the data collected from the informal meetings.

Reflection was an important part of this study. The researcher being involved in the day-to-day interactions was constantly moving between collaborative participant and researcher. Gregory and Ruby (2011) describe reflexivity as a key component in research. This involves the researcher reflecting upon and acknowledging one's positions, involvements and subjectivities in the research (Chan, 2017). Jackson and Mazzei (2012) state that the values, biases, assumptions and intentions they bring to the study need to be acknowledged and recognised. The decision to report and highlight certain findings, but not others, reflects the researcher's beliefs and values that are shaped and informed by discourses (Alvesson & Skoldberg, 2000).

To attempt to ameliorate issues of researcher reflexivity a fourth field diary was reserved for my personal reflections. This was used at various times, following meetings, after a difficult phone call, and at times when I felt the need to narrate my feelings as I was conscious these were influencing my interactions with the network. This diary proved to be a valuable tool both in the sense making process of the data analysis and my later approach to out of network collaborations.

Rocha and Miles (2009) argue that the values and design features of Miles et.al (2005) fictional OpWin company are diametrically opposed to mainstream approaches to interactions involving a firm, which are predicated on self-interest.

It became clear early in the network's interactions, and the analysis of the data generated from these that social capital theory provided a perspective, from which to view the changing relationships of the individual as the network developed. These relationships were found to be instrumental in the decision made in the group, and how facilitation needed to adapt to the changing nature of both network relationships and network needs as they evolved.

#### 8.4 Contribution to Knowledge

This study has contributed to knowledge in three distinct areas which be discussed in the following sections.

##### 8.4.1 Contribution to Practice

Previous studies of Collaborative Entrepreneurship have been limited to Blade.org a collaborative community of firms established by IBM, Intel and six others and Pohopien's (2013) study of food trucks in Los Angeles, Orange and San Bernardino counties of Southern California

Blade.org was a separate legal entity consisting of over 100 member firms that used structured methods of knowledge sharing, the posting of previous solutions on a dedicated web site, the work of technical committees, and community wide member events including quarterly meetings, to develop innovate solutions that were taken to market via the six founding organisations.

Fjedstad et.al (2012) suggest that the strategic role of Blade.org's organisational design is that it was a departure for IBM, whose normal approach would be to create a dedicated business to partner with select suppliers and lead users to develop commercial applications for the blade business. However, they decided to form a collaborative community, an organisational design enabling relevant firms to be focussed on accelerating the development and adoption of blade server solutions

The food truck owners in Pohopien's (2013) study remained independent owners and developed menu items for sale from their own trucks, but discussed ideas openly and shared them to ensure that customers had choice and to encourage customers to the area rather than to individual outlets.

Pohepien (2013) stated that a collaborative community is a primary factor that has led to the sector becoming established as a legitimate new market in the culinary field.

The organisational structure of the network in this study differs from both Blade.org and Pophelin's. There has been no new legal entity formed to develop, market, or sell the spray tanning booth, there is no shared ownership of any of the individual companies involved in the network, but there is an individual product development aim. The evidence provided by this study adds to our knowledge of the practical implementation of a collaborative entrepreneurship in a small business network. The loose, flexible structure adopted by the businesses involved enabled them to react to entrepreneurial opportunities both within and outside of the network. This structure also aided network legacy as despite sales plateauing following the end of the spray booth development there was no legal or organisational structure to dismantle or exit from and no financial implications for remaining within the network, but there was still a product that could, if market demand changed, enable the group members to innovate and benefit from again.

In small and micro businesses and the teams/networks formed among them to overcome resource limitations, shared leadership is common. Fransen et.al (2018) found that shared leadership (Morgeson, DeRue, & Karam, 2010), resulted in improved team performance. Teams with shared leadership have less conflict, more consensus, more trust, and more cohesion than teams that do not have shared leadership (Northouse, 2018). In small businesses, it is the responsibility of leaders to create an environment which helps employees to transcend barriers to innovation that could effectively move the organization to the next level (Taneja et.al, 2016).

