



**FACULTY OF HUMANITIES AND SOCIAL SCIENCES
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**INVESTIGATING FORMATION OF SOCIAL CAPITAL BENEFITS FOR VALUE
CREATION AND STRATEGY ENHANCEMENT: THE CASE OF SMEs IN THE UK's
CONSTRUCTION INDUSTRY**

by

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**Thesis submitted in partial fulfilment of the requirements for the degree of Doctor of
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To my father, I wish you were here to continue learning together,

To my mother, thank you for instilling the desire to succeed in me,

To my daughter, I hope one day you could forgive me.

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Abstract

Addressing calls for research into social capital (SC), value creation (VC), and business sustainability (BST), this study answers: What strategies do individual SMEs in the UK's construction industry apply to generate SC benefits through network engagements? How do SMEs, in the construction industry in the UK, create value from the SC benefits generated through network engagements? and How do SC benefits enhance business sustainability (BST) strategies of SMEs in the UK's construction industry?

This exploratory and interpretive study adopts a social constructivist epistemology to examine, through abductive analysis, the 'lived experiences' of small and medium-sized enterprises (SMEs), when their managers and/or directors engage with networks to generate SC benefits, create value, and enhance BST strategies. Forty-one interviews are thematically analysed producing seven findings. First, SMEs deliberately undertake actions to engage with strategic stakeholders. Second, SMEs prioritise stakeholders to generate SC benefits. Third, SMEs prioritise specific actions to generate SC benefits. Fourth, there are categories and representations of SC benefits unaccounted for in the SC literature. Fifth, SMEs execute strategic actions to transform SC benefits into value. Sixth, there are value representations across six categories not accounted for in the SC-VC literature. And seventh, SC benefits trigger VC and strategy enhancement in SMEs. Findings encourage managers to adjust network engagement strategies following actions suggested in this study; nonetheless, contextual limitations demand research beyond the UK and its construction industry to better understand the SC-VC-BST strategy relationship.

In summary, contributions of this study are fourfold. First, recognition of premeditated actions, supporting synergistic strategies, that SMEs adopt to generate SC benefits. Second, recognition of additional SC benefits not currently present in the management literature. Third, acknowledgement of value categories and representations transformed from SC benefits. And fourth, clarification of process and nature of relationship between SC benefits, their transformation into value, and enhancement of firms' BST strategies.

KEY WORDS: Social Capital, Value Creation, Organisational Strategy, Business Sustainability, Thematic Analysis.

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DEDICATION

This thesis, along with all accomplishments throughout my life, are the result of the guidance, support, and blessings from God, by allowing individuals such as my mother, father, grandmother, daughter, among others, to be part of my life along with my teachers, supervisors, friends, and ‘Messengers’ whom have helped me be who, and where, I am today. I dedicate this success to all of you, thank you dearly from the bottom of my heart, and may God bless you and your projects always!

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Finally, I would like to thank the examiners for dedicating the time to read and assess this thesis. All the absolute best in your upcoming projects!

DECLARATION

I declare that all the material in this thesis, which is not my own has, to the best of my ability, been acknowledged. The material in the thesis has not been submitted previously by the author for a degree at this or any other university.

Signed:



Julian Piana.

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Chapter 1. Introduction

One of the necessary conditions for human life development and sustainability is belonging to a social system. This is defined as “a plurality of individual actors interacting with each other in a situation which has at least a physical and/or an environmental aspect” (Parsons, 1951, p. 5) which helps to contextualise humans as social individuals by nature and main contributors to social systems. Such systems are built upon networks where individuals become partakers and influence the networks they interact with. Researchers have investigated how networks produce social capital (Adler and Kwon, 2002; Burt, 1997a; Nahapiet and Ghoshal, 1998) defined as “the glue that holds societies together and without which there can be no economic growth or human well-being” (World Bank, 1998, p. iii). Nonetheless, little is known about how social capital (SC) benefits are produced through network interactions, how SC benefits influence the creation of value (VC) – defined as the deliberate intermediation of firms to transform inputs into outputs and produce positive outcomes for firms – or how the SC-VC interrelation influences the enhancement of business sustainability (BST) strategies.

Considering the relevance of SC, along with human capital, scholars (Hitt et al., 2006) have evidenced that these two forms of capital are the most unique and intricate resources any firm can possess. This thesis argues that considering SC’s complexity, its understanding and management is a priority for all firms to strengthen their resilience levels aimed at BST (Bansal and DesJardine, 2014). SC has been recognised as a foundational layer for business sustainability (BST) – defined as the process by which firms manage their financial, social, and environmental risks, obligations and opportunities (Network for Business Sustainability, 2021) – and survival of small and medium-sized business – known as SMEs (Anderson et al., 2007; De Carolis et al., 2009) but its relation to value creation and subsequent enhancement of firms’ BST strategies has not been sufficiently studied in the management literature.

1.1. Rationales for this study

This investigation has five underlying rationales: first, to expand the current state of literature related to the process for the generation of SC benefits (Basuil and Datta, 2017; Cáceres-Carrasco et al., 2020; Riano, 2019), its influence on value creation (Basuil and Datta, 2017) as underlying factors towards the enhancement of firms’ BST strategies (Dyllick and Muff, 2016; Yusoff et al., 2019), particularly those of SMEs (Antoldi and Cerrato, 2020; Rashidirad and Salimian, 2020).

Second, to help SMEs optimise their strategies towards generating SC benefits to maximise the use of their internal resources and skills to take advantage of potential opportunities whilst minimising threats for the creation of value and enhancing their BST (Antoldi and Cerrato, 2020; Broccardo and Zicari, 2020; Rashidirad and Salimian, 2020).

Third, to minimise volatility and instability of SMEs, especially in the construction industry, since they are the supporting backbone towards sustainable development (Matinaro et al., 2019). In the UK, for example, they represent over 99.9 percent of all businesses, provide over 60 percent of the UK private sector employment and produce over 50 percent of all private sector turnover in the UK (Federation of Small Businesses, 2019). According to the Office for National Statistics (2019a), by the end of 2018, the UK only showed a 1.4 percent GDP growth rate, not only demonstrating its inability to recover to the same GDP growth levels prior to the 2008 recession, which exhibited 2.5 percent growth by the end of 2007, but also exhibiting signs of a deeper and gradual economic slowdown.

Fourth, to provide a more stable environment for start-ups and minimise disruption considering the current political, economic, and social instability of the UK, derived from ‘Brexit’ which, according to the survey of purchasing managers, “revealed that Brexit anxieties were among key reasons for delays to decision-making on new projects at the start of 2019, with a corresponding slowdown in progress on new work” (Partington, 2019, p. 1), and the Covid-19 pandemic which has caused UK economic activity to decrease by 30 percent from February 2020 levels threatening about 7.6 million jobs in the form of furloughs, permanent layoffs, and reductions in hours and/or pay (Allas et al., 2020). A May 2020 McKinsey report, argues one in five SMEs in the UK may not survive past August 2020, this is independent of the number of years in business (Allas et al., 2020) and the unaccounted impact of Covid-19.

And fifth, to increase the expertise and business knowledge of the researcher since his father struggled as an entrepreneur. The researcher’s father had no entrepreneurial skills causing financial losses to his immediate family which could have been minimised had he been trained by mentors and given access to quality information through supportive networks. Furthermore, this study bears a personal meaning for the researcher since he, himself, also tried establishing a small business but unable to deploy appropriate strategies to make it sustainable in the long term. The researcher understands these personal meanings could present a bias to the end result of the investigation; however, in the interest of fairness, honesty and transparency, the researcher is disclosing the perspective that it is brought onto the study, and it is a way to let readers know, and help them understand, what position the researcher is undertaking the inquiry from, as a form of validity (Merriam and Tisdell, 2015) whilst addressing the relevance of reflexivity (Leavy, 2014; Robson, 2002) in qualitative studies which are represented in this thesis.

In brief, this study examines three themes, social capital (SC), value creation (VC), and business sustainability (BST) strategy. This study explores the current state of research for SC and its relation to VC and BST whilst aiming to contribute to the extant body of literature on the relationship amongst SC and VC as an underlying factor towards the strengthening of BST practices in SMEs. The relevance of SC in management studies is described next.

1.2.Social Capital in Management Studies

The concept of SC can be referenced back to the “works of Durkheim and Marx – even Aristotle” (Carroll and Stanfield, 2003, p. 397) also addressed by Alexis De Tocqueville who suggested in 1830s that feelings and ideas provide understanding through the reciprocal action of men upon one another. The roots of SC in management studies are said to be planted since Jacobs’ (1965) publication ‘The Death and Life of Great American Cities’ which provided an understanding of the survival and role of neighbourhoods exhibiting the creation and application of personal relationships towards collective cooperation. Jacobs applied the concept of SC to elucidate the leading role towards the survival and functioning of neighbourhoods through the development of networks built upon trust, cooperation and collective action (Sørheim, 2003). Moreover, Nahapiet and Ghoshal (1998) also attribute the initial usage of SC mainly to Jacobs (1965) and Loury (1977) who examined the influence of SC on individuals as a set of resources engrained in family relationships and communities towards the development of the youth. Nonetheless, the modern application of SC is “most often attributed to Bourdieu (1985), Coleman (1988), and Putnam (1993; 2000)” (Lehtonen, 2004, p. 204).

Other scholars indicate SC is grounded in long-lasting dealings coupled with the relationships derived from acquaintances developed over time (Ellison et al., 2007; Putnam, 2000). Andriof and Waddock (2002) argue SC is essential to maintain stakeholder relationships united whilst considering these relationships are the support for the developing of trust, cooperation, and collective action, which are “vital ingredients of long-term thinking and performance excellence” (Stainer, 2006, p. 254). SC is also viewed as “trust and alliances generated by the relationships that people in a given system have developed over time” (Waddock, 2009, p. 175) since a “Continued interaction over time leads to the development of SC through the construction of close relationships” (Peake et al., 2017, pp. 327–328). SC is also represented in “the connections among individuals, social networks and the norms of reciprocity and trustworthiness that arise from them” (Putnam, 2000, p. 19). It is argued SC “can improve the efficiency of society by facilitating coordinated actions” (Putnam et al., 1993, p. 167); however, customer awareness of firms’ social efforts is low and emphasise most customers cannot recall the social characteristics of the products they use and often are unaware of social programs (Auger et al., 2003; Bhattacharya and Sen, 2004). Information is seen as an essential element for SMEs but it could come at a price, which can be offset or at least minimised by their ability to engage in networks; thus, enhancing SC (Coleman, 1988) whilst considering the possibility of developing weak-ties via membership-based networks (trade associations, chambers of commerce, banks, external consultants, business assemblies) towards building SC (Watson, 2007) and generating SC benefits.

Furthermore, it has been acknowledged that network engagements of SMEs have an intrinsic power guided by normative theories that nurture the generation of SC and may provide a competitive advantage (Fuller and Tian, 2006). SC is the result of network engagement aimed at resource exchange and embedded in social relationships (Nahapiet and Ghoshal, 1998). Overall, SC is a vital element for the creation,

development, and sustainability of firms; thus, highlighting the need for research into its origins, components and transformation processes.

1.3. Value Creation and Social Capital

The creation of value allows firms to develop more efficient processes, manufacture innovative products and offer distinctive services; nonetheless, these enhancements depend on factors such as acknowledging the need for changes and their implementation through receiving positive feedback producing financial rents (Husted et al., 2015). Others believe a firm is able to generate value by combining its resources to grow the productivity of those resources (Moran and Ghoshal, 1999; Schumpeter, 1934). The creation of value is considered a core ingredient of an effective strategy since “Strategies that focus on creating new value undoubtedly lead to some of that value spilling over to other firms and to society as a whole” (Moran and Ghoshal, 1996, p. 45). However, this study highlights research on the creation of value, its relationship with SC, and subsequent enhancement on firms’ BST strategy is poor in management studies. Whilst the relationship amongst SC and performance has been acknowledged and evaluated at the individual (Burt, 2007), group (Reagans et al., 2004), team (Tsai, 2000), project (Delmestri et al., 2005), and organisational levels (Stam and Elfring, 2008), the relationship amongst SC and VC has not been investigated with the same depth, proof of that is evidenced by Chapter Two (see Table 2).

The VC process has been defined as the total sum of value generated from networking activities (Ritala and Hurmelinna-Laukkanen, 2009) whilst Schumpeter (1934) evidences the relevance of creating value through producing new goods, optimal methods of production, exploiting new markets, and discovering suppliers. Most of these actions are derived from gains produced via network engagements by individuals and firms (Gulati et al., 2000) recognising SC as a vital source when creating inimitable value-generating resources embedded within a firm’s relationships providing benefits such as knowledge accrued by network members and close contacts (Hansen, 1999). Current management literature has investigated limited SC benefits and forms in which value has been created, product of network engagement, and very little has been documented in connection with how SC benefits create value and enhance firms’ strategies; thus, this study narrows such knowledge gaps, and contributes to SC and VC theories for SMEs to strengthen their BST strategies.

The structural and relational dimensions of SC are positively correlated to resource exchange and combination within units of the same firm resulting in VC (Tsai and Ghoshal, 1998) whilst knowledge-based resources, such as SC in the form of intellectual and information processes, ought to be combined with firm-specific ties to generate value for firms (Dess and Shaw, 2001), and intellectual activities such as R&D, process and product design are responsible for most of the added value in manufacturing industries (Quinn et al., 1996). Despite evidence favouring SC-VC relationship for organisations, it has not been fully explored. This evidence calls for greater number of research initiatives acknowledging VC strategies are

essential for strategic management “but are very much an understudied topic” (Schmidt and Keil, 2013, p. 220) whilst recognising firm-level strategy research has focused on value appropriation related to sustainable competitive advantage rather than on VC exemplified in the creation of new sources of rent (Moran and Ghoshal, 1999) or different categories and representations of value. Therefore, VC goes beyond its purely financial perspective of engaging in any action or plan to generate profit calling for the investigation on the link between the interaction in networks to obtain SC benefits, and creation of value beyond economic rents.

1.4. Firms’ Strategy in the context of SC and VC

The concept of ‘strategy’ was developed over forty years ago considering internal and external perspectives of firms described as the relation amongst firms’ internal resources and skills with the potential external opportunities and threats (Hofer and Schendel, 1978); as the pattern cohesively gathering the main goals, policies and actions of the organisation (Quinn, 1980); and “the overall plan for deploying resources to establish a favourable position” (Grant, 1991, p. 11). Such definition considers ‘a plan’ which entails the purposely conscious intention, analysis, and examination of current situations to better approach future ones.

Strategy, as a concept, goes beyond a carefully developed plan, “the substantive definition of strategy should make explicit reference to the phenomenon of rivalry...without such rivalry, the concept of strategy is empty” (Cowling, 1992, p. 38) whilst Phil Knight, from Nike Inc., stated “Business is war without bullets”. An additional perspective of strategy is “the search for long-lived rents or competitive advantage” (Bowman and Ambrosini, 2000, p. 5) considering strategy “focuses more on appropriating the rents of others and preventing them from appropriating your rents, and less on finding and exploiting the sources of these rents” (Moran and Ghoshal, 1999, p. 409); thus, understanding strategy as a carefully planned set of actions aimed at generating better market position for the firm against its competitors. Organisational strategy is understood in terms of its position within the market where the firm is able to achieve its objectives “without threatening its competitors” (Porter, 1980, p. 57) while highlighting the role of value appropriation recognised through competitive advantages, and VC as a path towards nurturing an effective business strategy. strategy also entails foreseeing how competitors or external factors undermine firm’s operations; thus, engaging in a ‘competitive strategy’ defined as “taking offensive or defensive actions to create a defensible position in an industry, to cope successfully with the five competitive forces and thereby yield a superior return on investment for the firm” (Porter, 1980, p. 34). Moran and Ghoshal (1999) describe firms’ positions as constantly aiming to gain market share while attempting to reduce competitor’s market share; thus, creating a zero-sum game contrary to what the essence of SC is which is founded on mutual benefits.

Strategy types vary depending on the ability of the firm to have access to resources (Barney, 1986) considering firms start off with a limited amount of resources that provide them with a strategic advantage

when they are initially established (Lippman and Rumelt, 1982). Barney (1986) suggests the important step is to gather a variety of resources since once they have been obtained, they can be blended, combined, or enhanced to develop and implement diverse strategies. The author proposes four key strategies: first, product diversification through the acquisition of other firms; second, product innovation via research and development skills (Thompson Jr and Strickland III, 1989); third, low cost production through a large market share (Henderson, 1979); fourth, low volume with high margin sales via the reputation for high quality; and overall, managerial skill for appropriate and effective strategy implementation (Porter, 1980). Considering the concept of strategy, SMEs should carefully plan and organise how the resources they own can add value to them through a strategic intent. Strategic intent exists when a firm manages its resources and policies to address key stakeholders' needs through the development of a competitive situation and product/service differentiation (Hamel and Prahalad, 1989) whilst "the availability or constraint of strategically valuable resources influences the extent to which firms are able to capture value from the engagement in innovative, proactive, and risk-taking strategic behaviours" (Anderson and Eshima, 2013, p. 415). These strategic behaviours refer to the acquisition of SC as benefits through network engagements; thus, driving firms to better plan and analyse their actions positively influencing their strategy.

Despite high interest in the concept of strategy, the SC and VC literatures have not deeply explored those strategies that firms, especially SMEs, apply; first, to generate SC benefits; second, to transform such benefits into value; and third, to enhance their BST strategies. Consequently, this study explores how SMEs build their strategic intent through SC benefits such as knowledge and reputation obtained through network engagement, and subsequently transformed into value to enhance their strategies for business sustainability.

1.5. Why Small and Medium-sized Enterprises (SMEs)?

Jacob Viner, considered the greatest historian of 'economic thought' by Mark Blaug (Econlib, 2019), stated in the 1930s "...small firms do not play an important part in the economy" (Acs et al., 1996, p. 3), since then, the business landscape has changed dramatically. In 2005, the Organisation for Economic Cooperation and Development (OECD) recognised a country's economic growth is positively correlated with its SMEs sector due to their competitiveness, resilience and will to survive. SMEs in the UK are classified only in terms of number of employees. For example, those PAYE registered with no employees are classified as '0-employee' firms, a micro business is considered to have between 1 and 9 employees, a 'small' firm between 10 and 49 employees, and a 'medium' firm between 50 and 249 employees (House of Commons Library, 2014). By 2015, SMEs in the UK represent 99.9 percent of all private sector businesses contributing with 47 percent of all private sector turnover and 60 percent of all private sector employment (Department for Business, Energy & Industrial Strategy, 2016). Nonetheless, the five-year survival rate of UK's construction firms diminished from 50.3 percent in 2004 to 39.6 percent in 2010 (ONS, 2016) as a consequence of a downturn in financial markets causing economic recession (Price et al., 2013; Small Business, 2014),

'Brexit' (Stoyanov, 2018) amongst other reasons; on top of the failure to adopt appropriate response strategies to generate business growth; thus, leading to bankruptcy or liquidation (Tansey et al., 2013) or simply because newly established firms fail more often than established firms (Hannan and Freeman, 1993). In the UK's construction industry, SMEs are greatly exposed to the 'whims and movements' (Sexton et al., 2001, p. 534) of their business environments when compared to large firms. Hence, SMEs play a vital role in the development of society at large; nonetheless, despite their relevance, there is a need for the understanding of how they obtain SC benefits from networks to transform them into value and enhance their BST strategies for survival.

Furthermore, SMEs experience a competitive disadvantage against larger firms based on their disposal of resources or networks (Cowling et al., 2015) also in terms of factors such as employee size, legal form, sector, focus on profit, national context, historical development and institutional structures (Spence and Rutherford, 2003); thus, highlighting the growing need to investigate the SME group with more depth. Findings in this study support newly established SMEs with a CSR perspective since "small businesses in general will experience more difficulties than their larger counterparts when engaging in socially responsible action" (Lepoutre and Heene, 2006, p. 258); nonetheless, current SME literature evidence the lack of potential benefits for specific tools that preserve and improve SMEs' SC (Johnson and Schaltegger, 2016). The ability to generate SC benefits is grounded on SMEs' networking abilities since networking has the power to enhance SME owners' SC since it provides access to information generated through the networks accessed (Coleman, 1988). The significance of networks for SMEs is primarily due to the limitations of resources experienced by these organisations (Liao and Welsch, 2003) whilst noting that "the importance of social networks has been attributed to the fact that they provide resources, access to resources, [and]or emotional support" (Barnir and Smith, 2002, p. 221). Researchers acknowledge the significance of networks towards the transfer of knowledge (Schoenherr et al., 2015; Tortoriello et al., 2012) whilst others explain the engagement of organisations in relationships with other individuals or groups provides them with access to embedded knowledge which in turn could prove to be vital towards developing a competitive advantage during periods of crisis (Hitt and Ireland, 2002; Ulaga and Eggert, 2005). Therefore, SMEs must consider engaging with entrepreneurial networks to gain knowledge since it is a critical asset (Westerlund and Svahn, 2008) towards performance and success (Adler and Kwon, 2002; Luo et al., 2004).

Additionally, competitiveness of SMEs can be accelerated through inter-firm cooperation with multinationals since both "are building more and tighter relationships with other firms to achieve greater external economies of scale, market strength, or exploit new opportunities" (Rosenfeld, 1996, p. 247). Higher performance, survival, and competitiveness issues are even more accentuated depending on particular contexts. For example, two of the most influential events of the past 18 months in the UK have been the covid-19 pandemic and 'Brexit' which combined have negatively influenced business investment which saw a decrease by 26.5 percent between Jan-Mar 2020 and Apr-June 2020 being the largest quarterly

fall on record far from the 2008 crisis which pushed business investment by 9.6 percent (Office for National Statistics, 2021a). According to the latest data from the ONS (2019b), the five-year survival rate of UK firms diminished from 46,8 percent for businesses established in 2004 to 41.4 percent for businesses established in 2010 (its lowest level) only showing a slight recovery up one percent to 42.4 percent for those businesses established in 2013.

In summary, SMEs are chosen as the research unit for this study since they represent about 99.9 percent of all UK businesses contributing with half of the turnover and more than half of the employment compared to large firms influencing the sustainable development of the UK whilst acknowledging their vulnerability to falling demand since during a recession 4 out of 10 SMEs have experienced a fall in employment, and 5 out of 10, a decrease in turnover (Office for National Statistics, 2021a).

1.6. Why the construction industry in the UK?

The economic output in the construction industry declines more heavily time after time when compared to the whole economy, especially during the 2008-09 recession period and more recently during 'Brexit' and Covid-19 pandemic. Such phenomenon highlights the need for deeper investigation into the factors influencing volatility in SMEs in the UK's construction industry and its inability to provide continuous growth in economic output (House of Commons Library, 2015). The UK's construction industry saw a decline of 13.2 percent during the 2008-09 crisis and nearly as much, at 12.5 percent, in 2020 "while 2009 was the largest fall in percentage terms since annual records began in 1997, the fall in the level of output in 2020 was larger at £21,493 million in comparison with £19,673 million in 2009" (Office for National Statistics, 2021b, p. 29). Brexit has not been the only factor influencing economic slowdown in the UK parallel issues such as Covid-19, harsh trade negotiations amongst the two biggest economies (USA and China), and current political and economic instability in Europe have also influenced the diminishing in UK's output and spending (The Economist, 2019).

This study investigates the UK's construction industry since it has experienced a greater diminishing economic output than other UK industries during the 2008-09 and Covid-19 recessions (Office for National Statistics, 2021b). According to the ONS (2019b), the five-year survival rate of UK firms in the construction industry diminished from 50.3 percent, for businesses established in 2004, to its lowest point at 37.6 percent, for businesses established in 2008, and only showing a slight recovery to 43.5 percent for businesses established in 2013. These figures evidence that only 4 out 10 firms established after five years were able to survive whilst acknowledging that nearly 60 percent of SMEs ceased trading (ONS, 2019b, 2017, 2015). Such industry considers a wide range of trades, employing 16.1 million workers or 60 percent of all private sector employment in the UK, while producing a combined annual turnover of £1.9 trillion equal to 51 percent of all private sector turnover in the UK, according to the Federation of Small Businesses (2019).