Rocha and Miles (2009) analysis of the OpWin model indicates that Miles et.al (2005) viewed the leadership model as a more traditional vertical style.

“As the OpWin community honed its design and expanded its size, it specified several structure and process characteristics that its leaders believed were essential” (p.20).

The data showed, at various times, during the collaboration that, a leader, self-appointed or chosen due to the position of an individual in a network company, MD of the brand holder for example, would have held back the network's evolution. For this reason, the network adopted a shared leadership approach with an individual taking the lead based on skill set, expertise or specific experience of a market.



Phohelin's (2013) study showed how individuals shared information with an implied common goal. This study expands on this and provides evidence for the importance of facilitation and leadership and offers the conclusion that a floating form of facilitation where individuals take a lead role based on skills, experience or knowledge enables the network to innovate more, manage stages of entropy and degeneration and maintain a legacy where collaborating continues at a less active level.

#### 8.4.2 Contribution to Methodology

One of the most important interventions discussed in this study was the Appreciative Inquiry Summit held in February 2017. As discussed in section 5.8 the literature relating to AI summits describes them as predominately used for large organisations, especially those with a workforce spread over a wide geographical area, where the AI summit is seen as a rare opportunity to have the whole organisation in one room.

Early in the study, I addressed issues related to what I considered to be an almost evangelical approach to change adopted by appreciative inquiry, and how this would be received by a group of older established business owners, who have limited engagement with academia or management consultants.

The evidence of early group interactions led me to believe that there was a scepticism from some members toward the academic side of this study and I was concerned that if I organised activities such as discovery interviews, some group members would quickly become disengaged with the process. Also, the group size did not make it possible to work in subsets to create future possibility statements for discussion with the whole group, something which is a staple for external facilitators organising AI summits.

I therefore decided to keep the AI summit informal and used simple open question to encourage group debate, and although there was an itinerary, I felt the outcome of the summit was more important than how it was achieved. This allowed group members to become engaged in the process when they were ready and felt comfortable. It was also notable that during the AI summit two members of the group stood up during a discussion and drew a concept of the booth that subsequently became central to the future development (Figure 16, page p.195). This unprompted activity is a manifestation of the future possibility statement, which was created organically from group discussion and was met with encouraging enthusiasm from other group members.

A flexible approach to the stages of the AI summit and the spontaneous activities that it generated is an important adaption of the AI methodology when deployed in small groups. This enables it to be deployed as a change process in self-facilitated groups that lack traditional organisational or management structures.

#### 8.4.3 Contribution to The Theory of Collaborative Entrepreneurship

This study presented new data that will inform academic knowledge by (1) employing action research techniques in a small knowledge diverse business network (2) evaluating appreciative inquiry in a small business setting with only a small number of participants present at the AI summit. Internal self-facilitation of this network organisational change by the members of the network has contributed to academic knowledge of facilitation and collaborative entrepreneurship. A model based on this data and its interpretation is presented below (Figure 17, p.266).

In addition to the industry specific drivers to collaborate there were more general reasons which share commonalities with other small/micro businesses. These drivers including resource limitation in the case of the brand holder and transactional cost in the case of the booth manufacturer and automation supplier. In addition to these easily quantifiable drivers, there were others that were more difficult to quantify, related to increasing/improving business and personal profile and the feeling of satisfaction that comes from being involved in the innovation process and delivering a product that pushes the technological boundaries of a market.

This model contributes to our knowledge of how collaborative entrepreneurship is positioned, as a network business model, by considering the personal drivers that are more likely to be involved in a network, where the owner/managers of a small/micro business are directly involved in the collaborative process.

The issue of trust at the early stage of the network evolution is an issue that is not unique to collaborative entrepreneurship and as Fuglsand and Jagd (2015) argue, trust relies on social processes of sensemaking, so all forms of collaboration are likely to be influenced by trust as the participants learn to understand the processes of the collaboration and the motivations of the others involved in the collaboration.

In a collaborative entrepreneurial network trust needs to be developed so that the individuals feel confident, that as they reveal the contents of their “treasure chest” of knowledge developed over

many years, it will be used for the good of the network and that while knowledge learned in the collaboration will be used by the individuals for activities outside of the network, this will not be to the detriment of the network or its collaborative processes.

Facilitation as the network forms played a role in helping the individuals involved feel comfortable and that despite the needs of the network their own business will benefit, not only directly from the financial returns of the collaboration but from a collaborative process of learning that the model provides and encourages.

Facilitation and the AI summit were instrumental in addressing the personal feelings that inevitably accompany a small/micro business owners' decision to share knowledge with others. It aided the creation of a network structure that allowed flexibility for network members to work in a way that accommodates their own business needs as well as the needs of the network.

The proactive nature of facilitation during this time, identifying issues before they became pervasive, was key to helping the network move past earlier issues of trust and agreeing to an AI summit which, in line with Cooperrider and Whitney's (2010) underlying principle of getting the whole system in the room, was the first time all the members of the network had been actively involved in a face-to-face interaction.

As the network evolved and the internal and external processes became more collaborative, facilitation evolved to focus more on the needs of the network. The key to facilitation at this stage was due to an improved level of trust within the network, that made it possible for different individuals to take the facilitative lead. As the network faced specific technical, market or process issues individuals with specific knowledge or skills were able to guide the network and ensure that such issues did not de-stabilize progress.

The evidence indicates that for facilitation to be successful in a collaborative entrepreneurial network it should not be the purview of one individual but should rotate among the network members as the need arises. It also indicates that self-facilitation of the network is preferable to external facilitation. This is because when dealing with issues of trust that involves the personal knowledge of small/micro business owners, it is more likely to be trusted to someone with whom they have developed a personal relationship with and have a mutually agreed target.

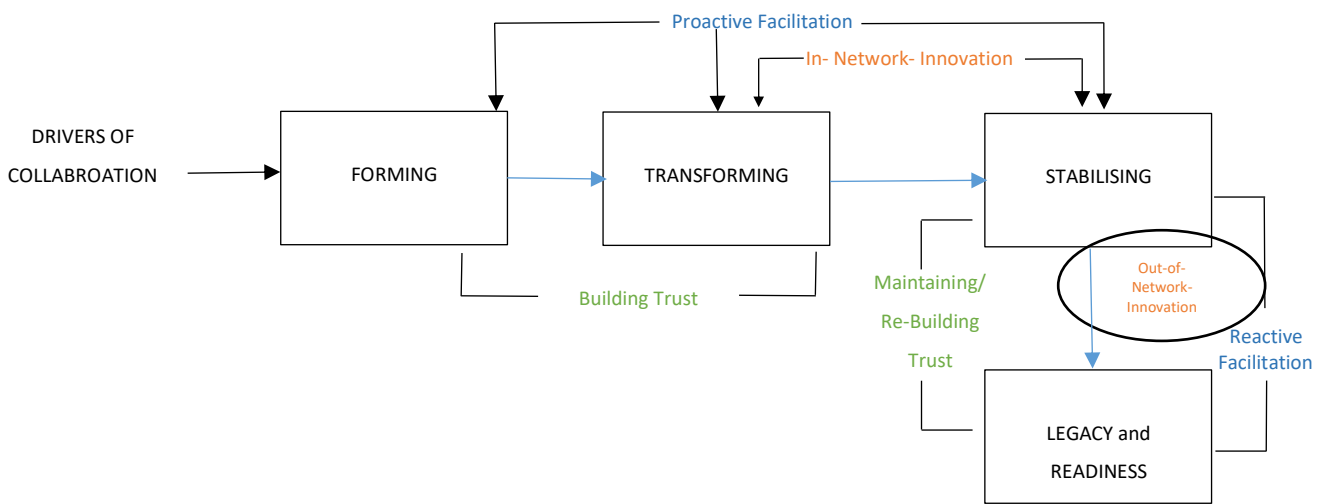
Al-Tabba and Ankrah (2016) argue that relational social capital is created through interactions and that this aids the development of trust. The importance of shared values and experiences was evident throughout the collaboration. During the nascent stage of trust development, the evidence shows that prior relationships between some of the group members facilitated the sharing of knowledge and made the group more amenable to an individual taking a facilitative role to guide the network through a difficult time. Self-facilitation of a network is aided by the shared social capital of the network members as the facilitator is seen to be sharing the aims, dreams and issues of the network. It is acknowledged that an external facilitator can take a holistic view of an issue and lacks relational baggage, but the evidence indicates that being an insider is more important to a collaborative entrepreneurial network.