The construction industry is characterised by being project-based, short-term, and temporary in nature (Green et al., 2004), which makes it highly dynamic, volatile, risky and challenging, and especially in the UK, the construction industry has gained poor reputation compared to other industries (Wood et al., 2002). The construction industry, independent of the country, embraces high levels of competition, usually low profit margins, delayed payments (even more in government projects), high rate of business failures, and an unhealthy balance sheet (Atradius, 2018). Construction projects also require team effort at all levels calling for a variety of skills demanding cooperation built upon extensive, dissimilar but interrelated processes while influencing a wide range of stakeholders (Burtonshaw-Gunn, 2017). In any construction project, for instance, there are at least two or more trades involved, a glimpse of trades that could take part in any construction projects is presented in Table 1.

Table 1. Standard Industrial Classification (SIC) 2007 for the UK's construction industry

Air conditioning	Central heating engineer	Interior Designer	Scaffold
Architect	Decorator / Painter	Ironwork / Blacksmith	Stonemason
Bricklayer	Electrician	Plasterer	Structural engineer
Builder	Flooring / Carpet	Plumber	Surveyor
Carpenter	Glazier	Roofer	Tiler

Source: Compiled using Standard Industry Classifications (ONS, 2008).

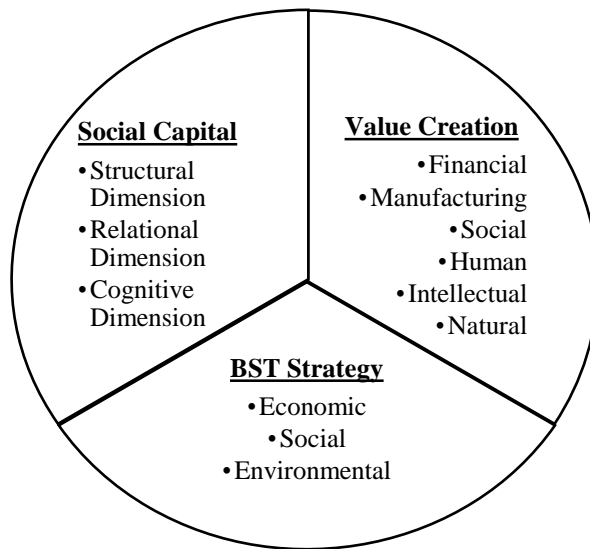
Construction projects demand labour and material inputs, assembled and coordinated on-site causing transaction issues conversely different than those experienced in manufacturing industries since “the organisation of construction projects involves relationships among the owner, the general contractor, and various special trade contractors [...] relations between the general contractor and his subcontractors are stable and continuous over fairly long periods of time” (Eccles, 1981, p. 338). Such relationships could produce benefits; however, the construction industry has challenges such as low level of awareness, lack of experience and information (Chileshe and Kikwasi, 2013), higher risk and volatility than other industries (Leopoulos et al., 2006) and the potential undesirable bias when making decisions due to the diversity in attitudes of participant parties in a construction project (Liu and Cheung, 1994). There are further difficulties in terms of high employee turnover due to the demand for specialised jobs and skills undermining the creation of relationships and mutual knowledge (Carley, 1992). In brief, the construction industry was chosen for this study due to its complexity, volatile environment, role in the UK’s sustainable development, and to identify how construction SMEs could optimise the generation of SC benefits through engaging with strategic stakeholders to create value and enhance their BST strategies.

1.7. Addressing the Problem

In order to address issues mentioned above such as the lack of research in the SC-VC relationship and its influence on firms’ BST strategy, this study reviews the current literature on three main themes (see Figure

1). This study is focused on investigating the phenomena of how SC is generated, what benefits are produced once SC is generated, how SC benefits are transformed into value, and how firms' BST strategies are influenced by SC benefits whilst applying an exploratory, inductive, and qualitative research methodology. Qualitative data was collected via semi-structured interviews to SMEs in the UK's construction industry and analysed using thematic analysis.

Figure 1. Themes examined in this thesis



1.8. Structure of Thesis

This investigation is structured as follows: first, Chapter One identified the problem to be investigated, the rationale for this investigation, the themes to be addressed, the research unit, and the overall structure of the investigation. Chapter Two reviews the literature for the main themes, especially that of SC with its definitions within the organisational studies' literature, accepted dimensions, positive consequences (benefits), and its relation to VC. This chapter also provides an examination of published SC models identifying the knowledge gaps for the construction of the research questions and objectives. Chapter Three discusses the research design which adopts a relativist ontology, a constructivist epistemology, an interpretivist axiology, whilst implementing interpretivism as the theoretical perspective following a qualitative methodology. Chapter Four discusses the sampling and data collection from SMEs in the UK's construction, firms' characterisation, and description of the data analysis method (thematic analysis), setting the foundations for Chapter Five where Findings are discussed. Chapter Six provides the discussion of Findings, their influence on the three themes, and contributions of this study. And Chapter Seven presents conclusions. Next, the examination of the current body of knowledge for the three main themes through a literature review.

Chapter 2. Literature Review

The purpose of this chapter is fivefold: first, to provide an examination of the current state of the relevant literature in relation to the three main themes, specifically the role of SC towards VC and subsequent influence on firms' BST strategy; besides this examination; second, to identify seminal works that explore the development of SC theory, its dimensions, its link to VC and firms' BST strategy; third, to summarise relevant publications covering either theme on its own and/or their interrelations within management studies; fourth, to evaluate those publications that have examined the links among the three themes to identify issues that remain unexplored and/or poorly investigated; and fifth, to identify the gaps in the relevant literature supporting the construction of the research questions.

Chapter Two examines SC definitions, its dimensions, its benefits, published SC models, and its links to VC and firms' BST strategy. The concept of SC, as a theory in management studies, has aimed to provide understanding, applicability and profitability to relationships that once nurtured can generate positive outcomes such as finding employment (Granovetter, 1973; Lin et al., 1981; Lin and Dumin, 1986), influencing career success (Gabbay and Zuckerman, 1998; Seibert et al., 2001), facilitating inter-unit resource exchange and product innovation (Hansen, 1998; Tsai and Ghoshal, 1998), intellectual capital (Hargadon and Sutton, 1997; Nahapiet and Ghoshal, 1998), enabling cross-functional team effectiveness (Rosenthal, 1997), acting as an agent of change in organisational performance (Farh et al., 2017; Hancock et al., 2013), firm growth (Basuil and Datta, 2017), industry development (Aldrich and Fiol, 1994; Inkpen and Tsang, 2016, 2005), and as a potential source of competitive advantage (Porter & Kramer, 2011; Porter & Kramer, 2006; Stam & Elfring, 2008).

Global recognition of the relevance of SC in organisational studies was highlighted in 1998 when The World Bank and the Government of Denmark established the Social Capital Initiative erected upon twelve projects aiming to define, measure, and monitor the evolution and influence of SC for the development of communities. The World Bank defined SC as “the glue that holds societies together and without which there can be no economic growth or human well-being” (1998, p. iii). The application of SC amongst communities is an essential strategy towards sustainable development (Lyons, 2002; World Bank, 2006) considering the attainment of knowledge has been identified as a direct benefit of SC (Adler and Kwon, 2002; Nahapiet and Ghoshal, 1998). SC is reasoned as a vital ingredient for economic development (Flora, 1998; Putnam, 1973). Putnam (1993) proved a strong link between SC and economic development in Italian regions. SC is said to produce “collectivity-owned capital” (Bourdieu, 1985, p. 249) in the form of tokens that represent a form of credit embedded in networks.

The World Bank (2013) has factored ‘intangible’ productive capital – regarded as human, social, and institutional capital such as governance structures – into determining the ‘true wealth’ of nations

estimating it to be “the largest constituent of wealth” amongst developed nations representing over 60 percent of total wealth (Ferreira and Hamilton, 2010). Firms that exhibit high levels of SC are likely to be more successful than firms with low levels of SC (Nahapiet and Ghoshal, 1998). Management literature, related to organisational partnerships, recognises the creation of value through network engagements, and argues that alliances develop opportunities for firms to obtain benefits, abilities, and capabilities to generate sources of value (Poppo et al., 2008; Priem, 2007); however, after examination of publications in top management journals it was evidenced that research examining links between SC and VC is minimal.

To examine the status of SC literature, this search considered top management journals found in the ABS – Academic Journal Guide 2015 – under the subject “General Management, Ethics and Social Responsibility”. The journals examined included four four* journals, three four-tier journals and three three-tier journals for a total of ten top-ranked journals. For the initial review, the researcher used the search strings “social capital”, “value creation”, “social capital” AND “value creation” (see Table 2).

Table 2. Results of the search strings in ABS top-ranked journals

Ranking	Journal	Results between 1980 and 2019			“Social Capital Benefits”
		“Social Capital”	“Value Creation”	“Social Capital” AND “Value Creation”	
4*	Academy of Management Journal (AMJ)	14	3	1	0
4*	Academy of Management Review (AMR)	12	9	0	0
4*	Administrative Science Quarterly (ASQ)	3	0	0	0
4*	Journal of Management (JOM)	5	4	0	0
4	British Journal of Management (BJM)	10	5	0	0
4	Business Ethics Quarterly (BEQ)	0	2	0	0
4	Journal of Management Studies (JMS)	11	7	0	0
3	International Journal of Management Reviews (IJMR)	3	2	0	0
3	Journal of Business Ethics (JBE)	33	17	0	0
3	Journal of Business Research (JBR)	21	33	1	0
Total		112	82	2	0

Source: Authors’ development

The search process considered only those results with the search string in the title published between 1980 and 2019 for all ten journals. In the Academy of Management Journal (AMJ), for example, out of thirty-seven results, fourteen had “Social Capital” in their title, ranging from 1996 (Belliveau et al., 1996) to the most recent in 2012 (Galunic et al., 2012) for a total of 112 articles across the top-ten journals (see Table 2). In terms of the search words “Value Creation” there were three results found in AMJ ranging from

1995 (Kelm et al., 1995) to 2013 (Devers et al., 2013) for a total of 82 articles. Once the two strings were searched for as a combination, for example, “Social Capital” AND “Value Creation”, the results dramatically decreased in number (see Table 2), providing only two results, studies by Basuil and Datta (2017) and Tsai and Ghoshal (1998) amongst the top-ten journals. Once this step was completed, further search of “Social Capital” definitions was done through EBSCO database.

The next step in the review was to identify how SC was understood and how it was presented to examine its dimensions and interrelationships with other concepts, and more specifically VC. For example, authors perceive SC as a resource (Nahapiet and Ghoshal, 1998), a quality (Burt, 1997b), a reciprocal relation (Putnam, 1993), and as ‘goodwill’ (Adler and Kwon, 2002). The initial search in the top-ten journals evidenced the lack of publications linking the SC and VC themes in publication titles which supports the rationale for this review.

2.1. Defining social capital

Throughout the past 30 years, the SC concept has been defined by authors from different fields not just sociology. For example, within the context of organisational management, SC is understood as “a resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors” (Baker, 1990, p. 619). As the access to quality and reliable information becomes more complex, one of the most important resources today is knowledge. This has been highlighted in management research through studies within the ‘organisation’ as the key research unit (McFadyen and Cannella Jr., 2004) generating new lines of inquiry such as the relevance of exchange and acquisition of resources (Ahuja, 2000; Barney, 1986; Hansen, 1999). Furthermore, highlighting the relevance of knowledge transfer within organisations as Kogut and Zander define an organisation as “a social community specialising in the speed and efficiency in the creation and transfer of knowledge” (1996, p. 503). The link between organisations and SC can be described in terms of SC’s function within organisations “[SC] is not a single entity, but a variety of different entities, with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors within the structure” (Coleman, 1988, p. 98) and “the interpersonal relationships of a person, and the resources embedded in those relationships” (McFadyen and Cannella Jr., 2004, p. 735) (p. 735).

Although SC as a research field has evolved since its origins in the 1960s and 1980s from sociology to other fields including management studies, some definitions are still relevant, and some elements have remained intact. For example, SC is considered “the aggregate of the actual or potential resources that are linked to a possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition” (Bourdieu, 1985, p. 248); also as “collective wellbeing, civic participation,

unions for community development, coordinated actions for efficient society, social networks¹ for trustworthiness and reciprocity” (Yousaf et al., 2015, p. 108); as a “measure of the strength and extent of relationships, support networks, and institutional capacities within a neighbourhood” (Fleming, 2016, p. 32). As part of the evolution of the concept, authors have proposed several definitions (see Table 3) whilst trying to liken it to a resource (Nahapiet and Ghoshal, 1998), a quality (Burt, 1997a), a reciprocal relation (Putnam, 1993), a network (Baker, 1990), and goodwill (Adler and Kwon, 2002). The perception of SC as a resource is examined first.

SC as a resource

With the aim to provide a thorough understanding of the concept of SC and founded upon the revision of SC literature published in management journals, widely accepted definitions of SC include Coleman’s (1988), Burt’s (1992; 1997), Putnam’s (1993; 1995), Nahapiet and Ghoshal’s (1998), and Adler and Kwon’s (2002). Coleman (1988), understands SC within the framework of physical and human capital considering both of these capitals are productive whilst allowing for the achievement of outcomes not possible otherwise, additional resemblances of SC to physical and human capital described by the author hold that SC can facilitate productive activity and holds a degree of tangibility, this is explained as physical capital can actually be seen and touched, human capital is less tangible expressed in the skills and knowledge acquired by an actor, and SC is considered to be less tangible as it exists as part of the relationships between actors. In addition, Coleman (1988) separates SC from other forms of capital as its core strength lies within “the structure of the relations between and among actors” (p. 98); thus, depending on collective action and the participant actors, not on one single entity as it occurs for physical or human capital. Coleman’s (1988) definition supports the functionality of the concept stating “social capital is the value of these aspects of social structure to actors as resources that they can use to achieve their interests” (p. 101); thus, it can be argued that social structures, such as firms, feed off of interactions amongst members which could enhance their development and/or performance (Baker, 1990).

SC as a quality

SC has been described within the context of human capital as “a quality created between people” (Burt, 1997a, p. 339) and human capital as “a quality of individuals” (ibid, p. 339) arguing SC is the contextual complement to human capital by stating “Social capital predicts that returns to intelligence, education, and seniority depend in some part on a person’s location in the social structure on a market or hierarchy” (p.

¹ The concept of ‘social networks’, in in this research, refers to the stakeholders that each participating firm, has engaged with in the past. Such networks include accreditation bodies, trade associations, chambers of commerce, business assemblies, and other support networks such as suppliers, distributors, manufacturers, wholesalers, tradesmen, contractors, competitors, customers, and communities.

339), Burt (1992) also understands SC as a common resource fed through the interaction in relationships and networks with no exclusive ownership rights compared to physical, financial or human capital which can be individually owned; these rationales led Burt to conclude that relations and ‘who you know’ were almost as important or even more important than the knowledge, skills or capacities of an individual or organisation, defining SC as “friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital” (1992, p. 9) while also evidencing the presence of resources as an indispensable ingredient for SC. Within the context of business, Burt described SC as one that influences career success (1992), executive compensation (1997a), and “the brokerage opportunities in a network” (1997b, p. 355).

SC as a reciprocal relation

SC could also be understood through the lens of generalised reciprocity in the sense that if one actor helps, supports or provide a representation of a ‘resource’ as a ‘favour’ to other actors part of the network, that ‘favour’ is to be repaid in the future suggesting there is an expectation and potential exchange of resources not available outside of the network (Putnam, 1993). Hence, it can be argued that SC is made up of multiple dimensions through the underlying concept of the exchange of relational resources while acknowledging that sources of SC not only emerge from networks but also from the norms and trust developed in the networks; thus, SC has been defined as “features of social organisation such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (Putnam, 1995, p. 67). Such definition goes beyond functionality denoting effort portrayed as norms and trust, considering that if an individual or firm needs a resource available through the network, then it should follow certain norms and generate trust.

SC as a network

Nahapiet and Ghoshal (1998) criticise Baker (1990) for only acknowledging and limiting the scope of SC through the structure of the relationship networks while adopting and subscribing to the perspectives of Bourdieu (1985; 1993) and Putnam (1995) which not only accepts the presence of a structure of relationship networks but additionally recognise the actual or potential resources that can be accessed through the network². Furthermore, Nahapiet and Ghoshal (1998) consider that SC encompasses the network and the resources that can be exchanged or transferred through engagement in the network, supporting that the underlying statement of SC theory describes the existence of relationships embedded in a network which represent a sought-after resource “providing their members with “the collectivity-owned capital, a ‘credential’ which entitles them to credit, in the various senses of the word” (Bourdieu, 1985, p. 249).

² See Burt (1992; 1997) and Lin (1999) for further development on this argument.

SC as 'goodwill'

Adler and Kwon (2002) value the connectedness and quality of relationships with friends and acquaintances measured by “sympathy, trust and forgiveness” (p. 18) which they call ‘goodwill’ and understand it as the main component of SC “the goodwill³ available to individuals or groups. Its [SC’s] source lies in the structure and content of the actor's social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor” (Adler and Kwon, 2002, p. 23). Earlier definitions also understand SC as a valuable resource (Coleman, 1988), as having a reciprocal function (Putnam, 1993), as a brokerage opportunity (Burt, 1997a), as a resource that can be exploited and enhanced (Nahapiet and Ghoshal, 1998) compared to others who portray it as a product of informal relationships (Adler and Kwon, 2002).

SC as a private and/or public good

Bourdieu (1983; 1985) and Bourdieu and Wacquant (1992) understand SC through the sociology-economic perspective assuming all social actions have monetary implications; therefore, linking cultural and SC to an economic dependency which could hold monetary value and a private gain overlooking the value of the relationships and benefits gained and held by network members. Additionally, Bourdieu (1983) believes network engagement happens because of a personal motivation of the actor willing to engage in the network looking for an individual gain or investment evidenced in an economic transaction. This perspective has been criticised by Hollstein (2013) and also it is in strong contrast with Coleman’s (1988) view which considers SC to be a public good and the result of natural engagement in the network rather than having an individually-and-profit motivated purpose. Portes (1998) perceives Bourdieu’s conception of SC as highly theoretically refined criticising Bourdieu’s rationale arguing SC is not the result of an economic motivation that holds a high value of exclusive access. Portes (1998) further argues SC does not always have economic objectives, time horizons or unspecified retributions defining SC as “the ability of actors to secure benefits by virtue of membership in social networks or other social structures” (p. 6).

SC as internal/external perspectives

Adler and Kwon (2002) develop a summary of relevant definitions of SC and identify three perspectives or views considering definitions fluctuate depending upon the source or the effects of SC (Robison et al., 2002), definitions also vary depending on whether the focus is on the relations an actor maintains with other actors and the structure of relations between a group or both. The three perspectives include: external, described as the resources gained via external actors accessed through the network called ‘bridging’ which is focused on relationships with external stakeholders such as competitors or supporting networks (Adler

³ See Appendix A for definition.

and Kwon, 2002; Gittell and Vidal, 1998; Putnam, 2000). Internal, representing the creation of ties within the organisation with other employees called ‘bonding’ (Adler and Kwon, 2002; Gittell and Vidal, 1998; Putnam, 2000). And neutral (both) conceptualised as not adopting one view since the distinction of external or internal perspectives is subjective considering that the external perspective could be true for the employee when s/he is nurturing networks with employees of other departments; however, from the firm’s perspective this is classified as internal since it all happens within the firm.

Moreover, the internal and external perspectives are not mutually exclusive since the development of SC for an organisation results from the internal and external approaches. The ‘External and Internal Ties’ classification (Adler and Kwon, 2002) is included in Table 3 following three characteristics: (i) if the definition is focused on whether “the relations an actor maintains with other actors” (p. 19) it would be considered “external”; (ii) if the definition highlights “the structure of relations among actors within a collectivity” (p. 19) it would be considered “internal”; and (iii) if the definition encompasses both approaches it would be considered neutral.

Additionally, this characterisation goes in line with Putnam’s (2000) ‘bonding-versus-bridging’ approach to SC. On one hand, bonding is described as enduring the quality of reciprocity (a mutual exchange of products or services now or in the future) while inspiring a sense of solidarity and belonging; thus, mostly found in lower income communities. On the other hand, bridging is explained as those networks that are inclusive but outwardly focused, since bridging “can help explain the differential success of individuals and firms in their competitive rivalry” (Adler and Kwon, 2002, p. 19). The third characterisation describes those definitions that have adopted both perspectives either as complementary, sequential, or embedded. Considering SC as the underlying concept of this study, Table 3 has been compiled from several definitions published throughout the past three decades, twenty-two of them recorded in Adler and Kwon (2002) whilst including an additional thirteen definitions totalling thirty-five.

Definitions in Table 3 adopt the internal/external categorisation (Adler and Kwon, 2002) and embrace the management studies’ perspective of SC. Definitions were chronologically placed to observe the evolution of the term in the literature, keywords were identified, and the external-versus-internal classification was also included. Definitions have not exhibited any major change in the core representation of SC as a concept or drifted dramatically towards a particular school of thought. Widely accepted definitions of SC from Putnam, Coleman, and Bourdieu, with over 24,000, 43,000 and 39,000 citations respectively according to Google Scholar, can be used as milestones in the development of SC as a concept.