Unlike Balde.org, the network at the centre of this study was not guided by the senior executives of multiple global organisations and for this reason it did not have a prescribed network life span, it was more the case of develop the booth and then see where we go from there.

As the network moved past the initial target of developing an innovative spray tan booth and as in-network-innovation slowed issues of trust began to re-surface. This adds to our knowledge of collaborative entrepreneurship. It was assumed that the trust developed during the forming and transforming stages of the network evolution would be sufficiently strong as the network matured. However, it was found that as some members become less involved in network activities and began to focus on out-of-network innovation either, independently, with other network members or with new collaborative partners, the cohesiveness of the network risked being eroded.

The more reactive stance of facilitation at this stage allowed the group's members to view the issues in a more holistic manner. This initially led to the setting up of a WhatsApp group to minimise some groups members concerns regarding being "out of the loop" and ultimately led to two group members adopting a linking role between the technical and commercial groups, that had formed in the network. Maintaining readiness and creating a legacy is made possible through continued communication post-innovation. This is not always easy, as the relationships developed during the collaboration, despite exhibiting some of the facets of friendship, are still business based and are fundamentally predicated on commercial success. The two individuals who adopted the facilitative linkage role have maintained this role and this is seen as key to what, at this stage is still a network that is maintaining innovation readiness despite sales plateauing and innovation stalling, as societal and market changes in the primary market affect growth potential.

**Figure 17 An interpretive model of Collaborative Entrepreneurship for networked small/micro businesses**



Rockart (1979) defined critical success factors (CSF) as “the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization”. Christenson and Walker (2008) describe CFS’s as the principles, structures and processes that regulate the decisions that make projects successful. Muller and Jugdev (2012) describe CFS as “elements of a project which, when influenced, increase the likelihood of success” (p.212).

The self-implementation of a collaborative entrepreneurial model in a network of small and micro business owners/directors involves different challenges to the managed implementation of work teams in larger organisations.

Figure 17 highlights four key critical success factors identified by this study.

**Reason for Collaboration** – As discussed in this thesis there was group wide defined business aim for the collaboration, the development of technically advanced, user friendly, cost effective automatic spray tan booth. And among the individuals involved in the network there were personal aims including, building of reputation, personal satisfaction from working on a development, changes to their own business models to improve efficiency and developing better relationships with external stakeholders. Critical to the success of the collaboration was the synergy between the individual aims and the group wide aim, leading to improved engagement in the collaboration, as it was understood that individual aims could only be achieved if the primary aim of the collaboration was successful.

**Structure** – When dealing with individuals who are used to making decisions it is important that the organisational form adopted for the collaborative activity is flexible and allows these individuals to adopt different roles as the collaboration progresses. There is also evidence that the lack of a legal entity, for the collaboration led to a more relaxed atmosphere among the group members as they knew that could leave the network, if continuing involvement was having an adverse effect on their own business.

**Maintaining Trust** - The development of trust is important to most interfirm alliances, as they inevitably involve the sharing of commercially sensitive information. As discussed, the success of a collaborative entrepreneurial network of small and micro businesses is predicated on a high degree of personal trust among the network members. But to continuously innovate over an extended period and when innovation occurs outside of the network It is import for trust to be maintained. Processes should be employed to ensure that communication is maintained during the lulls in network activity as the evidence of this study showed reduced cross network communication led to an erosion of trust among network members.