Table 3. Social Capital Definitions in Chronological Order from Internal and External Perspectives

Author(s)	Definitions of SC (Chronologically Listed)	Keyword(s)
Internal		
Coleman (1988)	<p>“Social capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors – whether persons or corporate actors – within the structure” (p. 98).</p> <p>“The function identified by the concept of "social capital" is the value of these aspects of social structure to actors as resources that they can use to achieve their interests” (p. 101).</p>	entities, structure, action, actors, resources
Portes & Sensenbrenner (1993)	<p>“...those expectations for action within a collectivity that affect the economic goals and goal-seeking behaviour of its members, even if these expectations are not oriented towards the economic sphere” (p. 1323).</p>	expectations, goals, members
Putnam (1995)	<p>“...features of social organisation such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (p. 67).</p>	features, networks, norms, trust, cooperation, benefit
Fukuyama (1995)	<p>“...the ability of people to work together for common purposes in groups and organisations” (p. 10).</p>	ability, people, work
Brehm & Rahn (1997)	<p>“...the web of cooperative relationships between citizens that facilitate resolution of collective action problems” (p. 999).</p>	web, relationships, citizens, resolution, problems
Fukuyama (1997)	<p>“...as the existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them” (p. 5).</p>	set, informal values, norms, members, cooperation
Inglehart (1997)	<p>“...a culture of trust and tolerance, in which extensive networks of voluntary associations emerge” (p. 188)</p>	trust, tolerance, voluntary networks,
Leana & Van Buren (1999)	<p>“...a resource reflecting the character of social relations within the firm” (p. 538)</p>	resource, relations, firm
Ostrom (1999)	<p>“...the shared knowledge, understandings, norms, rules and expectations about patterns of interactions that groups of individuals bring to a recurrent activity” (p. 176).</p>	knowledge, norms, expectations, interactions, individuals
Lin (2001)	<p>“...resources embedded in a social structure that are accessed and/or mobilized in purposive actions” (p. 29).</p>	embedded resources, social structure, purpose
External		
Bourdieu (1985)	<p>“...resources that are based on membership in a group” (p.191, 1983)” “...made up of social obligations ('connections'), which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of a title of nobility” (p. 243, 1985).</p>	resources, membership, obligations, economic capital, status

Baker (1990)	"...a resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors" (p. 619).	resource, actors, relationship, interests
Boxman et al. (1991)	"...the number of people who can be expected to provide support and the resources those people have at their disposal" (p. 52).	support, resources, availability
Burt (1992)	"...friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital" (p. 9).	contacts, opportunities
Bourdieu & Wacquant (1992)	"the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (p. 119).	resources, individual, group, durable network, mutual acquaintance
Belliveau, O'Reilly, & Wade (1996)	"an individual's personal network and elite institutional affiliations" (p. 1572)	individual, network, affiliations
Thomas (1996)	"...those voluntary means and processes developed within civil society which promote development for the collective whole" (p. 11).	means, processes, development
Burt (1997a)	"...the brokerage opportunities in a network" (p. 340).	brokerage, opportunities, network
Portes (1998)	"...the ability of actors to secure benefits by virtue of membership in social networks or other social structures" (p. 6).	ability, benefits, membership, networks, social structures
Knoke (1999)	"...the process by which social actors create and mobilize their network connections within and between organisations to gain access to other social actors' resources" (p. 118).	process, create, network, organisations, resources
OECD (2001)	"...networks together with shared norms, values and understandings that facilitate co-operation within or among groups" (p. 41).	networks, norms, values, understandings, co-operation
World Bank (2013)	"...the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions – by institutions it is meant "the most formalised institutional relationships and structures, such as government, the political regime, the rule of law, the court system, and civil and political liberties" (p. 1).	institutions, relationships, quality, quantity, interactions
Both Internal and External		
Loury (1992)	"naturally occurring social relationships among persons which promote or assist the acquisition of skills and traits valued in the marketplace... an asset which may be as significant as financial bequests in accounting for the maintenance of inequality in our society" (p. 100).	relationships, acquisition, skills, traits, asset

Schiff (1992)	"...the set of elements of the social structure that affects relations among people and are inputs or arguments of the production and/or utility function" (p. 160).	elements, relations, people, input, production
Pennar (1997)	"...the web of social relationships that influences individual behaviour and thereby affects economic growth" (p. 154).	relationships, individual behaviour, economic growth
Nahapiet & Ghoshal (1998)	"...the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network" (p. 243).	actual & potential resources/assets, availability, network of relationships, individual or social unit
Woolcock (1998)	"...the information, trust, and norms of reciprocity inhering in one's social networks" (p. 153).	Information, trust, norms, reciprocity, networks
World Bank (1998)	"...the internal social and cultural coherence of society, the norms and values that govern interactions among people and the institutions in which they are embedded. Social capital is the glue that holds societies together and without which there can be no economic growth or human well-being." (p. iii).	coherence, norms, values, interactions, people, institutions
Adler & Kwon (2002)	"...the goodwill available to individuals or groups. Its source lies in the structure and content of the actor's social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor" (p. 23).	goodwill, availability, individuals, groups, relations,
Bolino et al. (2002)	"...a resource that is derived from the relationships among individuals, organisations, communities, or societies." (p. 506).	resource, result, relationships, individuals, organisations
Robison et al. (2002)	"Social capital is a person's or group's sympathy towards another person or group that may produce a potential benefit, advantage, and preferential treatment for another person or group of persons beyond that expected in an exchange relationship" (p. 19)	sympathy, benefit, advantage, preferential treatment, exchange relationship
Grafton (2005)	"...an all-encompassing term for the norms and social networks that facilitate co-operation among individuals and between groups of individuals" (p. 754)	norms, networks, co-operation, individuals, groups
Somaya et al. (2008)	"...the productive possibilities embedded in relationships that may be used to leverage resources" (p. 938)	productive possibilities, relationships, resources
OECD (2013)	"...refers to the productive value of social connections where productive is understood not only in the narrow sense of the production of market products and services but in terms of the production of a broad range of well-being outcomes. [...] social capital conveys the idea that human relations and norms of behaviour have an instrumental value in improving various aspects of people's life" (p. 9).	productivity, connections, well-being outcomes, instrumental value, improvement

Source: Table adapted from Adler and Kwon (2002, p.20), and enriched by author's collection.

Moreover, Burt's perspective, despite only being cited over 4,500 times, according to Google Scholar, it has set grounds within the management literature describing SC as "the brokerage opportunities in a network" (1997a, p. 355) adopting a conception of external linkages with the purpose of obtaining benefits resulting from network membership. Bourdieu's key words are 'resources, membership, obligations, economic capital and status'; Coleman's are 'entities, structure, action, actors'; and Putnam's are 'features, networks, norms, trust, cooperation, benefit', these key words can be compared to key words in latter definitions given by the World Bank and OECD 'institutions, relationships, quality, quantity, interactions'; and 'productivity, connections, well-being outcomes, instrumental value, improvement' respectively, it can be observed that the key words unveil common themes such as relationships, network, cooperation, welfare.

Criticism of SC definitions

While there are widely accepted definitions of SC such as Bourdieu's (1985), Coleman's (1988), Putnam's (1995), Nahapiet and Ghoshal's (1998) and Adler and Kwon's (2002) this does not come without criticism. Lin (1999a) examines weaknesses to the advancements of SC definitions in the approaches of Bourdieu, Coleman and Putnam while evaluating four main issues: whether SC is to be considered a collective or an individual asset, whether networks are to be open or closed, whether SC is to be defined according to its function; and whether SC is to be measured and if so, how.

Examining the first issue, Lin (1999) highlights that Coleman (1988) and Putnam (1995) view SC as a collective asset while Bourdieu (1985) as an individual asset; on one hand debating whether to approach SC from the individual perspective which, according to Lin (1999), is similar to human capital as actors, part of the network, make an investment expecting an immediate or future return; thus, supporting Bourdieu's point of view. If SC is to be viewed as a collective asset, then the issue is how groups develop and maintain SC as a collective asset, and how such collective asset improves group members' lives; further supporting Coleman's and Putnam's perspective; additional issues with this standpoint include the conflict with norms and trust and whether they are to be allocated individually or collectively (Lin, 1999).

For the second issue, whether networks ought to be open or closed, Bourdieu (1985) perceives SC as the investment from every member part of the network while holding a perspective of social strata arguing it is through exclusion that SC is generated among members part of a network; Coleman (1986), does not see SC as an exclusive web of contacts and social stratification but rather as an organisation that generates trust, norms, authority and sanctions while acknowledging that only then resources can be exchanged within the network. Lin (1999) subsequently criticises the relevance of closed networks as the vital assembly towards the generation of SC "To argue that closure or density is a requirement for SC is to deny the significance of bridges, structural holes, or weaker ties" (p. 34). Consequently, evidencing two main purposes depending on the openness of the network: first, for preserving or maintaining resources, close-

knit networks provide a relative advantage. For example, for the generation of safety and security feelings amongst the community towards the generation of trust, norms, authority and sanctions (Coleman, 1990), and the preservation and reproduction of privileged information (Bourdieu, 1985). The second purpose is for searching and obtaining resources not currently part of the network (Lin, 1999) which benefit from an open network to generate bridges and weak ties (Granovetter, 1973). This argument is complemented by the ‘bonding’ and ‘bridging’ concepts (Gittel and Vidal, 1998), supported by Putnam (2000) and Adler and Kwon (2002) while Sabatini (2009) added the ‘linking’ concept.

The third issue concerning SC’s definition in terms of its function (Coleman, 1988) is criticised by Lin (1999) who acknowledges that if SC is defined by its function, it will only exist if there is a result or return on the investment by the individual or group; thus, suggesting for the separation of the cause and effect factors arguing “it would be incorrect to allow the outcome variables to dictate the specification of the causal variable...The hypothesised causal relationship may be conditioned by other factors which need be specified in a more elaborate theory” (p. 35). Therefore, the concept of SC as a function should be evaluated further and Coleman’s definition refined to a greater degree because there is not always a clear cause-and-effect scenario when SC is created.

The last issue, whether SC is to be measured is derived from Coleman (1988) who doubts SC holds the same value in terms of quantitative measures as financial, human and physical capital, but Lin (1999) support for Coleman’s statement is rooted upon understanding SC as a function rather than a theory, stating “beyond its theoretical roots in social relations and social networks and the unattainable theoretical position that prediction holds for every individual case” (p. 35) as viewed by Coleman (1988) and evidenced in his definition constrained to a function rather than a universal concept which is the underlying purpose of a theory. Lin (1999) concludes by highlighting that once the issues have moved past beyond the theoretical standpoint SC “should and must be measurable” (p. 35).

To summarise, there have been mainly three perspectives of SC (Bourdieu’s, Coleman’s, and Putnam’s). Coleman’s, Putnam’s, and Burt’s approaches to SC are the most widely accepted conceptualisations within management research. Coleman’s approach to SC “defined by its function” (p. 98) acknowledges individual SC outcomes from the micro and meso-level networks, and the relevance of community relationships and norms at the macro level; thus, defending the adoption of SC as a private and public good. Putnam’s perspective of SC is concentrated upon community engagement, norms, trust, and mutual benefit; hence, supporting SC as a public good. On the contrary, Bourdieu’s view of SC is focused on the individual outcome and payoff from belonging to a network and the potential returns; therefore, it depicts SC as a ‘private good’. The public and private perspectives of SC are examined next as part of SC theory whilst clarifying that this study examines SC from the private good perspective, adopting the following definition:

"...the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network" (Nahapiet and Ghoshal, 1998, p. 243).

2.2. Social Capital Theory

SC theory proposes that "networks of relationships constitute a valuable resource for the conduct of social affairs" (Nahapiet and Ghoshal, 1998, p. 243) whilst focusing on understanding how the access and use of resources gained, through network engagements, influence performance (Burt, 1992; Coleman, 1990; Lin, 1999b). SC theory adopts a metatheory lens – involving sociology and psychology from earlier studies on community studies to understand the survival and functioning of neighbourhoods (Bourdieu, 1983; Coleman, 1988; Putnam, 1993) and involving economics to examine economic performance of firms (Baker, 1990; Burt, 1997b), geographic regions (Putnam, 1993), and countries (Fukuyama, 1995). As a metatheory, SC follows either a nomothetic approach – focused on providing general law-like statements, an idiographic approach or a mix of both. This study follows the idiographic approach which is concerned with the study of individuals and their distinctiveness, pertaining to or descriptive of single and unique facts and processes. Bates (2005) describes the idiographic approach as highlighting the "particulars, and insists that true understanding can be reached only by assembling and assessing those particulars" (p. 264). The outcome and main aim of the idiographic approach is to produce a sensitive and in-depth description and assessment of the particularities and uniqueness of the facts unearthed "in which themes and tendencies may be discovered, but rarely any general laws" (ibid, p. 264).

Moreover, SC theory examines characteristics of social structures which enable actions for actors who belong to such structures (Ayios et al., 2014), it also involves the networks of relationships forming a treasured resource embedded within those networks of "mutual acquaintance and recognition" (Nahapiet and Ghoshal, 1998, p. 243). During the inception of SC as a theory, two main perspectives undermined its veracity as a theory: on one hand, whether actors engaged in the network of relationships seeking access to and use of resources found in the networks for personal gain (Bourdieu, 1985) recognising SC as a 'private good'; and on the other hand, whether actors engaged in the network through an approach of solidarity seeking group benefits and network enhancement overall (Burt, 1992; Putnam, 1995) perceiving SC as a 'public good'.

Coleman (1988) conceive SC as a contextual theory providing a more dynamic SC definition in management studies. Coleman (1988) and Lin (1999a) discuss the relation between SC, human capital and cultural capital as part of the 'neo-capital theories' born out of Karl Marx's theory on capital, denoted by Lin as 'The Classical Theory'. Reasons given as support to include SC within the neo-classical theories refer to two main characteristics of capital: first, capital creates 'surplus value' when it is the product of a process; and second, it is an 'investment' with expected returns in which the surplus value is produced and

captured (Lin, 1999); characteristics of SC to be considered part of the neo-classical theories given by Lin (1999), perceive SC as the individual investment in networks evidenced in the availability and benefit of resources within the network, and the collective investment in “mutual recognition and acknowledgement” (p. 30) through “solidarity and reproduction of group” (p. 30) this goes in line with SC definitions given by other scholars (see Table 3).

Bourdieu (1985) and Seibert et al. (2001) argue SC theory was founded upon the principle that a network brings value to its associates once they have access to the resources embedded in the network. Ayios et al. (2014) argue SC observes the “patterns of embedded relations – built over time – that inhere in social structures and their ability to facilitate individual (micro), organisational (meso) and group (macro) level benefits” (p. 109) this is supported by Putnam’s (1995) SC definition and Bolino et al. (2002) who recognise it as “a resource that is derived from the relationships among individuals, organisations, communities, or societies” (p. 506). Considering SC theory being supported by networks, shared codes and language, and type of relationships (Nahapiet and Ghoshal, 1998) as discussed above, this study supports Lin’s statement who “argue[s] that [SC] theory and the research enterprise must be based on the fundamental understanding that social capital is captured from embedded resources in social networks” (1999a, p. 28).

Lin’s statement views SC as the resources/assets product of engaging and participating of social structures such as networks, adopting shared codes and languages, and nurturing specific categories of relationships, supported by Woolcock’s (1998) who clarifies SC is not to be confused with the outcomes or aftermath of SC, “...‘consequences’ may be one indicator of the types and combinations of social capital that are present, but they are not to be confused with social capital itself” (p. 185). Hence, Woolcock (1998) refers to “consequences” as the long-term benefits that result out of the amalgamation of complementing types of social relations while making particular emphasis on the dynamicity and continuous change of task-based relations; also, what the author means by long-term benefits include norms of reciprocity, cooperation, fairness, and trust which are fostered through combinations of social relations. Woolcock (1998) explains that from the perspective of rational theory, SC is understood as a resource for information created through the engagement amongst rational agents seeking to obtain mutual gain; and from the network theory perspective, SC is perceived as all the non-rational social ties. Woolcock (1998) also mentions the neo-Weberian theory perspective of SC, which perceives it as the grouping of ties and norms linking individuals with organisations and institutional actors, considering SC as a “cultural mechanism” (p. 156) with the purpose to set the parameters of status groups. SC is also perceived as a moral resource evidenced in trust among actors engaging in the network (Fukuyama, 1995); nevertheless, having reviewed SC definitions and theory, it is now time to delve into the three main dimensions and elements of SC.

2.2.1. Dimensions of social capital

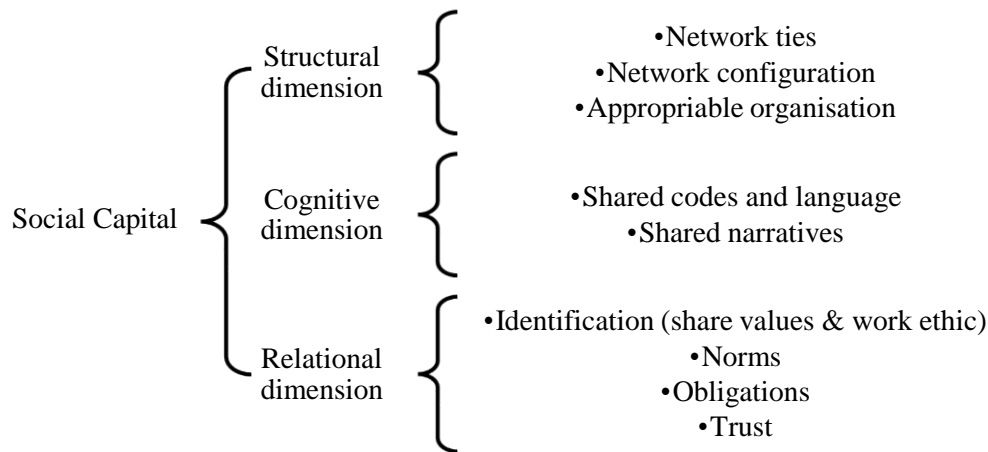
Considering SC as the core ingredient of any social structure, Coleman (1988) suggests SC encompasses three dimensions: first, ‘obligations and expectations’ of persons built on two elements: one, the degree of trustworthiness found in the social environment constructed on the rationale that “people are always doing things for each other” (p. 102) supported upon a culture of reciprocity; and two, “the actual extent of the obligations held” (p. 102). Second, ‘information channels’, explained as the access to available information based on the rationale that “Information is important in providing a basis for action” (p. 104) while acknowledging drawbacks such as attention and acquisition costs. And third, ‘norms and effective sanctions’, grounded on the rationale that when norms and sanctions are effective, they allow for persons to feel confidence on the political, judicial, education, and health systems; thus, generating a form of SC. Coleman (1988) also distinguishes SC from other forms of capital (financial, physical) arguing it is a public good while highlighting that the persons whom engage in a social structure to benefit from SC only take advantage of a minimal section of the entire benefits; thus, generating, “underinvestment in social capital” (p. 119).

In 1992, Robert S. Burt presented another contribution to the development of SC as a concept by identifying the network as a mean to obtain recognition, affiliation, and information calling it ‘social similarity’ understanding SC through its function as a means to obtain benefits. This resulted in the proposition of the structural dimension, which explains ‘how’ individuals are connected through social similarity, in other words, the aim is to identify what linkages create certain networks. Burt (1992) also investigates network members and who the network members are linked to; therefore, suggesting the relational dimension of SC. This proposition recognised individual networks and affiliations of network members as means to achieve a ‘status’. Putnam’s (2000) support of ‘bridging and bonding’ perceives the creation of SC as a mechanism through two main approaches: ‘bonding’ which refers to networks grounded on reciprocity, it is strongly-tied, inward-focused, exclusive, and composed of members with similar backgrounds mostly found in familial and friendship relations; and ‘bridging’ which refers to a more heterogeneous, inclusive, outward-looking network with less obligation for reciprocity. Nonetheless, drawbacks of bonding include the possibility of making members feel claustrophobic, stagnant, and possibly intolerant (Putnam, 2000).

Moreover, the ‘bridging’ concept could also refer to the creation of a heterogeneous information environment nurturing idea generation and information collection processes where unrelated network members undermine the coordination and implementation of those ideas (Rodan and Galunic, 2004); conversely, the bonding concept could be described as a brokering network structure characterised by a homogeneous information environment that allows for the simplified coordination and network support towards the implementation of ideas while recognising that information excess can become redundant and

normative pressure minimises the creation of ideas (Gittell and Vidal, 1998). Nahapiet and Ghoshal (1998) complement Burt's (1992) model by proposing a three-dimensional model of SC including first, the structural dimension, concerned with the design of the relationships within an organisation (e.g., Do employees know who other employees are?). Second, the cognitive dimension, focused on whether employees comprehend each other and share a common perspective. And third, the relational dimension, founded upon the nature of the links amongst individuals (e.g., Is there faith, dislike, power in the relationship?).

Figure 2. Social capital dimensions



Source: Adapted from Nahapiet and Ghosal (1998)

Figure 2 is a brief representation of Nahapiet and Ghoshal's (1998) model which has been considered "ideal for examining intra-organisational social capital" (Bolino et al., 2002, p. 506) since the model integrates earlier research on SC and becomes relevant for studying SC within the organisational environment and its ability to recognise a strong link between SC dimensions, generation of intellectual capital, and organisational performance whilst offering "a reasonably comprehensive conceptualisation of social capital that accommodates major concerns of the extant literature" (Maurer and Ebers, 2006, p. 263). Next, the three SC dimensions are described beginning with the structural.

2.2.2. Structural Dimension

Nahapiet and Ghoshal's (1998) model exhibits nine characteristics across three dimensions (see Figure 1) the structural, cognitive, and relational. The structural dimension is composed of network ties, network configuration, and appropriable organisation. Two concepts to support the structural dimension have been proposed: the strength of a tie and network density (Granovetter, 1973). Such concepts allow for a more consistent method for measuring the structural dimension whilst highlighting that when individuals engage in relations, ties are formed which then become a network; however, not all ties exhibit the same strength.

Granovetter (1973) defines the strength of a tie as “a combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterise the tie [ties are assumed to be positive and symmetric]” (p. 1361) proposing strong, weak, or absent ties. Strong ties are characterised by larger time commitments, high frequency levels of interaction, strong sentiments for each other (Homans, 1950), and high similarity among tie members (Berscheid and Walster, 1969); conversely, weak ties exhibit low time commitments, low frequency levels of interaction, weak sentiments and low similarity among tie members whereas absent ties display a “lack of any relationship and ties without substantial significance” (Granovetter, 1973, p. 1361). The second concept, network density, is defined as the overall redundancy of connections within the network (Granovetter, 1973), in other words, who interacts with who. Network density is the result of adding the number of ties of one node with those immediately related and dividing it by the ratio of possible ones (Barnes, 1969); therefore, there is a likelihood that strong ties form a dense network and weak ties form a less dense network (Granovetter, 1973). Weak ties have the advantage of providing access to more contacts (Granovetter, 1973), one example of weak ties are labour markets since individuals with more weak ties exhibit greater probability of finding a new job considering weak ties are structured by contacts whom are more likely to have access to a greater variety of unrelated social circles; hence, having access to a wider range of information.

The second component of the structural dimension, network configuration, refers to the way the network is arranged, the less dense the network is the wider the range of available information that can be found due to flexibility and accessibility provided to/by network members (Ibarra, 1992; Krackhardt, 1989); but also the more dense the network the greater the empathy and similarities which is related to the “bonding” concept described earlier. The form in which the network is configured has an influence on the quality and quantity of information transferred and obtained by network members, since weak ties facilitate access and extraction of information but hinders transfer in light of the common lack of codification (Hansen, 1996). If a firm holds an information-rich position in the network, for example, it will allow for the identification of complementary resources of latent partners (Dyer and Singh, 1998).

The ‘structural holes’ approach supports the understanding of diverse network configurations (Burt, 1992) since structural holes are considered to exist amongst two unrelated ‘alters’ (persons within the network that receive information) whilst benefiting ‘ego’ (person that knows both alters and exchange information with them). This relationship is valuable for the ‘ego’ based on the possibility to be connected to as many alters as possible who are unrelated or unlinked to one another considering it could provide mainly three benefits to ego: unique and timely access to information, higher bargaining power allowing ego to exert control over resources and outcomes, and improved visibility for career prospects (Burt, 1997b, 1992). A previous study tested a model linking SC and career success applying the weak-ties concept, and structural-hole theory concluding “weak ties and structural holes, positively relate to the level of social resources embedded in a person’s network” (Seibert et al., 2001, p. 232). Nonetheless, there are mainly

three conditions for positive exchange and combination of resources (Moran and Ghoshal, 1996), first, an opportunity should exist which could be accidental and not always the result of planned interactions; second, parties involved in the engagement should base their intention on the perceived value as an expected outcome of the engagement, highlighting the concept of ‘intentionality as a process’ (Giddens, 1979, p. 59) which focuses on the desire to interact whilst acknowledging the probability that the outcomes of the interaction may differ from those initially anticipated; and third, a level of motivation held by the parties involved to appropriate the anticipated value resulting from the engagement. Moreover, authors have proposed an additional condition, known as combination capability (Nahapiet and Ghoshal, 1998), described as not only perceiving the value in the engagement but also be able to internalise it and apply it for their own benefit; consequently, influencing future network engagements.

The third component of the structural dimension is the appropriability of the network described as the possibility to transfer information, trust, norms, and values (Nahapiet and Ghoshal, 1998) exemplified in the inheritance of trust from family and cultural connections by work environments (Fukuyama, 1995), the replication of personal relationships into business exchanges (Coleman, 1990), and the enhancement of organisational SC through the contribution of individuals (Burt, 1992) who become part of a firm’s network. The form in which networks are structured influences individuals who become part of the network since it could encourage/undermine idea generation which allows for the “homogenising [of] the members’ preferences, knowledge, attitudes and behaviour, and strengthening the individual’s bonds to group identity” (Widén-Wulff et al., 2008, p. 3). Nonetheless, the structural dimension has flaws since it “has tended to ignore the costs and difficulties of building and using a network and the different types of tasks involved” (M.T. Hansen et al., 2001, p. 5) arguing costs and difficulties are not independent from network structures.

2.2.3. Cognitive Dimension

The cognitive dimension (see Figure 2) is described within the context of ‘shared cognitive ground’ understood as “a mutual cognitive frame of reference and common knowledge among interaction partners” (Mäkelä et al., 2012, p. 1468) represented by the shared language and codes, and shared narratives. Context, as a vital channel for the generation of meaningful communication (Boisot, 1995; Boland Jr and Tenkasi, 1995), lead Nahapiet and Ghoshal (1998) to highlight the need to evidence shared language, vocabulary and narratives. These descriptors are founded on characteristics such as identifying a mutual language and vocabulary as a method of communication towards developing links and enhancement of network configurations. The relevance of codes is based on the ability to “organize sensory data into perceptual categories and provide a frame of reference for observing and interpreting our environment” (Nahapiet and Ghoshal, 1998, p. 253) which help firms understanding contexts and potential benefits and the generation of new knowledge built upon experiences shared by network members.