**Facilitation** – A model of rotating self-facilitation was adopted by the network members to navigate, the journey from a supply chain to a collaborative network where innovation flourished both within and in the individual companies in their own markets. This was key to the success of the collaboration as it allowed group members with specific skill sets to guide the network at times when these skills were required and reduced the need for an appointed leader which may have caused issues in a network of individual who are used to being in charge.

#### 8.4.4 Summary

This study presented new data that will inform academic knowledge by (1) employing action research techniques in a small knowledge diverse business network (2) evaluating appreciative inquiry in a small business setting with only a small number of participants present at the AI summit.

Internal self-facilitation of this network organisational change by the members of the network has contributed to academic knowledge of facilitation and collaborative entrepreneurship

This study extends Miles et.al (2005) by applying the principles of collaborative entrepreneurship to the field of small and micro business research. It also goes beyond Phopelian (2013) by studying a

network of small/micro business that are actively engaged in a common goal, the development of an innovative spray tan booth and associated services.

It also presents evidence for the use of facilitation in a collaborative entrepreneurial network, and suggests that internal facilitation, that rotates between the network members, dependant on the stage of the network development, the specific issue at hand, and the skill required, is suited to the dynamics of a collaborative entrepreneurial network.

The model developed provides a flexible framework for facilitation of a collaborative entrepreneurial network. This acknowledges the personalities of small/micro business networks and the influence these have on both the issues, that can arise and how the network deals with them. Giving the individual members the ability to adopt the role of facilitating the network fosters a climate of trust and inclusion which is key if all members are going to keep engaged, with the initial innovation goal and maintain readiness and ensure legacy

#### 8.5 Limitation

The network at the centre of this study was formed from an existing supply chain, meaning that some of the key relationships within the network were already formed. The outlier companies that were brought into the network had previously well-established links with individuals within the network.

The homogeneity of the group members as far as gender, age and social background is considered to be a significant reason for the success of the business aims of the collaboration. As discussed, the group membership was based on familiarity, either related to the target of the collaboration, existing relationships where trust had already been established or simply because an individual had market knowledge that would prove useful for product roll out. Also as discussed in section 2.7.6 the national cultural differences that existed in the group were ameliorated by the relationships that had been formed years prior to the network forming.

This study does not address how collaborative entrepreneurship would work in a network that lacks cultural, gender or age homogeneity. However, given the nature of small and micro business it is probable that networks will form organically through prior business of personal relationships. This therefore make it likely that there will be a degree of similarity and knowledge crossover among the individuals involved and that these prior relationships will aid the development of trust, a key component for a successful collaboration.

A second area that this study does not address is the relationship with outlier companies brought in to aid the network after initial trust had begun to develop. This study provided evidence that structural holes, particularly related to prior relationships within the network and between network members and outlier companies, were easier to span, but does not address issues that may occur, if the network formed with little or no prior relationships among network members or the network and outlier companies.

This study has focussed on facilitation of a collaborative entrepreneurial network instigated by a network member with a declared interest in collaborative entrepreneurship and an academic background in action research. It has also only provided evidence for internal facilitation by network members. It has commented that due to the personal dynamics of a small/micro business network self-facilitation is the optimum method but, due to network constraint, has not attempted to consider how external facilitation would operate in the broader collaborative entrepreneurial model in networks of different configurations.

## 8.6 Further Research

The use of AI summits in a micro business network in an under researched area, a simple google scholar search indicates that as a methodological tool is still within the purview of large organisations, government bodies and non-government agencies (NGA's).

McQuaid (2019) argues that AI summits have been shown to enable organisational systems to flourish by creating a safe container for novel information to be appreciatively shared across the whole system and by providing an opportunity for individual expression and connection. And that they promote activate engagement, relationships, meaning and accomplishments.

The lack of academically documented AI summits in small/micro businesses and networks is likely due to a perception of the activity. Large geographically diverse organisations have limited oppurtuites for the whole organisation to meet and exchange ideas, which was one of the drivers for holding the AI summit in the small network at the centre of this study. But the success of it and the improved trust that developed as a result provides evidence that these serve a useful purpose in the early days of network evolution.

I believe that the use of the AI summit was the most important activity in the networks journey as it afforded the opportunity for all members to layout their vision for the innovation, discuss concerns



and appreciate the dreams and fears of other network members. Unlike Miles et.al's (2005) OpWin organisation where senior management were instrumental in laying the initial innovation pathway, the network at centre of this study organically evolved the innovation goal and the AI summit was instrumental in this process.

Whitney et.al (2019) discuss AI being led by a "core team", a small group microcosm of all the stakeholders whose future is at stake, a team that is charged with co-designing and collaboratively leading the enquiry. In small/micro business network the core team will inevitably be, what Coopriender (2005) refers to as the whole system. Also, the flat management structure, which is especially prevalent in micro business, will mean that the core team will almost certainly be directors, founders, or relatives of the founder. This naturally introduces issues related to the personality of these entrepreneurs that is inevitably going to influence how the team works. This was evident in this research study but due to time, economic and market pressure It was not possible to fully investigate all aspects of this.

Further research into how appreciative enquiry can be operationalised in small and micro business is called for. Creating a climate where continuous innovation thrives is an important factor of success for many of these organisations and given their importance to the economies of most developed and developing nations, it has wider economic relevance.

## 8.7 Reflective Summary

Throughout this thesis I have documented the reflections of both myself and the other participants in this research study. These reflections were predominately focused on the business journey and how those involved were affected by the transformative process, from a professional viewpoint and how it influenced their approach to future business relationships. This reflective summary will focus on my own personal growth.

Prior to the undertaking of the collaborative project detailed in this thesis my general approach to my personal, technical and market knowledge was broadly in line with the concept of knowledge silos (Trett, 2015) discussed on page 130. I was reticent when it came to discussing details of customers with suppliers and would discuss the broad details of their requirements but not go into detail of the specific contacts within the customer.

I recall a discussion with my wife (a co-director in my business) in early 2013 about an upcoming visit from Badri the director of the Automation manufacturer a key supplier to our company. It was important that I showcased the positive aspects of the business relationship by introducing Badri to both existing and potential accounts, where growth in the purchases from the automation manufacturer could be generated. However, I was conscious of being protective of key commercial data as there was always a possibility that our relationship with the automation supplier could deteriorate over time and they or us would be looking for an alternative partner at some time in the future.

In section 7.1.4 (page 232) I discussed a project undertaken in 2018, in this project my approach to collaboration was noticeably different to previous collaborations where I worked with other micro business to overcome recourse limitations but had retained key knowledge including contacts and detailed project information. This required the development of a product that was outside of my normal field of technical knowledge and within our customer base there was the owner of a fellow micro business with the suitable skill set to develop the required hardware.

Reflecting on my approach to this project I was sub consciously more open with details of the project and more amenable to taking ideas from the individual I had approached. Obviously, some of openness was due to a pre-existing relationship and a strong relationship with the end customer, but I also believe that the process of learning undertaken during the network collaboration contributed to this openness. Subsequently, although still in a nascent stage, this has resulted in increased collaborations with both suppliers and customer and the development of new products and markets, that may not have emerged without the learning from the collaborative process discussed in this thesis.

In contrast at this time, it is more difficult to quantify discernible changes that conducting this doctoral level research study has had on my interactions with academia. This could be simply put down to me being a part time academic and fact that opportunities for me to discuss my work with other academics are infrequent.

On reflection I do feel that I still lack sufficient confidence when engaging with other academics which I believe is due to a lack of long-term exposure to the field. Within my practitioner field I have considerable experience, and, on many occasions, I have had to prove myself in difficult circumstance to get a project completed to avoid financial penalties, and in the past 16 years of running my own

business I have to prove my worth on a regular basis to provide for my family. This improved my credibility and built a reputation, something which I lack in academia.