Codes play a vital role before, during, and after network engagements since they are “a set of organizing principles behind the language employed by members of a social group” (Littlejohn, 2002, p. 278). The sociolinguistic theory of languages argues the nature of relationships forged within a group of people influences the way in which that group of people uses the language (Bernstein, 1971). Codes are also described as “forms of spoken language in the process of learning initiate, generalize and reinforce special types of relationship with the environment and thus create for the individual particular forms of significance” (Bernstein, 1971, p. 76). Nonetheless, there are two categories of codes depending on the situation that the language is used for (Atherton, 2013); for instance, the first type, ‘elaborated code’, has been described as forms of language that clearly describe the message being transmitted leaving no doubt of the intention presented. This type of code is found in situations when individuals and groups have never met before and have no prior or shared understanding and knowledge needing detailed explicit instructions and descriptions. For the second type, labelled ‘restricted code’, defined as language that is rich in meaning, quick and easy to transmit, condensed, requires background information and prior knowledge. This type becomes evident when relationships among a group of people have passed initial stages and gained a higher level of collegiality and camaraderie evidencing a “great deal of shared and taken-for-granted knowledge” (Atherton, 2013, p. 1) among the members. Shared goals and culture are elements of the cognitive dimension since the former considers a common understanding and methods to accomplish the network’s tasks and expectations generated through negotiation whilst the latter considers norms of behaviour that oversee the relationships amongst the network members (Inkpen and Tsang, 2016, 2005). Shared meaning has produced solidarity and socio-psychological support for network members (Starkey and Tempest, 2004) and shared meaningful communication has developed synergies (Tymon and Stumpf, 2003).

Moreover, shared understandings and cognitive schemes support the construction of SC since they aid to “communicate and interact effectively with persons not sharing their language and meaning systems” (Maurer and Ebers, 2006, p. 264) which is seen as an investment that generates assets with potential value considering “a shared language and shared meanings enable actors to gain access to the information and resources of their social relations, which they could not obtain without the investment” (ibid, p. 264). The cognitive dimension plays an essential role for network members by classifying and prioritising knowledge that is valuable whilst influencing the network’s collective knowledge base (Widén-Wulff et al., 2008) considering the process of communication sets the foundations for collective memory, creativity, problem solving, innovation and productivity in the network (Cronin, 1995). This process identifies that the common knowledge gathered is constructed by network members turning it into a highly valuable asset for network decision-making processes (Tindale and Kameda, 2000). High levels of cognitive SC have been found to provide employees with a common point of view (Boland Jr and Tenkasi, 1995) allowing them to understand and interact in similar ways becoming agents of positive change towards learning, adapting, innovating, and overall advancement for the firm (Yli-Renko et al., 2001). Mäkelä et al.’s (2012) study concludes the

gathering of positive decisions and actions yields enhanced learning amongst network members and the people they interact with, the development of efficient routines and increase in firms' capabilities. Tsai and Ghoshal (1998) draw a link between the cognitive and the relational dimensions by recognising that collective goals and values allow organisation members to generate trust in one another while highlighting that social interaction allows network members to embrace network's languages, codes, values, and practices developing new sets of values and visions.

Criticism to elements of the cognitive dimension, such as the shared expectations, reveal potential problems of free riding, aversion to interact outside of the network, reluctance to internalise the firm's values and significant pressure to adopt similar behaviours (Inkpen and Tsang, 2005); thus, affecting overall firms' BST strategy and goals. Sharing knowledge and information has been found to generate a loss of objectivity when "linking business with social relationships" (Locke et al., 1999, p. 10) supporting that unbiased communication is developed with anyone disregarding their relationship to the producer of information whilst other researchers have found that within the intra-organisational context, members wanting to be part of a network are subject to biased selection and being accepted based on their likability not on their ability (Casciaro and Lobo, 2005).

2.2.4. Relational Dimension

The longer the record of interactions among individuals the more opportunities there are to assess their investments and reciprocity in the relationship (Blau, 1986); hence, supporting the relational dimension of SC described as exhibiting liking, trust, obligations, norms, and identification represented in the values and work ethic among network members (Bolino et al., 2002). Nonetheless, the transfer of valuable information is a complex task (Nahapiet and Ghosal, 1998) demanding the developing of strong and positive relations towards the exchange of information. Therefore, the relational dimension of SC provides mainly three purposes for organisations: "to access other parties for exchange, to gain anticipation of value through exchange and combination, and to take advantage of the motivation of parties to engage in knowledge creation through exchange and combination" (Nahapiet and Ghoshal, 1998, p. 254) since "common values and beliefs provide the harmony of interests that erase the possibility of opportunistic behaviour" (Ouchi, 1980, p. 138) whilst recognising long-lasting relationships are based on "common goals and values [which] have brought and kept them together" (Barber, 1983, p. 21). There are four essential elements in the relational dimension: trust, norms, obligations, and sense of identification.

Trust

This study has been approached from the perspective that trust is as an essential ingredient for the formation of SC based on the principle that any and every network exchange ought to have some level of trust however

minimum since there will be no engagements if every individual has ‘zero’ trust. Trust has been described as a belief in the good intentions, the openness, the competence, and the reliability of another party (Mishira, 1996). Trust is an essential element for the creation and evolution of social structures, understood as a ‘lubricant’ for cooperation and economic transactions (Cooke et al., 2005; Maskell and Lorenzen, 2004; Sako and Helper, 1998). In first interactions, such initial trust is called ‘fragile trust’ (Ring, 1996) since it does not survive beyond those transactions where benefits and costs are perceived to be unbalanced due to the lack of predictability in the development of subsequent exchanges where there is a possibility of a gain to both parties (Leana and Van Buren III, 1999) and the perception of potential rewards decreases. However, the concept of ‘resilient trust’ (Ring & Van de Ven, 1992) is based on stronger more diverse and abundant relationships between the organisation and its members or other organisations surviving the occasional unbalanced transaction. The reason for this is due to ‘resilient trust’ being grounded in experiences with the other party and/or beliefs about the moral integrity founded on the other party’s norms and values (Granovetter, 1985). Emotional connections are said to be formed through relational experiences which generate affective trust (Sako, 1992) and lead stakeholders to take greater higher risks than otherwise necessary or justifiable. High levels of trust result from the willingness to be vulnerable to the actions of the other party (Mayer et al., 1995) whilst acknowledging engendering trust is a complex process requiring time commitments and roles from stakeholders within a network (Widén-Wulff et al., 2008).

According to Sako (1992), network engagements, and particularly interfirm interactions, are governed by the presence of one or more forms of trust. Contractual-based trust, also labelled as promissory-based trust (Barber, 1983); competence-based trust (Barber, 1983); and goodwill-trust, also known as character-based trust (Gabarro, 1978), benevolence (Ganesan, 1994), or behavioural trust (Nooteboom, 1996). Contractual-based trust is said to “arise from the explicit written or oral agreements that partners make” (Barber, 1983, p. 1032) as well as being based on an expectation of reliability (Boersma et al., 2003) with the belief that the partner or other party will fulfil contractual agreements (Fiedler et al., 2017). Competence-based trust which “starts from public information with the expectation that a party will perform its role competently” (Barber, 1983, p. 15) based on faith that the other party has the capabilities “to deliver and meet trustor’s expectations” (Fiedler et al., 2017, p. 281). And goodwill-trust which recognises “that there are no explicit promises which are expected to be fulfilled, as in the case of contractual-based trust, nor fixed membership-based standards to be reached, as in the case of competence-based trust” (Sako, 1992, p. 39); thus, stepping away from individual interests. Nonetheless, Grimshaw et al. (2002) have recognised “it is not clear that all partnership models involve high trust” (p. 484).

Moreover, researchers have suggested “the connection between interpersonal and interorganizational trust is based on institutionalizing processes” (Zaheer et al., 1998, p. 145) meaning that as individuals begin and nurture interorganisational-exchange relationships, they adopt and abide by norms within such systematised processes (Macneil, 1980) supported by organisational guidelines (Sitkin and

Roth, 1993) which “constrain and orient its members” (Zaheer et al., 1998, p. 154). Therefore, trust developed between individuals and formal institutions, known as systemic or institutional trust, is different than trust developing between individuals. This is mainly because formal institutions are expected to follow ‘principles of good governance’ (Offe, 1999; Rothstein, 2000) such as accountability, transparency, predictability, fairness, participation, and responsiveness guided by ‘norms of cooperative behaviour’ (Coleman, 1988; Knack & Keefer, 1997; Putnam et al., 1993) and a ‘code of business ethics’ (Lane & Bachmann, 1997, p. 239), reducing injustice and inequality (Uslaner, 2003; Wuthnow, 1998). This type of trust suggests that despite two unrelated members not trusting each other, they trust the institution they belong to and/or interact with; thus, facilitating the generation of relational gains (North, 1990). Besides stakeholders developing systematic trust, also belonging to associations is seen as positive since “A major collective good that industry associations provide . . . is stability and trust” (Unger and van Waarden, 1994, p. 22). However, researchers (Ashkenas et al., 1995) have acknowledged negative results of power relations to overcome the ‘trust barrier’ (p. 207-213) and performance issues derived from the level of trust involved through the distribution of power between parties involved (Deakin and Walsh, 1996) and the “employment relationship itself” when aiming to develop trust in inter-organisational relationships (Rubery et al., 2002) .

Consequently, systemic/institutional trust is a vital element in social structures since individuals alone or through personal trust relations are not able to access all necessary information to take informed decisions on issues concerning them (Ring, 2005). Therefore, it has been found that the success of any and all partnerships are constrained by “appropriate management tools and the establishment of trust relations” (Rubery et al., 2002, p. 647). On a macro level, individuals and members of institutions expect government-regulated organisations to take decisions to maximise public interest since “partnerships can only flourish in the long term if confidence in the integrity of the working relationships is shared by all stakeholders” (Brewer and Hayllar, 2005, p. 490). Nonetheless, there are contrasting points concerning the role that trust plays in the generation of SC. For example, trust has been equalled to SC (Fukuyama, 1997, 1995), a source of SC generation (Putnam, 1993), or a result of SC (Woolcock, 1998). Nahapiet and Ghoshal (1998) consider trust to be part of the relational dimension of SC since “there is a two-way interaction between trust and cooperation: trust lubricates cooperation, and cooperation itself breeds trust” (p. 255) whilst Adler and Kwon (2000) suggest “trust and social capital are mutually reinforcing [since] social capital often generates trusting relationships, and the trust generated will in turn produce social capital” (p. 101). However, their findings have not revealed any necessary prerequisites to any network engagements. This study is designed to explore how factors such as positive first impressions, word of mouth, endorsements, and previous client and/or customer recommendations may act as catalysts for initial network engagements.

Norms

Norms are the second element of the relational dimension understood as a socially defined right to control an action held by others and not by the actor (Coleman, 1990) since they represent “a degree of consensus in the social system” (Nahapiet and Ghoshal, 1998, p. 255). Within the framework of this study, norms are “the sociocultural component of social capital that provides the context within it acquires meaning and becomes available to individuals and groups in a way that can facilitate an individual or collective action not otherwise possible” (Edwards & Foley, 1997, p. 671). These definitions evidence the need for the existence of some level of control within network structures that allows for collective action beyond resource exchange. One example of the role of norms in network structures is ‘the norm of generalised reciprocity’ (Portes, 1998; Putnam, 1993) to identify the ‘obligation’ of the receiving party to return a favour or action to the giving party at some point in the future since this norm of generalised reciprocity “resolves problems of collective action and binds communities” (Adler and Kwon, 2000, p. 99).

‘Norms of cooperation’ is another example where defined actions are perceived (un)acceptable and built on shared understandings, informal rules and conventions that make reciprocal exchanges substantial (Productivity Commission, 2003). Banfield (1958) criticises this concept after carrying out a study in Italy where the norms were shared and commonly held but seen to undermine SC due to the fear of not complying with cultural norms when interacting with others; and Muthuri et al. (2009) who argue that unfulfilled promises, poor performance and lack of commitment “undermine the relationship and endanger the social capital transaction” (p. 84), ultimately producing disengagement in upset parties. This last argument should be assessed in several contexts since failing to comply with norms do not face the same level of disappointment across all contexts.

Obligations and Expectations

‘Obligations’ are understood as “a commitment or duty to undertake some activity in the future” (Nahapiet and Ghoshal, 1998, p. 255), and ‘Expectations’ as feelings that an action will take place in the future developed as a result of a relationship (see also Coleman, 1990). Obligations and expectations are built on the premise that any engagement, beyond resource exchange, carry commitments suggesting an immediate and/or future fulfilment of a requirement among parties involved. The level of commitment in which actors within a relationship fulfil their obligations and meet expectations will have an impact on the relationship in future interactions whilst influencing actors’ reputation and status.

Sense of Identification

The last component of the relational dimension, sense of identification, is understood as “the process whereby individuals see themselves as one with another person or group of people” (Nahapiet and Ghoshal, 1998, p. 256) and generating a sense of belonging and appropriability within a network, acting as a “resource influencing both the anticipation of value to be achieved through combination and exchange and the motivation to combine and exchange knowledge” (ibid, p. 256). Identification, in the form of sharing same values and work ethic, is known to minimise levels of uncertainty, particularly when unrelated members become aware of each other’s part-take in the same network since organisations provide helpful scenarios for the identification of people through the establishment of membership linkages while recognising organisation’s uniqueness and internal homogeneity (Hogg and Terry, 2000). Coleman (1990) argues “...organisations ordinarily take the form of authority structures composed of positions connected by obligations and expectations and occupied by persons” (p. 313). Additional key components of the relational dimension include interpersonal attraction which has been known to enhance firm performance (Krackhardt et al., 1992) whilst considering individuals, part of a network, that like each other are less resistant to change and deal better with uncertainty (ibid). Interpersonal attraction is a vital ingredient towards network cohesiveness and performance (Mullen and Copper, 1994) supported by congeniality among networks, which exhibit greater levels of flexibility, higher ability to adapt in dynamic environments and enhanced performance in firms (Bolino et al., 2002).

Despite known beneficial characteristics of the relational dimension, functionally homogeneous teams have been found to have lower ability to secure venture capital funding and an initial public offering than heterogeneous teams (Beckman et al., 2007) due to three factors mainly. Firstly, novelty does not allow team members to rely upon previous experiences or knowledge to take decisions and generate action since “the greater the novelty a team faces, the more daunting the effort to form and sustain relationships becomes” (Blatt, 2009, p. 533). Secondly, negative emotions network members experience such as failures, disappointments, and extenuating circumstances. And thirdly, task conflicts among network members who may want to get their ideas across or simply lack leadership skills derived from the novelty factor.

Additional perspectives of SC

A complementary division of SC, complementing Nahapiet and Ghoshal’s (1998) model, is supported by earlier claims (Bourdieu, 1985) through two aspects: the size of the group or network (the number of persons part of the social structure), and the volume of capital (resources) accumulated through the members part of the network. Leana and Van Buren (1999) propose an additional division of SC through two similar characteristics: ‘associability’ described as “willingness and ability of participants in an organisation to

subordinate individual goals and associated actions to collective goals and actions” (Nahapiet and Ghoshal, 1998, p. 541); and ‘trust’ as the acknowledgement and acceptance of vulnerability (Rousseau et al., 1998).

Further perspectives include those constructed on SC focus and objective: one as a public good, and the other as a private good. The former considers SC to exist within social relationships through norms of reciprocity by establishing expectations and obligations that nurture channels for knowledge transfer, and establish norms supported upon efficient penalties (Coleman, 1990; Fukuyama, 1995; Putnam, 2000, p. 200). The latter perceives the individual benefit to each member of the network which can be spent at their leisure and its exhaustion varies from individual to individual (Belliveau et al., 1996; Bourdieu, 1985; Burt, 1997a); therefore, evidencing diverse SC benefits to each individual depending on his/her network strategies (Burt, 1997) whilst other cases support the irregular distribution of SC grounded upon qualifications and network affiliations (Belliveau et al., 1996). Alternatively, ‘cultural capital’ considers skills, qualifications, values, and manners privileged children receive from their parents which in turn increases the probability of perpetuating the position of the family within the upper-class division (Bourdieu, 1984).

Leana and Van Buren (1999) provided an analysis of SC based on five attributes: level of analysis, which refers to an attribute of nations or geographic regions (Fukuyama, 1995), communities (Putnam, 1993), individual networks (Burt, 1992), firms in their interactions with other firms (Baker, 1990), and individual actors (Belliveau et al., 1996; Portes and Sensenbrenner, 1993); this attribute can be distinguished as a public good encouraging research at the macro and meso (collective) levels and as a public good at the micro or individual levels. The second attribute is the benefit to individuals which can have a different influence depending on whether it is a public good (indirect influence) or a private good (direct influence).

Table 4. Distinctions between public and private good models of SC

Attribute	SC as a public good	SC as a private good
Level of Analysis	Macro and meso (social unit)	Micro (individual)
Benefit to individual	Indirect	Direct
Benefit to network	Direct	Incidental
Necessary ties	Resilient	Fragile
Individual incentives	Weak or moderate	Strong

Source: Adapted from Leana and Van Buren (1999, p. 541)

The third attribute is the benefit to a group which can have an inverse effect to the previous benefit namely exhibiting a direct effect if it is a public good and an incidental effect if it is seen as a private good. The fourth attribute are the necessary ties which can be resilient if held as a public good and fragile if held as a private good. The fifth attribute includes the individual incentives which are weak or moderate if held as a public good or strong if held as a private good (see Table 4).

A proposed network typology spanning across (un)structured networks from a horizontal to vertical relationship categories suggest three network categories: the intra-corporate network, the strategic alliance and the industrial district, built on the intention to cover the broad range between horizontal and vertical relationships and along the (un)structured systems (Inkpen and Tsang, 2005). Such typology discusses six categories of which only two are relevant for this study since they are evidenced in SMEs in the UK's construction industry: strategic alliance and industrial district. The former is defined as "a group of firms entering into voluntary arrangements that involve exchange, sharing, or co-development of products, technologies, or services" (Gulati, 1998 cited by Inkpen and Tsang, 2005, p. 148); and the latter as "a network comprising independent firms operating in the same or related market segment and a shared geographic locality, benefiting from external economies of scale and scope from agglomeration" (Brown and Hendry, 1997, p. 149).

SMEs in the UK's construction industry exhibit the strategic alliances typology when working together in various projects because their expertise can increase or decrease depending on the task required, when new tasks are required. SMEs engage in strategic alliances that are voluntary accords to provide, share or develop resources, assets or guidance to others. Moreover, SMEs in the UK's construction industry exhibit the industrial district typology since they are mostly independent firms that operate in the same market segment, for example, benefiting from external economies of scale and scope of agglomeration. The bonding and bridging of SC are known as 'horizontal SC' described in terms of individual and team-level ties (Pil and Leana, 2009). At the individual level, three divisions are described including the number of ties, which could aid employees gain a wider range of perspectives; the quality and depth of communication within discussion networks of employees, which is directly correlated with higher income levels (Carroll and Teo, 1996), and productivity levels (Papa, 1990); and the frequency of the interactions with other colleagues having a direct influence on the information gathering, which increases individual performance (Roberts and O'Reilly III, 1979), and reduces uncertainty (Pil and Leana, 2009). At team-level ties, the density of network relations motivates the creation of norms, enhancement of trust, identity, and cohesion whilst reducing opportunistic behaviour (Pil and Leana, 2009); thus, enhancing group effectiveness, and task performance (Balkundi and Harrison, 2006).

Pil and Leana (2009) also describe linking SC as 'vertical SC' in terms of individual and team-level ties. At the individual level, the authors discuss the quality of the relationship amongst the employee and those in higher managerial positions, such as supervisors, managers and executives, has a direct relationship with the performance of the employee, and fate within the organisation (Sparrowe and Liden, 1997) producing benefits such as valuable information and influences (Lin, 1999; Marsden and Hurlbert, 1988). At the team level, ties can be relevant for the availability of connections team members provide the team with, which could provide access to a broader range of resources (Oh et al., 2004) and generate greater organisational influence (Ancona and Caldwell, 1998).

There internal and external perspectives of SC (Somaya et al., 2008). The former explained as resources found through social relationships and network ties inside a firm; this perspective is of high value for firms since it provides benefits such as developing shared collective goals, nurtures trust and reciprocity, access to information, and a source of dynamic capabilities (Blyler and Coff, 2003; Dess and Shaw, 2001). The latter described as collective assets product of relationships gathered amongst network members, suppliers and customers (Leana and Pil, 2006) producing advantages such as hiring valuable employees (Porter and Kramer, 2011), enhanced trust, norms, reciprocity, and obligations which are supporting elements for the relational dimension.

After reviewing several journals and articles proposing diverse SC perspectives (Blatt, 2009; Bolino et al., 2002; Inkpen and Tsang, 2005; McFadyen and Cannella Jr., 2004; Tsai and Ghoshal, 1998), this review concluded that widely accepted dimensions of SC in management studies are those proposed by Nahapiet and Ghoshal (1998), allowing for the recognition of a common ground in the understanding of SC dimensions namely structural, cognitive and relational. Table 5 describes a range of perspectives of SC presented over the years in influential peer-reviewed journals categorised according to whether SC is understood as a public good, private good, or both.

Table 5. Perspectives of SC and their distinctions as an asset owned publicly, privately, or both

SC owned as type of property*	Author & Year	Perspectives of Social Capital
Private	Bourdieu (1985)	a. Size of the network of connections that can be mobilised. b. Volume of capital possessed by him/her and each of the network members.
	Lin (1999)	a. Embedded resources b. Network locations
	Hansen et al. (2001)	Structural: a. Network size b. Network sparseness c. Tie strength
	Adler and Kwon (2002)	Relations: a. Market b. Social c. Hierarchical
	Burt (2007)	Considering the premise: “Information arbitrage is essential to the idea that network brokerage provides social capital” (p. 122). The summary index “network constraint” is divided into three dimensions: i. Size ii. Density iii. Hierarchy
	Stam and Elfring (2008)	Adopt the same definition and dimensions of SC proposed by Nahapiet and Ghoshal (1998) but suggest two dimensions, part of the structural capital, based on the “internal and external” SC concept put forth by Adler and Kwon (2002): a. intra-industry network centrality ⁴ . b. range of extra-industry bridging ties.

⁴ See Appendix A for definition.

	Pil and Leana (2009)	Structural dimension a. Horizontal ties: number and strength of ties amongst the team (e.g., quality of interactions between people who share same membership to a network, network closure). b. Vertical ties: strength of ties with superiors (e.g., quality of relationship with superiors, availability of conduits for resource accessibility).
	Galunic et al. (2012)	An ordinal system of SC derived from externalities in social structures. Structural: a. First order: influences their own work. b. Second order: influences others – “the focal actor to whom they were connected” (p. 1215).
Public	Granovetter (1973)	Network Structure: Weak ties: relationships with those individuals in the periphery of people’s networks allow to have access to information different from that part of the close network of family and friends. Strong ties: relationships with family and friends. Absent ties: No relationships = no advantages or reciprocity.
	Coleman (1988)	a. Obligations and expectations - The degree of trustworthiness - The actual extent of the obligations held b. Information channels c. Norms and effective sanctions
	Baker (1990)	a. Intensity: number of resources, frequency of interaction and low volume b. Criticality: internal sources of funds and debt capacity c. Asymmetry: power balance d. Standardisation: similarity of deals e. Tandem Strategies: social embeddedness, organisation size and growth f. Third-party Influence: attractiveness to investors
	Gittell & Vidal (1998); Putnam (2000)	a. Bridging: heterogeneous / inclusive / outward-looking / diverse backgrounds. b. Bonding: homogeneous (p. 158) / exclusive / strongly tied / inward-focused / similar backgrounds.
	Leana and Van Buren (1999)	a. Associability: willingness and ability of participants to subordinate individual goals and actions in place of collective goals and actions. b. Trust: willingness to be vulnerable (fragile or resilient; dyadic or generalised).
Public & Private	Burt (1992)	Structural: a. “How” are individuals connected through “Social Similarity” Relational: a. To “Whom” is the individual connected through “individual network and affiliations” which provides “status” □ The theory of ‘structural holes’ was also proposed in this publication.
	Nahapiet & Ghoshal (1998)	a. Structural: Design of the relationship among individuals (e.g., do individuals know who other network members are?) - Network ties - Network configuration - Appropriable configuration b. Cognitive: Nature of the relationship among individuals (e.g., power, dislike, trust, faith) - Shared codes and language - Shared narratives c. Relational: Understanding of the relationship among individuals - Trust - Norms - Obligations - Identification
	Tsai and Ghoshal (1998)	Support Nahapiet and Ghoshal’s (1998) model and present dimensions that produce SC characterised by resource exchange and combination which in turn create value measured by product innovation.

	<u>(McFadyen and Cannella Jr., 2004)</u>	a. Structural: Indicates the degree of “closure” or “interconnectedness” <ul style="list-style-type: none"> - Direct ties - Indirect ties b. Relational: the strength of a person’s interpersonal exchange relationships <ul style="list-style-type: none"> - Shared language and experiences - Norms and sanctions - Obligations and expectations
	Somaya et al. (2008)	Adopt the same dimensions of SC proposed by Nahapiet and Ghoshal (1998) through research focused on firms and the organisational level of analysis while acknowledging that employee mobility produces positive outcomes for both the focal firm and the potential client. <ul style="list-style-type: none"> iv. Internal SC: benefits found in relationships and networks ties within the firm. v. External SC: cumulative assets gathered through network members and external stakeholders such as customers and suppliers.
	Sabatini (2009)	Structural <ul style="list-style-type: none"> a. Bonding (strong ties) b. Bridging (weak ties) c. Linking (hierarchical, political or financial power ties) d. Active political participation e. Civic awareness
Source: Author’s collection.		*: according to Coleman (1988).

2.2.5. *Social capital benefits*

SC theory was developed on the premise that having access to a network creates value to its members (Baker, 1990; Coleman, 1988; Florin et al., 2003; Lin, 1999b) through the information embedded within the network (Bourdieu, 1985) and influenced by weak and/or strong ties (Granovetter, 1973). Likewise, Nahapiet and Ghoshal (1998) acknowledge SC is a key factor towards understanding the process of knowledge creation proposing a positive relationship between them since SC influences the process of exchange and combination of available resources embedded in the network. Consequently, SC is represented in all the benefits and the risks and drawbacks resulting from network interactions. In reference to SC benefits, they are understood as the positive consequences from social interactions (Coleman, 1988). Nahapiet and Ghoshal (1998) define SC from the resource perspective whilst Adler and Kwon (2002) from the ‘goodwill’ perspective posing benefits for those belonging to the network. SC benefits are generally represented in resources such as information (Adler and Kwon, 2002), influence (together with control and power), solidarity, and trust (Putnam, 1993; Woolcock, 1998). Nonetheless, there are additional derivatives of network engagements described hereafter. One of the main benefits of network engagement is information and knowledge described next.

Information and knowledge

The production of knowledge and information come from observation but mostly from interaction with networks since they are not generated on their own and similarly, the lack of knowledge is not accidental

considering “who you know affects what you know” (Nahapiet and Ghoshal, 1998, p. 252) since the greater the amount and quality of the information firms can have access to, the more competent employees become, and as a result the greater the value firms can create as a whole (Cohen and Levinthal, 1990). Such actions can start a ‘virtuous cycle’ that once human resources are magnified, higher levels of attraction from external stakeholders are evidenced, resulting in greater access to further resources and improvement in firm’s network and potential opportunities (Florin et al., 2003), in other words, “a venture's socially complex and historically unique configuration of human and social resources can result in a set of durable, rare, and inimitable resource bundles” (ibid, p. 377).

About information as a SC benefit derived from network engagements, Burt (1997) identifies three main information-related characteristics that could add value to a firm: access, timing, and referrals. The first is evidenced when a network member, possibly a business owner or a manager, have access to information from other firms or business units because of his/her role. Timing considers the availability of the information at the earliest convenience due to being a member of the network, which could also be delayed when not being a network member; and referrals allow “managers’ interests [to be] represented in a positive light, at the right time, and in the right places” (Burt, 1997, p. 340). SC enables access to greater amounts of information, recognise relevance of information for strategic aims, understand and internalise incommunicable elements of others’ skill through long-lasting relationships, benefit from knowledge transfer, enhance knowledge transformation, and have access and exposure to diverse perspectives found in the network (Yli-Renko et al., 2001) which could have spill-over effects “the economic benefits of SC are well established” (Lehtonen, 2004, p. 205) derived from information sharing, coordination of activities, and collective decision-making. In terms of information sharing – described as the mutual exchange of business and market information between network members (Wu, 2008) – it is considered one of the main benefits of SC represented in benefits such as brokering activities that promote the build-up of valuable information from many actors within the network to the focal actor (Burt, 1997a).

Firm performance enhancement

Information, as a SC benefit, has been known to enhance firm performance (Cummings, 2004; Kulp et al., 2004). Information sharing has been found to be more strongly correlated with performance when work groups have greater structural diversity (Cummings, 2004) whilst information sharing related to customer or inventory needs is correlated with higher manufacturer performance (Kulp et al., 2004). Also, high quality information processing, mutual influence and power, and solidarity are benefits of network engagement (Tsai and Ghoshal, 1998), and higher speed of information dissemination and innovation (Putnam, 1993). Moreover, SC is said to contribute to firm performance through innovation enhancement (Ahuja, 2000; Tsai and Ghoshal, 1998), knowledge transfer (Inkpen and Tsang, 2005; Koka and Prescott, 2002), intellectual capital (Nahapiet and Ghoshal, 1998), and efficiency (Baker, 1990; Burt, 2000). Information sharing

improves firms' capabilities and comparability with its partners, and reduce information asymmetry and opportunism; thus, reducing transaction costs (Wu, 2008) whilst social resources embedded in networks reduce the amount of time and investment necessary to obtain information (Florin et al., 2003). Defined links within networks have been found to be valuable for the diffusion and transfer of knowledge (Coleman, 1988) and combination towards the creation of intellectual capital (Nahapiet and Ghoshal, 1998). And social resources allow the firm to "attain, sustain, and even enhance its competitive advantage" (Florin et al., 2003, p. 376) whilst information sharing improves capability acquisition through facilitating joint problem solving strategies among network members (McEvily and Marcus, 2005).

Influence, control, and power

Influence, control, and power are also considered SC benefits. For example, in the 'Senate club' (Coleman, 1988) more influential senators have accrued 'a set of obligations' from those less influential senators generating reciprocity, control and a sense of obligation and indebtedness, which is capitalised when more influential senators want to get legislation passed and allow the central actors to accomplish their objectives. In firms, managers who understand and take advantage of structural holes encompass more power since they can control projects, resources and information that connect non-related teams taking advantage of structural holes (Burt, 1997b). Managers could become 'brokers' by accruing information gathered through disconnected nodes in the network since "as the broker between otherwise disconnected contacts, a manager is an entrepreneur in the literal sense of the word – a person who adds value by brokering the connection between others" (Burt, 1997a, p. 342). Therefore, having influence, control and power also allows for the engagement in and nurturing of entrepreneurial behaviours.

Solidarity

SC benefits represented by strong social norms and beliefs, and high-density networks imply agreement with context-specific rules and norms while minimising formal controls, which is exemplified by effectiveness of memberships in cooperatives, and religious-based schools (Coleman, 1988). Firms with dense structures where strong shared norms exist benefits from high commitment and low monitoring costs (Ouchi, 1980). Frequent interaction amongst units within firms allow for faster conflict resolution preventing the build-up of negative feelings between network members (Nelson, 1989). Civic engagement studies found that "internally, associations instil in their members habits of cooperation, solidarity, and public-spiritedness" (Putnam et al., 1993, pp. 89–90) evidencing a sense of belonging and collectivism (Coleman, 1988; Jacobs, 1965; Putnam, 1993) whilst for family firms, solidarity is understood as a 'collective' concept where family members have strong ties, shared goals and vision influencing relationship's trust level (Pearson et al., 2008).

Trust

Dense networks with close and bonding relationships generate trust, develop reciprocity, and shared identities which enhance cooperation (Coleman, 1988; Portes, 1998). It is also known that higher levels of trust minimises transaction costs – known as the fees charged by parties in exchange for a service – causing a positive effect on productivity (Putnam, 2000, 1993). Having a trustworthy network allows for faster transfer and communication of sensitive information compared to other categories of networks with less trust since it is based on solidarity (Krackhardt and Hanson, 1993). Dyer and Singh (1998) recognise trust and reciprocity to help as a social control mechanism that minimises opportunism – as the intention to take advantage of a situation where parties involved have not developed high levels of mutual trust. Coleman (1988) believes are forms of SC since they are resources valuable for and appropriable by network members. Sabatini (2009) compares the increase of physical capital with the increase in trust-based relationships arguing that as the former lowers production costs, the latter reduces transaction costs due to repeated interactions among network members. Therefore, it is suggested stakeholders involved in network engagement recognise the benefits of building trust-based relationships.

Furthermore, SC is founded upon relationships, and once trust, cooperation and reciprocity are nurtured through relationships, they can have a positive influence on wealth creation through the minimisation of transactions costs, encouraging collective actions, and reducing opportunistic practices (Andriani, 2013). In terms of institutional trust, individuals develop relationships through engaging with organisations based on having faith that the other party has the capabilities “to deliver and meet trustor’s expectations” (Fiedler et al., 2017, p. 281). Individuals develop trust with institutions since organisations are meant to be regulated and follow systematised processes (Macneil, 1980) through guidelines (Sitkin and Roth, 1993) which set out the obligations of the institution but also expectations from members (Zaheer et al., 1998). Reasons behind individuals developing relationships with institutions include access to information not accessible otherwise, access to other members, and a sense of status (Bourdieu, 1985), among others. Members increase or decrease their level of trust in institutions depending on the extent to which such institutions follow principles of good governance (Offe, 1999; Rothstein, 2000) such as transparency, fairness, equality, predictability, accountability, and participation. Systemic trust is also developed through recognition of reliability and fulfilment of expectations by institutions towards their members (Boersma et al., 2003). Systemic trust is also related to ‘resilient trust’ (Ring & Van de Ven, 1992) since members grow their trust in institutions through several interactions that could have sporadic mishaps but are guided by a sense of reputation, and the belief institutions will fulfil their moral integrity grounded on norms and values (Granovetter, 1985).

However, other researchers consider trust to be the result of network engagements (Lin, 1999a; Putnam, 1993; Woolcock, 1998) rather than an ingredient for the generation of SC (Nahapiet and Ghoshal,

1998; Tsai and Ghoshal, 1998). This study considers trust to be a dynamic element found throughout the life of any network engagement, that is to say, trust is understood as a pre-requisite before the birth of any network engagement, as a lubricant for any relationship, a supporting element of the relational dimension (Nahapiet and Ghoshal, 1998), the result of network engagements, and a vital ingredient for subsequent engagements.

Acquisition and exchange of resources

Resources are defined as “the tangible and intangible assets firms use to develop and implement their strategies” (Ray et al., 2004, p. 24), this definition could be applied to a network where members have access to assets that allow them to achieve their objectives. SC is understood through the social ties generated through the engagement in networks, which nurture mutual support, trustworthy relationships, shared sentiment demanding for reciprocity from one another (Lin, 1999a). This understanding demands the exchange of resources due to the level of reciprocity derived from the engagement in the network (Lin, 1999); therefore, placing pressure on the ‘obligation’ to retribute the other party and to provide quality resources. Likewise, “the importance of resource quality is even more pronounced in strong exchange relationships, because the heightened obligations to utilise resources within these exchanges can cause individuals to preferentially weigh these resources over other resources [available in the network]” (Farh et al., 2017, p. 1120); hence, having access to networks allow members to identify and possibly make use of quality assets beneficial towards firms’ BST strategy. Researchers have found high levels of SC can provide network members with access to privileged and ‘flexible’ resources together with psychological support while minimising malfeasance risks and transaction costs (Woolcock, 1998); however, network members’ expectations could vary; thus, influencing the quality of SC generated and subsequent value created.

Moreover, Portes and Landolt (2000) have proposed the ‘double-edge sword’ effect to explain that when resources inside a relationship are of low quality the network members are ‘locked-in’ isolating them from higher quality knowledge outside the network due to the strength of the bonds developed in the network. Farh et al. (2017) then argue that “If the quality of resources from within a strong exchange relationship is high or the quality of resources outside of the exchange relationship is low, then the relationship can be expected to enhance performance” (p. 1120). Consequently, the engagement with networks does not guarantee the quality of the resources embedded in the network but provides the opportunity to access them.

Support

Engaging in any type of network demands time and, in recent times, it is also considered an investment resulting in an opportunity-cost for those participating in a network, and as described earlier, SC is a type

of capital that is enriched by its use and depleted by its lack of use (Putnam, 1993) contrary to physical or financial capital. Support is defined as “to help someone, or offer help with something, when this is needed” (Cambridge Dictionary, 2021a). SC studies have evidenced support, found in networks, is an example of the return on the investment (e.g., time) by network members which could be represented by information and advice (e.g., business opportunities), emotional support (e.g., firm or personal crisis), financial support (e.g., borrow money), receive practical help (e.g., supervising a project), and material support such as borrowing tools or machinery for a particular project (OECD, 2013; Pearson et al., 2008). In summary, SC produces information, trust, resources, influence, control, power and other benefits currently unacknowledged in the SC literature plus disadvantages known as the ‘dark side of SC’ (Putnam, 1995) briefly covered in the following section but not part of the aim of this study.

2.2.6. Risks, Downsides, and the ‘Dark Side’ of SC

Despite SC benefits described earlier, SC generated through network engagements is not risk free and has been found to undermine organisational processes (Parker et al., 2016; Wu et al., 2016; Yang et al., 2018; Zavyalova et al., 2016). SC has been found to negatively affect firms mainly in seven key areas: first, in terms of innovation and knowledge creation since social interaction reinforces negative connexions among innovation and relationship conflict, problem-solving and creativity (Edelman et al., 2004) whilst trust undermines any beneficial association amongst task conflict and innovation (De Clercq et al., 2009). Second, concerning knowledge acquisition, the quality of relationships in key customer relationships could undermine the acquisition of knowledge (Yli-Renko et al., 2001). Third, in terms of dependence oriented/inward looking culture, Gu et al. (2008) found SC, known in China as Guanxi⁵, has its positive effects minimised whenever there was technological instability and competitive intensity. Fourth, considering firm performance, interactions amongst entrepreneurs’ start-up experience and the extent of their bridging SC exhibited a negative effect on the performance of the firm (Batjargal, 2007) whilst localised potential SC exhibited a curvilinear (inverted ‘U’ shaped) when involved in international markets (Laursen et al., 2012); Malik (2012) found diversity of information, as a SC dimension, has a negative relationship with the performance of the firm; and Stam and Elfring (2008) reported holding a central position within a network (network centrality) produces liabilities to the firm with higher degree of centrality if the number of bridging ties is low since centrality undermines entrepreneurial orientation-performance relationships. Fifth, in terms of the effectiveness of decisions, Li et al. (2013) reported tie strength exhibits a positive correlation with the decision-making constraint; thus, reducing the probability of the establishment of new businesses. Sixth, in the matter of internationalisation, Chetty and Agndal (2007)

⁵ Guanxi, in China, are informal personal relationships that managers develop with others built on trust and cooperation empowered by social obligations and reciprocity (Park and Luo, 2001; Peng and Luo, 2000).

found SC liabilities negatively influence international strategies. And seventh, in terms of VC, the level of intensity among social interactions and trust levels exhibit an inverted-U shaped relationship in terms of the creation of value at the firm level (Molina-Morales and Martínez-Fernández, 2010). Additional drawbacks include those when network members are able to benefit and take advantage of the resources embedded in the network but at the same time, these actions set barriers, generate disadvantages and produce an overall exclusionary feeling for non-members (Grugulis and Stoyanova, 2012).

SC as a negative influence for SMEs

The lack of codification of knowledge in SMEs can pose a high risk of knowledge depletion constructed on the absence of economies of scale (Chaston et al., 2000; Ward, 2004). The downside of SC is that overly embedded intragroup networks can encourage parochialism, xenophobia, isolationism and inertia, which are detrimental to corporate performance and globalisation (Chung, 2004). Presutti et al. (2007) found through a study on 107 small technology firms that the cognitive and relational dimensions of SC present a negative correlation with the acquisition of knowledge; also, a study in 434 SMEs discovered SC negatively influenced the effectiveness of decision if the network becomes too large leading to a gridlock (Jansen et al., 2011). A later study in 565 SMEs across seven industries, found that the breadth of SC becomes an asset as long as experience is a liability and vice-versa; thus, producing a zero-sum game where there is always something to be sacrificed (Jansen et al., 2013); and Lindstrand et al. (2011) through a longitudinal study on 14 SMEs concluded that SC encourages industrialisation while minimising the development of firms' understanding of foreign markets. Since drawbacks, negative effects, and risks of SC expand further than those described in this section, this study only focuses on the private benefits that SMEs in the UK's construction industry have experienced, and the value created from engaging with stakeholders beginning with the SC-VC relationship examined next.

2.2.7. Linking Social Capital to Value Creation

The relationship amongst SC and performance has been acknowledged and evaluated at the individual (Belliveau, 2005; Burt, 2007), group (Oh et al., 2004; Reagans et al., 2004), team (Tsai, 2000), project (Delmestri et al., 2005; Grewal et al., 2006), and organisational (Florin et al., 2003; Stam and Elfring, 2008) levels, leading Payne et al. (2011) to assert that investigating performance “is a popular goal for social capital studies” (p. 499); however, the relationship amongst SC and VC has not been evaluated with the same depth, elucidating a significant knowledge gap.

With the aim to create value, Schumpeter (1934) suggests if firms aim to develop a new good or increase quality of a good, they ought to develop a new method of production, target a new market, acquire a new source of supply for raw materials, and pursue a new organisation or an industry. Many of these

actions are the resulting benefit of network engagements by individuals and firms as described later in numeral 2.5. SC is known as an important source for creating inimitable value-generating resources embedded within firms' relationships (Gulati et al., 2000) providing benefits such as knowledge accrued by network members and close contacts (Hansen, 1999; McEvily and Zaheer, 1999).

Trust, as supporting element of the relational capital, leads to information sharing (Dyer and Chu, 2003); thus, creating value for the exchange relationship. Similar studies have suggested the structural and relational dimensions of SC are positively correlated with the resource exchange and combination within units of the same firm resulting in VC (Tsai and Ghoshal, 1998) whereas knowledge-based resources, such as SC in the form of intellectual and information processes, ought to be combined with firm-specific ties to generate value for the firm (Dess and Shaw, 2001). Intellectual activities such as R&D, process and product design have been found to be responsible for most value creation activities in manufacturing industries (Quinn et al., 1996). Tsai and Ghoshal (1998) propose a SC-VC model through an ordinal perspective of SC dimensions. For instance, it was found that the relational dimension, represented in trust and trustworthiness, occur once the structural dimension, represented in the social interaction ties, and the cognitive dimension, represented in shared vision, have occurred, this finding is relevant considering Nahapiet and Ghoshal (1998) do not specify what dimension occurs first or last. Tsai and Ghoshal (1998) suggest that once the relational dimension occurs, this in turn could allow for resource exchange and combination, and then create value evidenced in product innovation. Criticism to this model is grounded on the evaluation of the VC model against the SC model (Nahapiet and Ghoshal, 1998). For example, Tsai and Ghoshal's VC model mentions other characteristics of the SC dimensions that were not tested in Nahapiet and Ghoshal's model such as the configuration of the network and the appropriability concept for the structural dimension; pertaining to the cognitive dimension, the shared codes and language were also not tested; and for the relational dimension, the norms, obligations and identification were missing from Tsai and Ghoshal's model. The flaws in the testing of the model undermine the generalisation of the model in other contexts.

Inkpen and Tsang (2005) distinguish between horizontal and vertical relationships from intra-corporate networks (e.g., single-node fictionalized firm), to franchises, to alliances (e.g., interfirm relationships), across to industrial districts (e.g., unstructured aggregate of firms) which generate value through the knowledge shared horizontally, and vertically across when SC is regarded as a public good and an attribute of a social unit.

The cognitive dimension considers shared values and norms support shared goals and culture among network members since this dimension is focused on promoting cooperation and knowledge sharing to create value (Inkpen and Tsang, 2016, 2005) except in those collaboration-based partnerships that breed conflict and subsequently produce dissatisfaction and frustration (Anderson, 1990). Therefore, it is in the best interest of firms to address and agree upon common goals and understanding to cooperate for a common

purpose (Das and Teng, 1998) whilst considering those firms in an industrial district willing to share knowledge should internalise cooperation and knowledge sharing to improve and boost their competitive position (Inkpen and Tsang, 2005). Uzzi (1997) also supports this view by showing that solving problems through network cooperation and knowledge sharing develops the SC of the network, promotes innovation and creates value.

2.3. What is Value Creation?

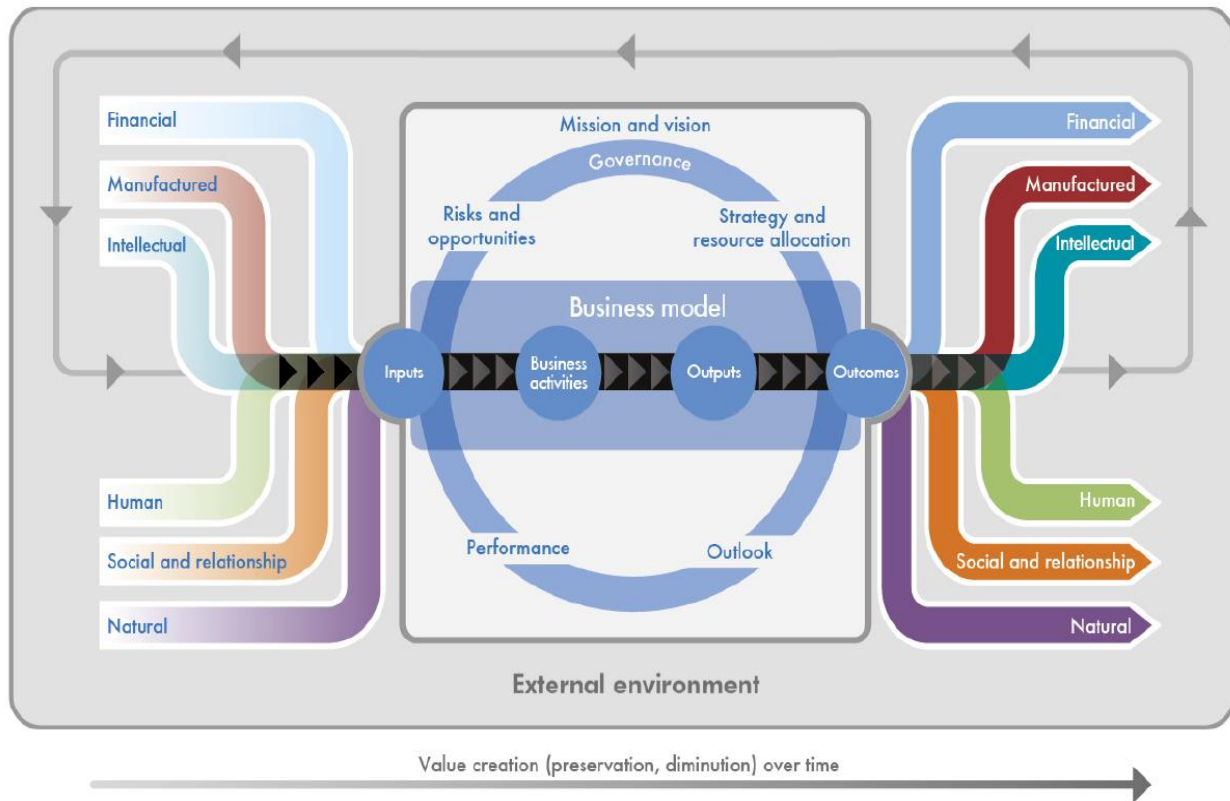
Roots of VC could be traced back to Schumpeter (1928) who recognised the relevance of combination and exchange of resources and their application to new contexts as the foundational layer for VC. Penrose (1959) also recognises it is not about the gathering or the amount of resources but rather complementary services that create value for firms. Value has been defined as “the worth of some product or service to the consumer” (Husted et al., 2015, p. 150) whilst VC has been defined as any “rent-earning capacity of tangible assets or resources” (Madhok and Tallman, 1998, p. 328). The creation of value is implicitly linked to an economic gain defined as “the change in the total economic value created by a firm from one period to the next” (Lieberman et al., 2017, p. 1194).