I have always been very conscious of how I feel before a meeting with my supervisory team, or engagement with other academics for annual reviews. Leading up to these interactions I question if I should be sitting in the same room as doctors and professors, who are experts in their respective fields, this is something I have never felt in my work life despite sitting with the owners and directors of multi-national businesses who have substantial personal wealth.

I believe this is rooted in my upbringing, where the ability to perform a manual task to a high level was valued above academic endeavours. Despite these personal doubts it is important for me to learn from the academic component of my doctoral research. I hope to be able to take the lessons learnt from collaborating in my work life into my academic life and pursue collaborations with members of my supervisory team and others to build on the work of this study. This I believe will help to build a personal credibility that will enable me to engage with academics in a more, in my own mind, equitable way.

## 8.8 Footnote

The concept of collaborative entrepreneurship (Miles et.al, 2005) is that it creates a culture that encourages continuous innovation. This culture, they argue, becomes pervasive within a group of businesses as they collaborate towards an initially formed group aim, and spreads to the group companies as they work independently within their own markets.

I have argued that as the spirit of collaboration becomes dulled after delivery of the shared product or service. I have provided data that shows facilitation plays a role in keeping the network innovation-ready to react to changes in the market that the original collaboration was formed to service or to provide products to new markets.

In the spring of 2020 when this thesis was close to completion and the world was in the grip of the coronavirus pandemic, I received a phone call from Steve.

He wanted to discuss a news article he had seen about a disinfection booth that was being used in Chinese airports and shopping malls and he was convinced that with the patented down draft system of the spray tan booth and some of the other features we could come up with a superior solution.

This phone call started a conversation among the original members of the network, except for the Badri, as the product developed for the spray tan booth was suitable for this proposed re-purposing. The network has proposed some changes to the look of the booth as the current spray tan booth has an aspirational look and feel, that is focussed on beauty and health which is deemed not suitable for a disinfection booth. There are minor technical changes required as the delivery of the DHA based spray tan solution differs to the delivery of an alcohol based sanitising solution.

This is an on-going situation made more difficult by issues related to local and country lock downs caused by Covid 19, but the importance to this thesis is not the technical or logistical challenges faced by the network. It is that through facilitation, that has fostered a culture of regular communication, the network was innovation-ready, and the trust developed in the early days of the collaboration was still strong enough to make all member confident that we could work together again to move into a new market.

I mentioned in section 8.5 that I considered one of the limitations of this study to be that it does not address issues that may arise if there had not been existing relationships between some of the network members. As the network discussed the re-purposing of the spray tan booth two issues related to this surfaced.

The first was that due to health issues Nick, would not be as actively involved in the network as he had been previously. The company, he is a founding director of, will still be involved in the collaboration and will be represented by his brother. During the original collaboration this individual focussed on the production of the spray tan solution and never got involved in the design of the spray tan booth, he is also more of a chemist than a marketer. The second was that the chemistry of sanitising fluid is different to that of spray solution. This meant that the network would need to engage with a new company to provide a solution that would be suitable for the delivery method used in the spray tanning booth.

The whole network needs to consider how working with new individuals/companies will influence the cohesiveness of the relationships developed during the initial collaboration and the effect this may have on future successful collaborations. There is also the fact that the initial collaboration related to developing a new product for a market that some network members had extensive experience of. This collaboration will involve a differently configured team moving into a new market, this will reduce the

power bases of some of the individuals in the network, that were based on market experience and contacts.

The different personalities that will possibly become integral components of the network could enhance the network, but they could also destabilise well established relationships and affect the trust among network members that was developed during the evolution of the network.

At the time of completing this thesis it was too early to make an educated judgement as to how the new network would perform, as the proposed re-development of the spray booth progresses, but it is hoped that the relationships that formed the foundation of the network which were forged in the cauldron of innovation will be strong enough to withstand new issues that may arise and a new market will be developed.

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