Nonetheless, this study argues that a firm engaging in any network is not only able to create economic value, but also other categories of value (e.g., social, intellectual, human, and natural) moving towards the definition set by Moran & Ghoshal (1999) and supported in the International Integrated Reporting Framework (IIRC, 2013) presented in Figure 3. This study considers VC as a combination of resources that help increase productivity of those resources whilst adding that VC is not always about a combination or exchange of resources aimed at increasing productivity, but rather the deliberate intermediation of firms to transform inputs into outputs and produce positive outcomes for firms. This study also claims that VC has a strong relationship with SC considering such relationship begins via network engagements where embedded resources are able to generate benefits for participant members who have the possibility to create different categories of value, acknowledged on the firm-by-firm basis, and to be used towards the enhancement of their own strategy. Such derivatives not only benefit stakeholders but also create benefits for those firms joining the network. Hence, there are value categories created beyond economic (e.g., intellectual, natural, social) with and through others resulting from network engagements.

Moreover, at the firm level, VC is evidenced when the firm is able to capitalise and develop economic rents resulting from resource utilisation to satisfy customers to a greater degree than its competitors (Peteraf and Barney, 2003). At the inter-firm perspective, VC happens when firms involved in a network or partnership are able to earn a profit either by transferring or combining resources beyond a profit that could have generated in the absence of the partnership or network engagement (Madhok and Tallman, 1998). VC spans a wide range of areas, for example, when a firm provides training for its

employees, the organisation’s human resources are creating value or when a community creates sport clinics for adolescents to stay away from negative influences it is creating community value (Caldwell et al., 2017).

Figure 3. International Integrated Reporting Framework



Source: (IIRC, 2013)

This study goes beyond the economic VC of firms, covering social, human, intellectual, and manufactured values, explained below. Consequently, the term ‘value creation’ should be perceived as the transformation of different categories of capital since value can be represented mainly in six different categories (see Figure 3). Such categories are derived, from six forms of capital, according to the International Integrated Reporting Framework (IIRC, 2013), labelled as financial, manufactured, intellectual, human, social and relationships, and natural. They are defined as:

- i. Financial capital is described as the “pool of funds that is available to an organisation for use in the manufacture of products or the provision of services and obtained through financing, such as debt, equity or grants, or generated through operations or investments” (ibid, p. 11).
- ii. Human capital entails People’s competencies, capabilities and experience, and their motivations to innovate, including their alignment with and support for an organisation’s governance framework, risk management approach, and ethical values; the ability to understand, develop and implement an

organisation's strategy; and loyalties and motivations for improving processes, products and services, including their ability to lead, manage and collaborate" (ibid, p. 12).

- iii. Intellectual capital encompasses "organizational knowledge-based intangibles, including intellectual property, such as patents, copyrights, software, rights and licences; and "organizational capital" such as tacit knowledge, systems, procedures and protocols" (ibid, p. 12).
- iv. Manufactured capital includes "manufactured physical objects (as distinct from natural physical objects) that are available to an organization for use in the manufacture of products or the provision of services, including buildings, equipment, and infrastructure" (ibid, p. 11).
- v. Natural capital is described as "all renewable and non-renewable environmental resources and processes that provide products or services that support the past, current or future prosperity of an organization. It includes air, water, land, minerals and forests plus biodiversity and eco-system health" (ibid, p. 12).
- vi. Social and relationship capital considers "the institutions and the relationships within and between communities, groups of stakeholders and other networks, and the ability to share information to enhance individual and collective well-being. Social and relationship capital includes shared norms, and common values and behaviours; key stakeholder relationships, the trust and willingness to engage that an organization has developed and strives to build and protect with external stakeholders; and the intangibles associated with the brand and reputation that an organization has developed" (ibid, p. 12).

Potential benefits of network engagement resulting in VC

Once firms decide, through their strategy, to interact in a network, positive outcomes arise, known as 'common benefits' (Dyer and Singh, 1998), such as relational rent derived from relation-specific assets, knowledge-sharing routines, complementary resources, and effective governance mechanisms. Firms are encouraged to engage in a network where others firms belong in the search for additional or alternative resources and capabilities (Barney, 1986) based on the principle that the resources owned by firms become the source of VC (Barney, 1991). For example, increased productivity, innovative products and/or enhanced problem-solving skills (Benner and Tushman, 2003; Moran and Ghoshal, 1996). The main argument of this study is focused on the development of firms' strategies to engage in networks for resource identification, potential exchange and/or acquisition in the search for VC whilst considering that the resources firms have and can access are essential towards VC (Sirmon et al., 2007).

Arguably, benefits derived from network engagement include the assessment of the firm's overall success rate based on the accomplishment of initial goals (Heimeriks et al., 2009), attainment of strategic goals (Hoffmann, 2005), the understanding of the extent to which firms' goals have been achieved, the status of the firm's competitive position in the market, and the acquisition of new skills and knowledge capabilities

(Draulans et al., 2003; Kale and Singh, 2007). Alternative benefits include organisational learning and the protection of assets (Kale et al., 2000), accumulation of knowledge and creation of new opportunities (Zollo et al., 2002), knowledge acquisition and alliance satisfaction (Norman, 2004), and the refinement of existing knowledge and improvement on how it is used (Schumpeter, 1961). Further benefits include the ability to have access to a wide range of technology not possible without network engagement (Quintana-Garcia and Benavides-Velasco, 2004), new product development (Rothaermel and Deeds, 2006), the ability to replace or enhance products and/or services, the expansion of products/service within an outside the current market, the opening of new markets and the development of new national markets (Alegre and Chiva, 2008), and incremental and radical products/services innovation (Ritala and Hurmelinna-Laukkanen, 2009).

SC as main ingredient of VC

Network interaction has been known to be a main ingredient towards the creation of value “[VC] can be conceptualised in terms of the ability of the partners to earn rents over and above what could have been achieved in the absence of the partnership” (Madhok and Tallman, 1998, p. 328). Potential VC and succeeding resource configuration decisions are the key to superior organisational performance to earn common benefits (Schmidt and Keil, 2013). Such benefits have been described as rents derived from engaging in a business relation through the exchange of assets, sharing of knowledge, resources and adoption of effective policies (Dyer and Singh, 1998) defined as any “supernormal profit jointly generated in an exchange relationship that cannot be generated by either firm in isolation” (ibid, p. 662). However, these benefits do not exclude private benefits generated from network engagements which could vary depending on firms’ size, experience, knowledge, and interest in the relationship.

A supporting aim of this study is to understand whether firms’ motive for VC is solely focused on profit maximisation (Cohen et al., 2008) or if there are other reasons aimed at benefits mentioned earlier or if there are other reasons that encompass the economic, environmental and social dimensions, described in the first section of this document as BST which follows the Triple Bottom Line principle. Empirical research is carried out in SMEs part of the UK’s construction industry. This study argues network engagement produces benefits – also called SC, these benefits in turn result in VC which along with SC benefits enhance firms’ BST strategy.

The relation amongst SC and organisational performance is possible through the access to and use of benefits embedded in networks that make up SC HERE. The quality of benefits available through the networks, which allow for the generation of SC, represents a key determinant of when a relationship can be positive or hinder performance (Uzzi, 1997). Additionally, performance can be impaired either because the quality of the resources is high outside of the network and/or the quality of the benefits is low within the network considering “obligations to rely on exchange partners’ resources reduce the utilization of high-quality resources outside of that specific social exchange” p. 1120. Conversely, performance can be

enhanced either because the quality of the benefits is low outside of the network and/or the quality of the benefits is high within the network “because, in both conditions, obligations to rely on exchange partners’ resources are well aligned with the performance-enhancing nature of those resources” (ibid, p. 1120); therefore, firms’ performance is improved through the VC resulting from the generation of SC benefits.

2.3.1. Why is Value Creation Important?

VC is the deliberate intermediation of a firm to transform goods or services to produce value in any of its six forms (financial, manufacturing, intellectual, human, natural, and social) (IIRC, 2013). Whilst the focus on management studies in the 80s, 90s, and early 2000s was on organisational performance and growth, in the last decade or two, the focus has shifted towards the creation of value “[VC] is at the core of management research and practice”(Caldwell et al., 2017, p. 906); however, the relation of VC and business sustainability has not been fully explored; thus, inspiring this study.

With reference to the link amongst SC and VC, it is based on the potential outcomes, including value, that can be derived from network engagements through the mix of ingredients, part of social structures, such as relational ties, trusting interactions, and value systems that allow individuals to not only seek network engagements but also to interact with a ‘predetermined’ network and draw potential value evidenced prior to the engagement, as discussed earlier in the structural dimension section.

Since 1934, Schumpeter evidenced the five activities firms could engage in when aiming to create value, as mentioned earlier, considering new sources of value are born out of innovative use and generation of resources, particularly through the exchange and combination of resources (Moran and Ghoshal, 1999). Tsai and Ghosal (1998) argue that “To create new or better products, firms need to reallocate resources, to combine new resources, or to combine existing resources in new ways” (p. 468), while adding that the resource exchange and combination process possibly associates with innovation, which is an indicator of VC since “firm innovation has become important for value creation” (Hitt et al., 1996, p. 1085). Private value has been understood as being “predicated on economic or monetary values with often short-term focus” (Caldwell et al., 2017, p. 909). Value has been defined value in terms of relations as “the sum or entirety of benefits obtainable from the exchange” (Kivleniece and Quelin, 2012, p. 274), and as the total sum of value created during alliance activities (Ritala and Hurmelinna-Laukkanen, 2009).

Alternatively, value has been understood in terms of its benefits from a two-fold approach(Rai, 2016), one as common benefits, defined as those “that are derived from the shared resources of alliance partners” (Lavie, 2006, p. 647); and two as private benefits, described as those benefits that result from the use of firm’s own resources through the application of knowledge and skills (Khanna et al., 1998). Another perspective defines value in terms of the outcomes generated through relationships, known as ‘relational value’ (Amit and Zott, 2001) explained as the value generated through the activities carried out by actors while creating a product or service. Others have added time-perspective variables considering long-term

costs plus switching costs and benefits derived from exchange relationships (Gadde and Snehota, 2000; Hibbard et al., 2003). The relational value derived from relationships is represented by the relationships themselves since they are firms' most valuable assets (Ford, 2002). Nonetheless, the VC perspective in this study encompasses a broader perspective of VC based on the deliberate intermediation of the firm to produce value such as innovation, advice, and support as part of (one or more of) the categories discussed earlier.

2.3.2. Relationship between VC and Firms' BST Strategy

Scholars have recognised the relevance for firms to begin the VC process at the root of the production chain – the supplier level – and all the way up to the delivery of a finished product or service by consumers (Porter, 1980). Firms' BST strategy aims to accomplish initial goals as a mechanism to measure performance (Heimeriks et al., 2009) plus fulfilment of strategic goals to ensure BST and overall growth (Hoffmann, 2005). Such fulfilment is grounded in theories such as the resource-based view (Barney, 1991), which argues that resources owned by firms become the source of VC; however, other researchers argue “although resources are crucial to the performance of a venture, resources alone are not sufficient to achieve a sustainable competitive advantage” (Ucbasaran et al., 2001, p. 63) whilst Keil et al. (2010) have prioritised network engagements as the main ingredient for VC “interorganisational relationships of an organisation as a relational resource can provide value” (p. 98). This value is represented in strong relationships which are not only a source of sustainable competitive advantage (Tsang, 1998) but also a support for business success (Yeung and Tung, 1996). Relational strategies, defined as “factors pertaining to firms' competencies in managing relationships and leveraging external networks” (Wheeler et al., 2008, p. 225), include customer relationships, supply chain links, distribution channel relationships, interactive research methods, and interactive promotional methods.

Porter's (1980) generic strategies, also known as competitive strategies, focus on mainly four approaches: first, market differentiation, based on competitive pricing, and strengthening of the marketing activities. Second, segmentation differentiation, focused on offering specialised products to niche markets. Third, innovation differentiation, aimed at providing technologically advanced products/services. And fourth, products/services aimed at developing quality products and/or services. Firms' strategies are usually aimed at creating value to increase profits. Such strategies can go from modifying a product or service, to the creation of a new product or service to develop a new market and even engage in unrelated diversification to reach new customers (Ansoff, 1957). For example, in the beverage industry, strategies such as the creation of theme-based products (Christmas designs), the development of new flavours to enter a new market, the promotion of sugar-less drinks to attract a new target group, and distribution of clothing with the firm's logo to attract younger generations.

In reference to value creating strategies, Brandenburger and Stuart Jr. (1996) recognize the need for a firm to identify asymmetries with other competing firms and identify mainly two: first, the buyer's

willingness to pay represented in offering a better-off scenario that motivates the buyer to buy more if value is obtained. Second, the 'opportunity cost' gained by the supplier evidencing a better-off scenario by selling the raw materials than by keeping them. Thus, value is created by increasing the perceived value of a product or service and acquire it at the lowest possible cost (Brandenburger and Stuart Jr, 1996). Porter (1985) proposes additional value creating strategies: first, the cost-leadership strategy described as the ability of a firm to have a lower-cost situation over its rivals determining its cost advantage. Second, the differentiation strategy explained as the firm's ability to create a higher perceived value by its consumers towards a greater willingness to pay allowing the firm to experience a differentiation advantage. Third, a cost focused strategy aimed at a specific target market, product line or geographical area; and fourth, a differentiation focused strategy aimed at generating brand recognition or design image to better fulfil the needs of a particular target market, product line or geographical area.

Su et al. (2017) provide examples for Porter's cost-leadership and differentiation strategies, for the former, the authors highlight lower manufacturing costs than those from the competitors, higher efficiency in their internal operation systems, and properly deployed economies of scale. For the latter, the authors recognize strategies such as offering superior benefits and uniqueness than other products or services available in the market, higher brand recognition, and more effective advertising and promotion campaigns than those from the competitors. Moreover, in a systematic comparative analysis of firm strategies, Segev (1989), [empirically tested in (Montemayor, 1996)], identified twelve strategic factors to help determine firms' BST strategy. Such factors include technological progress, product/market breadth, product/service innovation, quality perceived by buyers, price level compared to those available in the market, effective marketing, corporate governance, the level of equity vs. debt, the long-term financial strength, the level and availability of resources, the amount and frequency of investment in production, the number of technologies used to produce or provide a product/service, and the level of training among employees. Further strategies include extensive customer service, influence on distribution channels, targeting high-priced segments, building firms' reputation, product/service customisation, being first to the market, strict product quality control procedures, and broad product range (Nayyar, 1993; Segev, 1989).

Considering SMEs and the strategies they implement, it has been argued that Porter's strategies are found across the SMEs' realm (Alemayehu and Van Vuuren, 2017) and even start-ups (Block et al., 2015). It has been argued that any strategy grouping among cost leadership, differentiation and focus has been found to provide greater value for the firm than the adoption of a single strategy (Leitner and Guldenberg, 2010). Additionally, it has been found that increase in turnover, profitability and employment are linked to differentiation and differentiation-focused strategies rather than to cost-leadership strategies. Common strategies in the construction industry exhibit contractors lowering tender costs to increase workload and below cost bidding (Taggart et al., 2014). The link amongst VC strategies towards the enhancement of firms' BST strategy is evidenced through the enhancement of subsequent strategies once value and growth have

occurred (Lockett et al., 2011). The following section examines studies related to strategies applied to generate SC benefits.

2.4. Strategies to generate SC benefits

Having discussed the concepts of SC and VC, the link amongst SC and VC, and VC and firms' BST strategy, the next step is to identify the state of the literature pertaining to organisational strategies that firms have applied to generate SC benefits. Referring to Table 2, where the search results for 'social capital benefits' in publication titles amongst ten leading management journals produced "zero" results, it became necessary to examine how SC benefits are produced and what actions firms apply. Tsai and Ghoshal's (1998) study linking SC and VC mentions certain 'conditions' needed to generate SC benefits. For example, they argued the cognitive dimension, represented by a shared vision and/or a set of common values, "facilitates individual and group actions that can benefit the whole organisation" (p. 465) whilst claiming that "social ties are channels for information and resource flows" (p. 467) through different types of trust (see section 2.2.4.) since "cooperative behaviour, which implies the exchange or combination of resources, may emerge when trust exists" (p. 467), and a shared vision "organisation members who share a vision will be more likely to become partners sharing or exchanging their resources" but never deeply exploring in detail the specific actions the organisation applies to obtain SC benefits. Tsai and Ghoshal (1998) conclude "informal social relations and tacit social arrangements encourage productive resource exchange and combination and thereby promote product innovations" (p. 473) without examining the actions applied to generate those resource exchange besides sharing a vision and having trust through social interactions.

Another study linking SC and VC within the context of cross-border merger and acquisitions (Basuil and Datta, 2017) provided three main actions that large firms apply to generate SC benefits: first, through outside director's membership on multiple boards which allows them to access and disseminate strategic information (Carpenter and Westphal, 2001), and obtaining access to tacit and hard-to-imitate knowledge and capabilities (Galunic et al., 2012); second, industry-specific managerial experience which allows outside directors "to assist firms in the accessing key industry resources and building performance-enhancing strategic industry partnerships following an acquisition" (Basuil and Datta, 2017, p. 37); and third, firm-specific founding experience "allows outside directors to accumulate greater firm-specific knowledge and develop an improved understanding of firm needs and capabilities" (ibid, p. 37). Basuil and Datta's (2017) study analysed 431 cross-border acquisitions "with a transaction value of at least US\$100 million" (p. 38); thus, examining a different context in terms of firms' size and industry than the one examined in this study besides not focusing on the three SC dimensions.

2.5. Strategies to create value from SC benefits

SC literature acknowledges SC benefits – such as information, knowledge, reputation, and access to new contracts – help firms create value beyond economic rents; notwithstanding, the current SC literature has failed to examine the actual process for value creation. Such gap in the knowledge is evident after only two studies (Basuil and Datta, 2017; Tsai and Ghoshal, 1998) have been found in ten leading management journals between the years 1980 and 2019. One of such studies recognised the vital role of network engagements, the relevance of trust, and having common values and a shared vision to engage in resource exchange and combination with other stakeholders to create value in the form of product innovation and/or modification (Tsai and Ghoshal, 1998); however, no other categories of value were acknowledged in that study. Tsai and Ghoshal (1998) conclude “investing in the creation of social capital inside a firm eventually creates value; however, their study did not identify specific actions that the organisation, where the study was carried out, applied to transform the SC benefits, gained through resource exchange and combination, into value apart from “reallocate resources, combine new resources, or combine existing resources in new ways” (Tsai and Ghoshal, 1998, p. 468). The lack of detail in such study regarding how SC benefits are transformed blurs the vision of firms going forward, leaves room for speculation, and raises questions related to what firms are currently doing to deliberately transform SC benefits into value.

The second article examines the SC-VC relationship in the context of cross-border acquisitions and argues that outside directors with longer board tenure “accumulate firm-specific human and social capital from their relationships with other directors and managers, enhancing their effectiveness as counsellors to firm management in their cross-border acquisitions endeavours” (Basuil and Datta, 2017, p. 40). This enhancement, according to their findings, is evidenced when outside directors “can acquire knowledge potentially invaluable in supporting and guiding firm management in their cross-border acquisition efforts” (ibid, p. 41), also producing “superior acquisition performance” (ibid, p. 41), and “more objective evaluation of potential targets and reduces the likelihood of overpayment that leads to shareholder value destruction” (ibid, p. 42) through outside directors’ experience. Nonetheless, this is a narrow view of the VC process through the transformation of SC benefits considering there are no clear actions described as to how outside directors have created other categories of value (e.g., social, human, natural) or how the SC dimensions (e.g., structural, cognitive, and relational) have influenced the VC process.

2.6. Business Sustainability as a strategy for SMEs

The interest in BST, and its relevance in organisational studies as a strategy for long-term survival of firms, grew in the 70s after the book ‘The Limits to Growth’ concluded the current population and economic growth were insufficient to provide a “world system that is i) sustainable without sudden and uncontrollable collapse; and ii) capable of satisfying the basic material requirements of its people” (Meadows and Club of

Rome, 1972, p. 158). The Brundtland report also placed sustainability in the radar of governments arguing that “Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations, 1987, p. 15). Nevertheless, the report failed to address two key issues, first of all, the term ‘social responsibility’ was only mentioned once in the entire 300-page report when it discussed the encouragement to action by industries on pollution and resource degradation advocating for the industry to “accept a broad sense of social responsibility and ensure an awareness of environmental considerations at [all] levels” (United Nations, 1987, p. 153) evidencing little recognition to the salience of communities, and other vital stakeholders aimed at BST, at the organisational level. Secondly, the report failed to link the economic, social and environmental aspects as John Elkington described “We felt that the social and economic dimensions of the agenda would have to be addressed in a more integrated way if real environmental progress was to be made” (Elkington, 2004).

Dyllick and Muff (2016) analysed the evolution of BST as a concept, citing the definition given by PriceWaterhouseCoopers (2006), “Corporate sustainability is an approach to business that creates shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments” (Dyllick and Muff, 2016, p. 8), and dubbing it ‘Business Sustainability 1.0’. The next step on the evolution of the concept was guided by the understanding that firms no longer were exempt from being responsible for their social and environmental impacts; thus, giving greater relevance to Elkington’s (2004) proposition related to ‘people, planet, and profit’, defining BST through the Triple Bottom Line (TBL) concept as “a process by which firms manage their financial, social and environmental risks, obligations and opportunities” (Network for BST, 2012, cited by Dyllick and Muff, 2016, p. 9), labelling it ‘Business Sustainability 2.0’. Then, Dyllick and Muff (2016) highlighted the salience of firms to be accountable for their role within society with respect to “climate, migration, corruption, water, poverty, pandemics, youth employment, sovereign debt overload, financial instability” (p. 10); thus, presenting BST 3.0 from the perspective that a:

“Truly sustainable business shifts its perspective from seeking to minimize its negative impacts to understanding how it can create a significant positive impact in critical and relevant areas for society and the planet. A BST 3.0 firm looks first at the external environment within which it operates and then asks itself what it can do to help overcome critical challenges that demand the resources and competencies it has at its disposal” (Dyllick and Muff, 2016, p. 11).

Furthermore, the concept of BST and its relation to management strategy has been recognised as “adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future” (International Institute for Sustainable Development et al., 1992, p. 1). Independent from firms’ size, firms’ ability to manage sustainability at a strategic level aids to save financial capital, provide more efficient use of scarce resources, and enhance benefits for employees and society as a whole (Falle et al., 2016).

Sustainability comprehends three main areas: environmental, social, and economic, with social being the least considered when implementing sustainability strategies. Those three areas have different value perception depending on the type and size of firm. For example, for a start-up or a small firm, the economic sustainability comes first and sometimes does not go any further into environmental or social, this is due to the nature of the firm as being fragile, having low availability of resources (Acs et al., 1996) and need for profit since initial investments may not be recovered before their second year in business.

Within the context of SMEs, they initially decide to pursue economic sustainability as a strategy aiming to secure profits and then depending on the product/service and type of industry they are in, there is a probability for them to pursue environmental and/social sustainability strategies. BST strategies begin with small actions such as lowering production costs, paying suppliers and staff on time, and delivering the promised product or service. These small actions are supporting elements of a firm's short-term corporate social responsibility (CSR) strategy that could become a mid to long-term sustainability strategy. Carroll (2016) recognises the terms 'CSR' and 'BST' have been used interchangeably while acknowledging their main difference is CSR is understood as voluntary social responsibilities firms comply with while following the law, adopting a set of ethics, and incorporating corporate philanthropy, whereas BST is concerned with the continuation and mid to long-term strategy to support the organisation's mission and vision.

Likewise, "many firms now realise that "doing what's right" and doing it properly can be beneficial to all stakeholders" (Heizer et al., 2017, p. 232) whilst "Corporate social responsibility continues to be at the centre stage of management research" (Richter and Arndt, 2018, p. 587). Findings from a twenty-year longitudinal study on SMEs and the implementation of BST strategies yielded positive results for SMEs such as easing concerns about economic, environmental and social effects, having access to lower energy and raw material costs, and waste reduction (Johnson and Schaltegger, 2016). The adoption of BST as a management strategy enhances SMEs' competitive position and minimises the gap against large firms (Fernandes et al., 2006); however, there are disparities in BST approaches amongst SMEs and large corporations since a study in the Netherlands revealed that 62 percent of large enterprises reported BST activities while only 20 percent of SMEs did, such trend also replicated in similar proportions in terms of codes of conduct (Graafland et al., 2003).

Further evidence highlights key differences in SMEs include the psychological characteristics of the owner-manager, and a more scattered and volatile supply chain plus cultural differences such as an SME being more informal, supported upon trust, intuition, and personal judgement (Jenkins, 2004). Two key reasons for such disparities revolve around the managerial process involving BST decisions which comes down to a small group of people or sometimes just one, being the owner – evidencing greater levels of informality and procrastination; and the size of SMEs, which allows any influence to go unnoticed by stakeholders (Spence, 1999). Priorities also differ amongst SMEs and large firms whilst four stand out for SMEs: profit maximisation, subsistence, enlightened self-interest, and social value (Spence and

Rutherford, 2003). Management systems in SMEs differ from large firms while SMEs view and practice BST through normative reasons rather than instrumental reasons to aid business development (Hwang and Metcalfe, 2016). Nonetheless, there is a lack of consensus about perception of BST amongst SMEs (Sen and Cowley, 2013). SMEs often do not properly identify sustainable development issues for key stakeholders (Moore and Spence, 2006) posing a business challenge coupled with the issue that several SMEs have not yet considered how to integrate BST in daily business routines (Baumann-Pauly et al., 2013) which is evidenced in the absence of satisfactorily studied BST aspects in SMEs.

Moreover, there is also a degree of responsibility laid upon large enterprises to source and build the capacity of SMEs in order to support the development of 'sustainable business linkages' (Luetkenhorst, 2004) driven by large enterprises to ensure SMEs obtain the greatest amount of benefit possible not only financial, but also in training, guidance and cooperation (Fox, 2005). A qualitative study of 24 SMEs in the UK found BST related activities produced benefits such as improved image and reputation, greater levels of trust and understanding, enhanced market positioning, higher employee motivation, and enhanced attractiveness to potential recruits; however, the study found that such benefits were not the result of BST practices rather moral and ethical arguments such as "[it feels like it is the] 'right thing to do'", pride, feeling good, "everybody has a responsibility to do what they can", self-worth, integrity, well-being and satisfaction" (Jenkins, 2006, p. 249) prompting to further examine the role of SMEs' code of conduct when engaging with stakeholders.

In terms of the adoption of a code of conduct in SMEs, whilst there is a lack of codification of BST (Jenkins, 2004) scholars argue in favour of its adoption as long as it is constructed utilising multi-stakeholder codes, higher levels of bargaining, negotiating and compromising through the inclusion of a wider and more comprehensive range of stakeholders such as communities, government, business coalitions, NGOs and academia; and at the same time allowing for consistency and standardisation of expectations amongst this wider group of stakeholders. Multi-stakeholder codes open the door for SMEs to participate and engage with the use and application of codes without incurring in development costs (Blowfield, 2000). The implementation of sustainable development in SMEs proves to be advantageous since "SMEs and entrepreneurship [are] key to ensuring economic growth, innovation, job creation, and social integration" (European Commission, 2016, p. 1) plus building good personal relations, networks and trust derived from their personal relationships (Spence and Schmidpeter, 2003). Nonetheless, SMEs are advised to use a different approach that considers the particular needs found in small business environments and SMEs' capacity to contribute to BST (Matinaro et al., 2019)

Despite the need for adopting higher social and environmental standards in SMEs, there are supporting practices yet to be implemented such as developing standards, models and frameworks that provide investment benefits and reduce reputational risks (Fox, 2005). Also, there is a need to develop more comprehensive BST support services for SMEs that concentrate on integrating social and environmental

issues into their activities through identified actions such as the reform of the ‘bottom of the pyramid’ (Prahalad and Hart, 1999) business models in favour of SMEs, the increase in focus on capacity needs of SMEs and greater endowments of human and SC plus the integration of BST strategies into enterprise development through SMEs’ business support services (Fox, 2005, p. 10). Further studies are needed to examine the differentiation in approaches to BST in SMEs (Hwang and Metcalfe, 2016) plus the necessity for clearer definitions of BST elements, rigorous measurement of BST strategies, and a methodological approach to BST auditing in order to achieve greater effectiveness in firms (Greening and Turban, 2000; Van der Wiele et al., 2001). Overall, BST is not only under studied in the management literature but essential elements such as SC, VC, and the SC-VC-BST relationship have been left out of the essential elements supporting the success of organisations, particularly SMEs in highly volatile industries (e.g., construction, clothing, hospitality, etc.). This study aims to narrow such knowledge gap by examining specific actions SMEs in the UK’s construction industry have applied to strengthen their BST through the generation of SC benefits and VC. The following section examines previous models explaining the generation of SC.

2.7. Qualitative Studies Examining Social Capital

Qualitative studies on SC have developed specific indicators based on the tri-dimensional model proposed by Nahapiet and Ghoshal (1998). For example, Tsai and Ghoshal (1998) measure social interaction, trust and trustworthiness, shared vision, resource and exchange combination, and product innovation. Similar studies measure relationships in terms of research and technology development, marketing and distribution, and business facilitation and support (Westerlund and Svahn, 2008). Such study executes a multiple case study methodology applying structured interviews and observations allowing for a more in-depth exploration of the issue at hand and of the categories of network relationships involved. The authors explored the SC dimensions, through three categories of relationships: (i) those involved in research and development (R&D), (ii) those involved in marketing and distribution, and (iii) those facilitating and supporting businesses. Westerlund and Svahn (2008) examine the three SC dimensions across the three categories of relationships presented earlier, since the only one that concerns this study is (iii), the following assessments were proposed by the authors for that specific item: in terms of the structural dimension, the authors assessed the access to new customers or specific customer groups, access to partner’s contacts and knowledge resources, market data, human resources, and access to funding opportunities; in terms of the cognitive dimension, the authors assessed the competencies in strategy development, internationalisation, and mentoring and entrepreneurial motivation; in terms of the relational dimension, the authors assessed the relationship value gained through professional individuals providing strategy consulting, and valuable business data or funding options.

Spence and Schmidpeter (2003) apply SC theory to examine SMEs and understand how formal institutions, networks and mutual relationships help these firms develop SC within the English (UK) and

German contexts through the application of 30 interviews. The authors follow Ostrom and Ahn's (2001) work through six sections to be deployed during the process of interviewing (i) Inquire about specific biographical questions to the respondent and about the firm itself; (ii) Inquire about formal and informal rules and institutional membership; (iii) Inquire about networks; (iv) Inquire about trust and mutual norms; (v) Inquire about personal connections; and (vi) Inquire about the wider context. Prashantham and Dhanaraj (2010) deploy forty in-depth interviews using themes found in the literature such as founding details, dealings with relevant network actors and plans for the future. Items used to measure SC include how the initial network relationships developed, whether the SC created was depreciating inquiring about tie decay, tie obsolescence, utility life cycle (e.g., limits to derived business opportunities) or whether the SC created was expanding whilst inquiring about ties in existing international markets, ties in new international markets or international ties found via local milieu. Moreover, Prashantham and Dhanaraj (2010) also evaluate the influence of SC as benefits to the firm such as market learning, technological learning, and alliancing practices using archival data through the use of newspaper clippings found in 'The Economic Times', and 'Decan Herald', and participant observation through the partaking in business related meetings. Accordingly, drawing upon these two studies, this research collects data through semi-structured interviews (Ostrom and Ahn, 2001) including themes such as establishment details, and dealings with relevant network actors (Prashantham and Dhanaraj, 2010).

Based on the availability of benefits a firm can see, derived from engaging in networks (Florin et al., 2003), a specific distinction in terms of the categories of networks is necessary. Putnam (2000) for example, differentiates amongst the sense of solidarity and reciprocity through the mutual exchange of products-services now or in the future with networks – called 'bonding', and 'bridging', understood as a more heterogeneous, inclusive and outward-looking network less inclined to reciprocity but based on recognition through frequent but brief contacts. Following the same line of thought, Adler and Kwon (2002), distinguish among external versus internal network engagement. The former described as those interactions with parties outside a network – called 'bridging', and the latter explained as those interactions with members part of a collectivity – called 'bonding'. To further complement such distinctions, Houghton et al. (2009) differentiate among network engagement categories with trade associations, and external and internal personal networks based on the rationale that all of them have diverse, complementary and collective effects on the level of differentiation in the strategy of the firm which could determine its competitive strategy and advantage (Porter, 1985, 1980). Dato-on et al. (2018) identify constraints for SMEs to increase their level of product/service innovation towards BST. The authors support that the level of success for SMEs depend on whether they interact with membership-based networks, defined as regulatory bodies, chambers of commerce, business associations and industry/trade assemblies, or other support networks, identified as buyer-supplier engagements, extended family, acquaintances, and community.

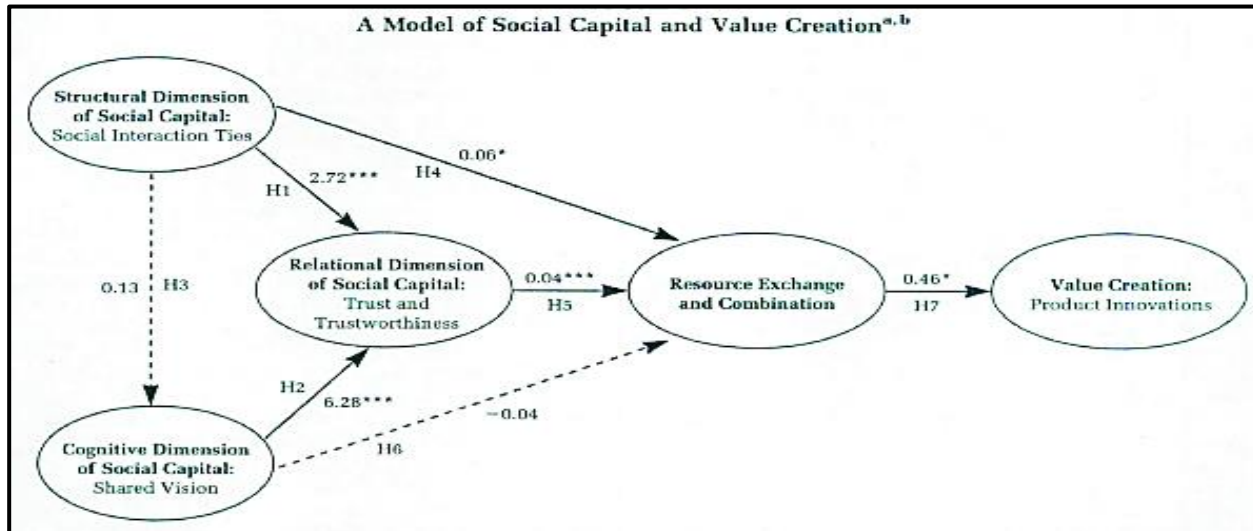
In conclusion, this study evaluates SC and its three proposed dimensions, through individual firms' engagement with stakeholders. First, the structural dimension through examining the perception of how network engagements have positively influenced SC benefits, VC and subsequent enhancement of firms' BST strategy. Second, the cognitive dimension, through the perception of how network cooperation has helped SMEs develop shared language and narratives (Inkpen and Tsang, 2005). And third, the relational dimension, via the perception of the influence of trust in their strengthening of network engagement towards the generation of benefits, creation of value beyond economic rents, and subsequent enhancement of firms' BST strategy. Trust is measured through the frequency of interaction (Payne et al., 2011; Wu, 2008), reliability (Tsai and Ghoshal, 1998), and sharing knowledge in the network (Gooderham et al., 2011). In terms of assessing VC, the ways in which SC benefits are transformed into six different types of value (IIRC, 2013) are analysed, providing a higher quality product/service (Wu, 2008), influencing customers' purchasing decisions, obtaining new customers, developing new products/services, and opening new markets (Husted et al., 2015). This study also examines variables such as firm size (Pennings et al., 1998), years in business, organisational legal form (e.g., micro-business, small, or medium according to the number of employees), subsector in the construction industry, participation in membership-based organisations (Peake et al, 2007) besides gender, age, education, and years of experience of the firm's owner (Bourdieu, 1983; Sim and Wright, 2002). Furthermore, this study examines the perception of the influence of SC on the enhancement of firms' BST strategy, this element is also used in conjunction with the formation of ties supported on access to networks, and subsequent enhancement of firms' BST strategy due to access to specific networks.

2.8. Published models of social capital

The following SC models were the closest models, found through the literature review, describing a relationship between SC and VC; however, no model was found to describe a relationship between the three main themes. Criticism to the models is included thereafter.

- i. Tsai & Ghoshal (1998, p. 466): Model suggesting a link between SC model based on Nahapiet and Ghoshal (1998), resource exchange, and VC at the intra-organisational level.

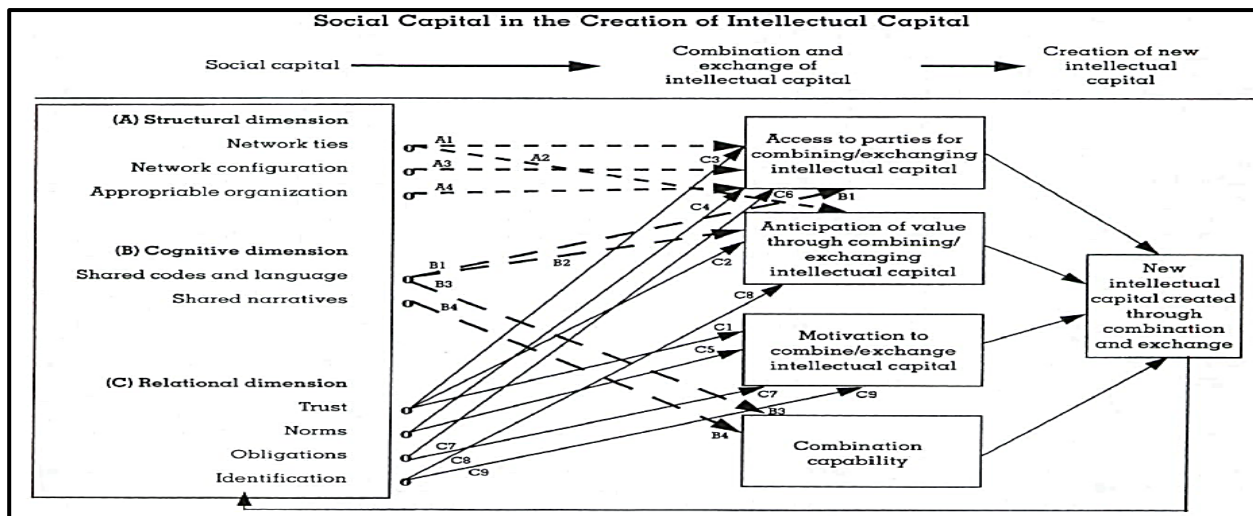
Figure 4. A Model of Social Capital and Value Creation



Source: (Tsai and Ghoshal, 1998).

- ii. Nahapiet and Ghoshal (1998, p. 251): linking SC towards the creation of intellectual capital at the intra-organisational level.

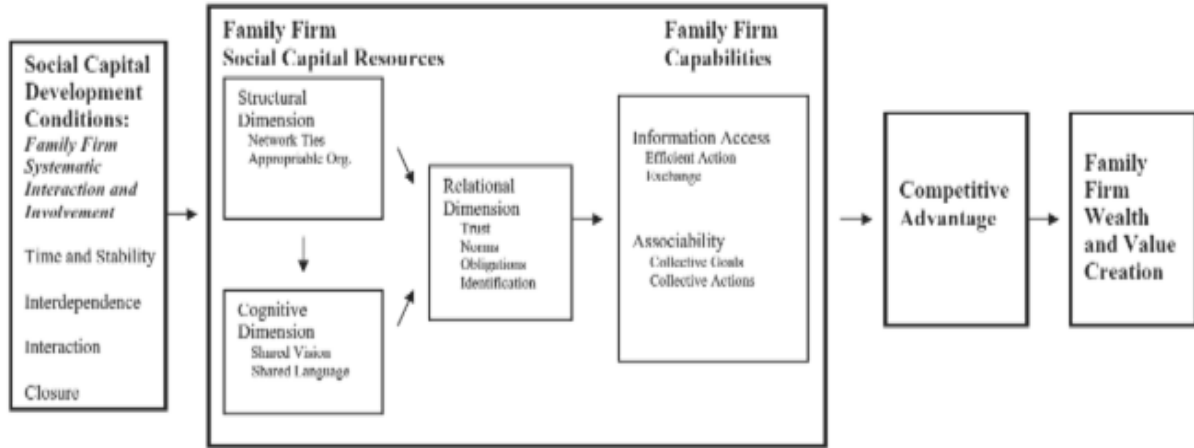
Figure 5. A Model for Social Capital in the Creation of Intellectual Capital



Source: (Nahapiet and Ghoshal, 1998).

- iii. Pearson et al. (2008): a conceptual model, based on Nahapiet and Ghoshal (1998) and Tsai and Ghoshal (1998), proposing a link between SC, competitive advantage, and VC.

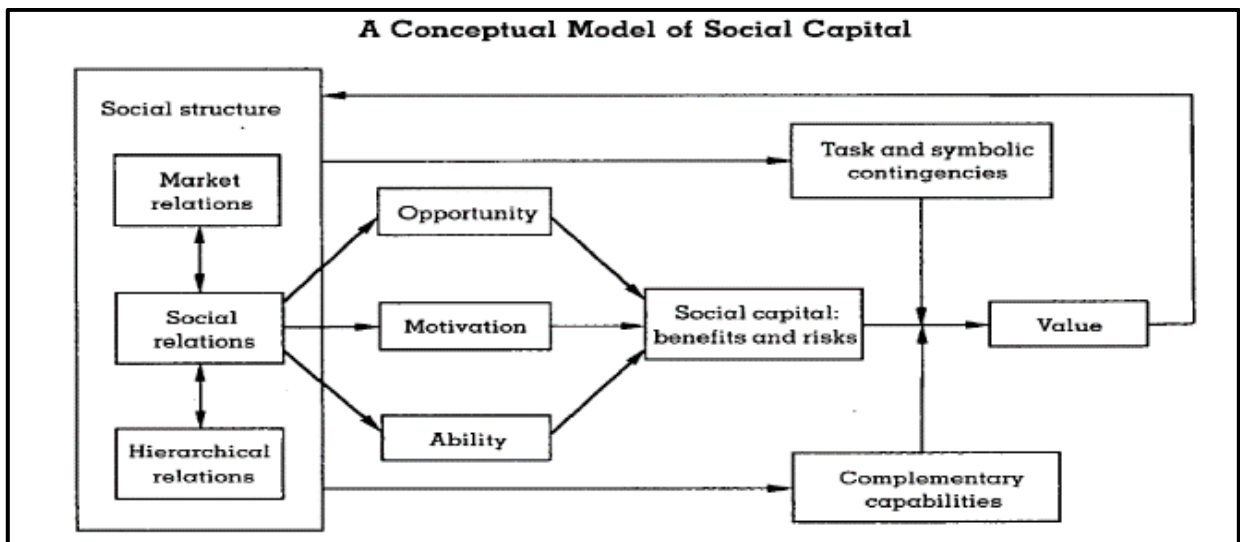
Figure 6. A social capital model of familiness



Source: Pearson et al. (2008, p. 962).

- iv. Adler and Kwon (2002, p. 23): specific social structures that allow for opportunities through motivation and abilities to have access to SC (benefits and risks) which generate value at the intra-organisational level.

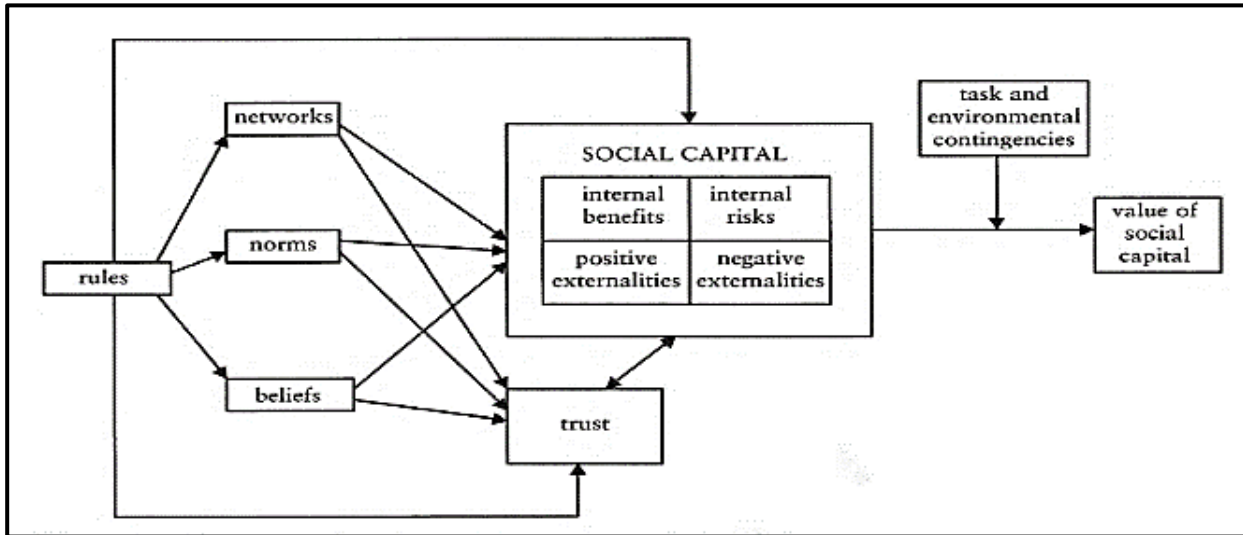
Figure 7. A Conceptual Model of Social Capital



Source: (Adler and Kwon, 2002).

- v. Adler and Kwon (2000, p. 110): Conceptual model and sources of SC at the intra-organisational level representing SC as benefits, risks and externalities.

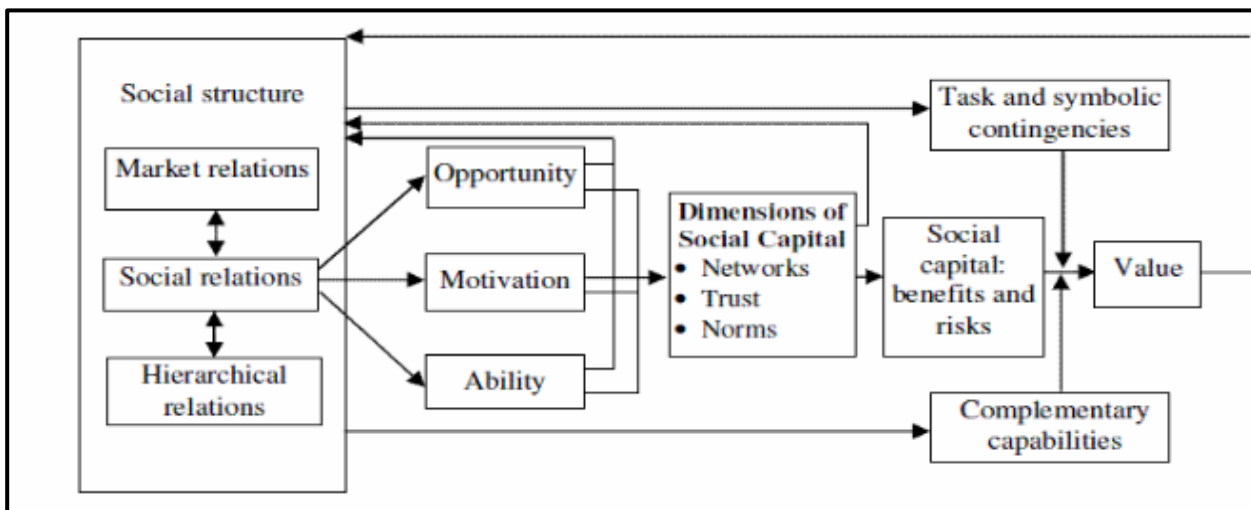
Figure 8. Sources, Benefits, and Risks of Capital



Source: (Adler and Kwon, 2000).

- vi. Muthuri et al. (2009, p. 7): a conceptual model grounded upon Adler and Kwon (2002) evidencing networks, trust and motivation as the representation of SC and the structural dimension to generate resources (SC) at the intra and inter-organisational levels.

Figure 9. Networks, Trust and Motivations



Source: (Muthuri et al., 2009).

2.9. Knowledge Gaps

After reviewing published articles in leading management journals related to SC, VC and SC benefits (see Table 2), the lack of theoretical and empirical research on the SC-VC-BST relationship became evident, which has been acknowledged before (Payne et al., 2011; Yusoff et al., 2019) besides the identification of sources of VC (IIRC, 2013). Examination of earlier studies unveiled the minimal and nearly absent empirical research at the inter-organisational level of SMEs and how network engagements help firms produce SC benefits, transform them into different types of value, and enhance BST strategies. Consequently, the aim of this study is twofold: first, to contribute towards the advancement of management literature at the theoretical level of SC and VC; and second, at the empirical level through the collection of qualitative primary data through the application of an interpretivist approach to understand how SC benefits influence VC and firms' BST strategy in SMEs in the UK's construction industry.

Recognition for the need of deeper understanding and thorough research in SC has been highlighted by Putnam (1995), Adler and Kwon (2002), Koka and Prescott (2002), Baker and Faulkner (2009), and more recently by Basuil and Datta (2017) who despite the need for deeper inquiry have acknowledged SC as a grown field. Nonetheless, additional gaps in the literature for the SC-VC-BST relationship remain at the firm level: first, in understanding how firms create value through benefits derived from SC (Rai, 2016). Second, in understanding how firms' strategies are positively influenced by the creation of value derived from SC benefits. Third, in understanding how firm-level outcomes are enhanced from network engagements (Du et al., 2015; Kemper et al., 2013; Rai, 2016). And fourth, in understanding how the engagement of firms with networks, influence the level of cooperation, knowledge sharing, and development of trust to produce benefits such as knowledge and information transfer (Inkpen and Tsang, 2005; 2016; Kwon and Adler, 2002; 2014), triggering the VC process in firms (IIRC, 2013) and enhancing the BST strategies.

Despite SC acceptance as a grown field, there is uncertainty in terms of its influence at the organisational level, more specifically SMEs. For example, Gao et al. (2013) recognise the lack of formal risk management strategies in SMEs. Peredo and Chrisman (2006) argue the link amongst community, SC and sustainable development is not clarified calling for higher levels of in-depth research, aligned with Kostova and Roth (2003) who evidence the need for further empirical work towards investigating the organisational consequences of SC besides dysfunctional organisational effects of SC in light of the probability that risks linked to SC undermine potential benefits since "exploring these negative aspects in the future will be instructive" (p. 314). Additionally, Lehtonen (2004) defends SC has helped to explain the differences in economic development amongst societies exhibiting diverse levels of social integration and identifying the economic benefits of SC, while pointing out the existence of knowledge gaps in terms of

how networks actually produce the beneficial outcomes and the causal relationships; Luo et al. (2004) maintains SC considerably affects the performance of firms; however, Hitt et al. (2002) support research exploring SC in business networks is low supported by Grootaert et al. (2004) who state “Social capital is a relatively young topic in the social sciences and our conceptual and theoretical understanding continues to develop” (p. 18). Dess and Shaw (2001) evidence a knowledge gap in terms of understanding and enhancing the VC perspective in organisations. This study provides understanding in terms of how SC influences VC based on the rationale given by Dess and Shaw (2001) “Given the potential for knowledge creation and innovation via the relationships inherent in the social capital approach, a much broader conceptualisation of performance is needed” (p.452). Inkpen and Tsang (2016) also acknowledge the need for future development in “empirical analysis of networks and knowledge transfer” (p. 581) plus the relevance of analysing how knowledge transfer creates value at the inter-organisational level. This study argues SC benefits go beyond knowledge, support, advice, influence, and solidarity as explained in Chapter Five.

Leana and Van Buren (1999) recognise future empirical work on organisational SC ought to refine its components and the development of specific measures and indicators besides delving further into qualitative methods across several contexts and over periods of time, in other words, through the application of cross-sectional and longitudinal studies. This study narrows this gap in two ways: first, by proposing a model linking SC, VC and firms’ strategies addressing a more realistic situation for SMEs, and second, by following a qualitative approach through the application of interviews. Furthermore, Payne et al. (2011) describe a wide range of research opportunities, some of which this study addresses including the evaluation of the role of the broader environment within the institutional context towards the developing of inter-organisational networks and organisational-level SC; understanding the way in which SC affects firms’ ability to craft and execute changes; and understanding the role SC plays within the performance of the firm by investigating the VC strategies. Further knowledge gaps yet to be addressed are in reference to the development of insights into diverse contingencies influencing the value of SC for organisations, particularly identifying whether certain ties (strategic stakeholders) are more valuable and beneficial for firms than others. Overall, this study recognises the need to investigate with more depth, the relation between deliberate actions, supporting synergistic strategies, for the generation of SC. In response to knowledge gaps identified, this study provides understanding of the development of current network engagement practices plus how those network engagement practices benefit SMEs to help them create value and enhance their BST strategies.

Gaps in SC-VC-BST research

As identified, proposed SC models have not developed cyclical models that managers and directors can apply to transform SC benefits into value and enhance their BST strategies to optimise future network

engagements. The essence of the BST concept considers the individual as well as the organisational objectives to go hand in hand with a proactive mindset focused on the macroenvironment and their implications on their customers/clients, suppliers, distributors, communities and all stakeholders in general. In other words, the theory suggesting organisational leaders must solely focus on profit maximisation for shareholder satisfaction is no longer valid as well as the narrow-minded TBL concept (Elkington, 2004) which focuses on a self-centred perspective of individual impact. In other words, organisational leaders must think proactively, to identify how their actions and those from their employees nurture positive outcomes to avoid mishaps since “Truly sustainable business [through their leaders] shifts its perspective from seeking to minimize its negative impacts to understanding how it can create a significant positive impact in critical and relevant areas for society and the planet” (Dyllick and Muff, 2016, p. 166). Some of the external players that have a vital role in the development of BST practices are the governments through their policy makers and related institutions (e.g., banks, schools, universities, food companies, etc.) that could adjust the laws to minimise impact on global warming, availability of food and water, extinction of biodiversity and impact on health such as obesity and cancer among others. Such change could increase systemic trust and nurture stakeholder confidence which supports the generation of SC benefits, creation of different types of value, and enhance BST strategies.

Hence, this study answers calls for research to understand actions that firms can adopt to take ownership and assume responsibility to contribute to societal sustainability challenges (Dyllick and Muff, 2016). Accordingly, this study explores the SC-VC-BST relationship following five aims. First, to understand how organisational leaders can develop clear and specific actions that not only consider profits, people, and planet, but also embrace a forward thinking to develop network engagements that enhance BST through the internal and external environments of the organisation. Second, to identify the order in which firms pursue stakeholder engagements guided by the initial actions/strategies. Third, to identify specific SC benefits that firms could generate from network engagements towards the enhancement of BST strategies. Fourth, to identify what actions managers and directors could adopt to enhance their firms’ BST strategies, and fifth, to recognise that for firms to establish sound BST strategies managers and directors need to look beyond the TBL concept and adopt a holistic perspective that examines and takes in to account the internal and external dimension of their organisation. With reference to models explaining the creation and transformation of SC into value, they are not without criticisms. Drawbacks from SC models include the lack of empirical testing, the lack of relevancy, the narrow focused on those models empirically tested, the failure of application in other contexts (e.g., other industries, other countries), and most importantly, the lack of recognition of different categories of value that can be created (IIRC, 2013). Further criticism to SC models in Figures 4-9 above, is found in Table 6.

Table 6. Criticisms to SC-VC models

Study	SC Model	Model Based on	Themes Involved	Aim of Model	Criticisms
Nahapiet and Ghoshal (1998, p. 251)	Linking SC towards the creation of intellectual capital at the intra-organisational level.	<p>Structural Dimension:</p> <ul style="list-style-type: none"> a) The concept of ‘who and how’ to reach others (Burt, 1992). b) Presence or absence of network ties between actors (Scott, 1991; Wasserman and Faust, 1994). c) Network configuration (Krackhardt, 1989). d) Morphology of network (Tichy et al., 1979). <p>Relational Dimension:</p> <ul style="list-style-type: none"> a) Relational and Structural embeddedness distinction (Granovetter, 1992). b) Trust (Fukuyama, 1995; Putnam (1993; Uzzi, 1997). c) Norms and Sanctions (Coleman, 1990; Putnam, 1995). d) Obligations and Expectations (Burt, 	<ul style="list-style-type: none"> a) SC dimensions b) Intellectual capital 	To explain how aggregate intellectual capital is created through combination and exchange of partitioned intellectual capital through diverse configuration in SC dimensions	<ul style="list-style-type: none"> i. This model understands intellectual capital as the only value created; thus, omitting other categories of value (e.g., financial, manufacturing, human, natural, social). ii. This model only considers ‘combination and exchange’ as the two only processes by which a value, intellectual value in this model, can be created; however, there are other processes by which value can be created through SC (e.g., observation). iii. Authors mentioned “accidental accessibility” (p. 249) to the social knowledge as a condition for SC creation but failed to recognise firms deliberately apply strategies to get access to such knowledge (known as intellectual capital) and other value categories. iv. This model is focused on the independent effects of each SC dimension and not together as building block of the SC construct. v. This model fails to recognise the structural dimension can also influence the motivation to combine/exchange resources.

		<p>1992; Coleman, 1990; Granovetter, 1985).</p> <p>e) Identity and identification (Hakansson and Snehota, 1995; Merton, 1968).</p> <p>Cognitive Dimension:</p> <p>a) Shared representation and systems of meaning (Cicourel, 1973).</p> <p>b) Shared language and codes (Arrow, 1974; Cicourel, 1973; Monteverde, 1995).</p> <p>c) Shared narratives (Orr, 1990).</p>			<p>vi. This model fails to acknowledge that having a different network configuration and ties influences the combination capability of firms.</p> <p>vii. This model fails to recognise that the cognitive dimension, where factors such as cooperation and knowledge sharing take place, influences the motivation to combine and exchange resources.</p> <p>viii. This model fails to acknowledge the role of the relational dimension, more specifically that of initial level of trust, on the influence of combination capabilities.</p> <p>ix. This model also fails to recognise that once intellectual value has been created, the strategies of the firm would improve and make the firm better off than before the network engagement.</p>
<p>Tsai & Ghoshal (1998, p. 466)</p>	<p>Model suggesting a link between SC model proposed by Nahapiet and Ghoshal (1998), resource exchange, and VC at the intra-organisational level.</p>	<p>Nahapiet and Ghoshal (1998); Moran and Ghoshal (1996); Schumpeter (1934).</p>	<p>a) SC dimensions</p> <p>b) Manufacturing VC</p>	<p>To explain how (manufacturing) VC occurs through the combination and exchange of resources resulting from the interaction with SC dimensions.</p>	<p>i. This model has not been updated since 1998.</p> <p>ii. This model was the result of a study carried out in only ONE multinational corporation, generating significant bias and a narrowed vision of the model.</p> <p>iii. The research industry was the electronics represented by this ONE multinational corporation; thus, allowing for the possibility of different results if tested in other industries.</p> <p>iv. This model did not study the resource exchange performance and their value or uniqueness as a mean to enhance firm</p>

					<p>performance, providing opportunity for not only understand SC ‘beyond’ resource exchange and more towards individual and mutual gains such as support, influence, advise, and trust.</p> <p>v. The organisational attributes that help the organisation create and accumulate SC were not identified or contextualised, providing a window into suggesting network engagement strategies.</p> <p>vi. The VC activities the organisation engages in, product of SC generation, were not recognised; thus, undermining the SC concept as a strategy towards VC generation.</p> <p>vii. It was not clear whether the generation of SC would lead to strategic alliances or if SC was represented as strategic alliances providing opportunities to suggest network engagement is a one-time off rather than a long-term relationship as many SMEs do.</p> <p>viii. The model does not specify whether the value created influences or enhances the strategies of the firm moving forward or if it has had any influence in the past.</p> <p>ix. This model considered only the U.S. context setting a window of opportunity for further application in other contexts.</p>
Pearson et al. (2008)	A conceptual model, based on Nahapiet and Ghoshal (1998) and	Arregle et al. (2007); Leana and Van Buren (1999); Nahapiet and Ghoshal (1998); Oh et al. (2006);	a) Conditions for SC development b) SC dimensions	To explain how financial value is created through achieving	<p>i. This model is only focused on family firms; thus, not considering other types of firms.</p> <p>ii. This model only considers the internal view of the firm and the ties only related to the</p>

	Tsai and Ghoshal (1998), proposing a link between SC, competitive advantage, and VC.	Tsai and Ghoshal (1998).	<ul style="list-style-type: none"> c) Family Firm capabilities d) Competitive advantage e) Financial VC 	<p>competitive advantages using family firm capabilities identified through the interaction with SC dimensions resulting from SC development conditions.</p>	<p>firm; thus, not discussing external ties or additional stakeholders.</p> <p>iii. This model fails to acknowledge the relational dimension, represented in trust, as an initial component for initial engagements building the structural dimension, and rather because of the structural and cognitive dimension interaction.</p> <p>iv. This model presents several benefits such as information efficiency, having collective goals and actions plus emotional support, but failed to recognise many other additional benefits such as influence, control, power, etc.</p> <p>v. This model also fails to demonstrate how such SC benefits identified, and the value created, enhance firms' BST strategy for future network engagements.</p>
Adler and Kwon (2002, p. 23)	Specific social structures that allow for opportunities through motivation and abilities to have access to SC (benefits and risks) which generate value at the intra-	Adler and Kwon (2000); Granovetter (1973); Burt (1992); Coleman (1988); Portes (1998); Putnam (1993; 1999); Gabbay and Leenders (1999); Gargiulo and Bernassi (1999); Hansen et al. (1999).	<ul style="list-style-type: none"> a) Market, hierarchical and social relations b) Opportunity c) Motivation d) Ability e) SC benefits and risks f) Task and symbolic contingencies g) Complementary capabilities 	<p>To explain how social value can be derived from SC benefits and risks through opportunities, motivations, and abilities triggered by social structures encompassing market, hierarchical and social relations.</p>	<p>i. This model has not been tested empirically.</p> <p>ii. This model does not consider the cognitive or relational dimensions of SC.</p> <p>iii. This model perceives the 'SC value' as the only benefit of SC and does not recognise a subsequent VC process represented in financial, manufacturing, human, intellectual, natural value (IIFR, 2013) characterized by the deliberate intermediation of the firm to transform such benefits initially created.</p>

	organisationa l level.		h) Social value		iv. This model does not recognise the effect of SC value on firms' strategies and subsequent network engagements.
Adler and Kwon (2000, p. 110)	Conceptual model and sources of SC at the intra-organisationa l level representing SC as benefits, risks, and externalities.	Granovetter (1973); Nahapiet and Ghoshal (1998); Ostrom (1994); Portes (1998); Putnam (1993); Coleman (1988); Brehm and Rahn (1997); Newton (1997); Evans (1996); Pildes (1996); Woolcock (1998); Berman (1997); Schneider et al. (1997); Levi (1996); Fellmeth (1996); Kenworthy (1997); Minkoff (1997); Portney and Berry (1997); Youniss et al. (1997); Greeley (1997); Burt (1997).	a) Network b) Norms c) Beliefs d) Rules and Formal Institutions e) Trust f) SC benefits and risks g) SC externalities h) Task and Environment contingencie s i) Social value	To explain how social value can be derived from SC benefits, risks and externalities through trust, networks, norms, beliefs and guided by rules.	<p>i. This model is drawn from the identification of sources of SC such as diverse networks, norms, beliefs, and rules; however, the authors did not discuss the deliberate actions of firms, strategies, to engage and create SC.</p> <p>ii. This model has not been tested empirically.</p> <p>iii. This model considers trust because of the rules and institutions that shape the network structure; thus, failing to acknowledge that individuals first trust those institutions they engage with.</p> <p>iv. This model fails to recognise the cognitive dimension as in sharing codes, language, narratives, cooperation, and knowledge.</p> <p>v. This model fails to acknowledge SC benefits beyond information, power, solidarity, task accomplishment, and civic community.</p> <p>vi. This model does not identify the VC process as one resulting from the network engagements and the interrelationship with the cognitive and relational dimensions.</p> <p>vii. This model does not consider the effect of the SC benefits on firms' BST strategy enhancement.</p>

<p>Muthuri et al. (2009, p. 7):</p>	<p>A conceptual model grounded upon Adler and Kwon (2002) evidencing networks, trust, and motivation as the representation of SC and the structural dimension to generate resources (SC) at the intra and inter-organisational levels.</p>	<p>Adler and Kwon (2002); Putnam (1995); Ostrom and Ahn (2003).</p>	<ul style="list-style-type: none"> a) Market, hierarchical and social relations b) Opportunity c) Motivation d) Ability e) Dimension of SC (networks, norms, trust) f) SC benefits and risks g) Task and symbolic contingencies h) Complementary capabilities <p>Social value</p>	<p>To explain how social value can be derived from SC benefits and risks through interaction with SC dimensions (networks, trust, norms) to have access to opportunities, motivations, and abilities triggered by social structures encompassing market, hierarchical and social relations.</p>	<ul style="list-style-type: none"> i. This model is based on Adler and Kwon's (2002) model; thus, evidencing flaws such as not being empirically tested. ii. This model includes SC dimensions (networks, norms, and trust) proposed by Putnam (1995) and Ostrom and Ahn (2003); however, such dimensions are shy of explaining a more complex subtheme for each SC dimension, following Nahapiet and Ghoshal (1998). iii. This model, and Adler and Kwon's (2002), fail to acknowledge the generation of SC, in organisational studies, begins through the deliberate action of firms, known as strategy, to seek SC benefits. iv. Authors recognise trust, as "based on actors' experiences in a transaction, their perceptions of the other and the associated expectation that the other will reciprocate" (p. 77); however, they fail to recognise trust as a determining factor for the development of initial network engagements plus for future interactions. v. This model does not consider the effect of the SC benefits on firms' BST strategy enhancement.
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Source: Author's development.

This research validates SC as a concept and theory, as a trigger of VC, and its relevance in management studies. Nonetheless, research evidencing the link amongst SC and social sustainable development has been minimal (Dempsey et al., 2011). John Elkington, the author of the TBL concept, recognises the relevance of SC as one of the core components of economic growth while highlighting the urgency for SC research “Today’s economy is highly destructive of natural and social capital, and is characterised by large and growing gaps between rich and poor” (2004, p. 10). Granovetter (1973) acknowledges potential research avenues into SC highlighting the need for structural work in understanding how SC is constructed through the identification of performance indicators such as strength, reciprocity, and density of ties. Based on a review from thirty-two studies on SC, business, and management (Lee, 2009), only six studied the three dimensions proposed by Nahapiet and Ghoshal (1998). The main SC dimension across the studies was the structural dimension (30 studies); thus, leaving the relational (15 studies), and the cognitive (8 studies) dimension side-lined and in need of further investigation. SC models have several flaws including their narrow vision only focusing on intellectual capital (see Nahapiet and Ghoshal, 1998) or only on resource exchange (see Tsai and Ghoshal, 1998), or have only tested the model in one multinational firm (see Tsai and Ghoshal, 1998), or lack an overall perspective of enhancement of firms’ strategies for future engagements. Ibarra et al. (2005) have acknowledged SC research requires “examination of the links between network structure, perceptions and actions in a dynamic field of interaction” (p. 366).

Gaps in SMEs’ Research

With reference to network engagements and SMEs, studies have highlighted systemic challenges such as difficulties to access financial support (Calcagnini and Favaretto, 2012; Lampadarijos et al., 2017), limited access to markets and marketing skills (Mbonnyane and Ladzani, 2011), and high collateral requirements to secure financing (De Maeseineire and Claeys, 2012) evidencing the need for further exploration of several issues, for example, the role of trust and commitment when interacting with stakeholders (Fiedler et al., 2017); the process of nurturing initial contacts and fostering commitment with stakeholders (Hallen and Eisenhardt, 2012) to take advantage of learning opportunities to obtain market knowledge (Geneste and Galvin, 2015) and develop relationship-specific knowledge (Fletcher and Harris, 2012).

Moreover, Liao and Welsch (2003) argue the significance of networks within the SME context is primarily a result of their limitations in terms of availability of resources; Watson (2007) identifies the poor empirical evidence of the association amongst firm performance and the owner’s use of networks, specifically for established businesses adding that SC studies “...have failed to include potentially confounding variables such as age, industry and size of firm” (p. 853). Porter and Kramer (2006) argue firms must embed the social perspective into its core frameworks to be able to understand competition and drive its BST strategy forward while highlighting that the integration amongst business and societal needs

go beyond ‘good intentions and strong leadership’. “It requires adjustments in organisation, reporting relationships, and incentives. Few firms have engaged operating management in processes that identify and prioritise social issues” (p. 91). This study contributes to the knowledge gap in SME research by adopting SMEs in the UK as its examination unit. Additionally, this study addresses calls for research into networking processes as Moore and Spence (2006) claim “Innovation and networking are significant areas of research in SMEs and seen as key to the survival and success of smaller firms. How these relate to responsible business practices remains under investigated...two areas which are particularly important for SMEs, though not even well researched are innovating for ethics and the impact of networking” (p. 223); although small firms may benefit substantially from network involvement, much of the research on networks has been on large-firm strategic alliances or non-profit networks. (Human and Provan, 1997).

Gaps in construction industry research

The construction industry has certain particularities such as being volatile, short-term, and highly specific to meet client expectations which presents risks for organisations, particularly SMEs. Gao et al. (2013) have acknowledged the need for deeper examination of risk, its potential causes, and management in SMEs besides the process of sharing risk management knowledge with others. The recent health crisis, due to COVID-19, has undermined the survival of SMEs across all industries, particularly in the hospitality and construction industries hindering their access to and availability of financing (Mol-Gómez-Vázquez et al., 2020); however, the vulnerability of firms in the construction industry is not new, the diminishing of economic output in the construction industry compared to the whole economy during the recession period around the years 2008-09 highlights a need for deeper investigation into the nature of the construction industry. This is coupled with its inability to sustain continuous growth in economic output in parallel with the whole economy (House of Commons Library, 2015, p. 6) which can be addressed through the implementation of strategies that aid in the creation of value as this study identifies. Additionally, research (Xia et al., 2018) has acknowledged the need for greater levels of research in the construction industry in four areas: first, to recognise and adopt organisational approaches that highlight the social enterprise. Second, towards the implementation of firm strategies that include the social and economic dimensions. Third, the adoption of social and economic strategies in SMEs considering construction SMEs have greater risks and vulnerability to the business environments than large firms (Sexton et al., 2001). And fourth, the need for greater levels of empirical research in construction SMEs. Moreover, organisational research present weaknesses of SMEs in the construction industry by arguing that “small construction firms are more exposed to the whims and movements of their business environments than large firms” (Sexton et al., 2001, p. 534). This research narrows this gap by performing empirical research in SMEs in the construction industry in the UK.

As a result of the literature review evidencing the knowledge gaps, this study's contribution is threefold: first, by examining the creation of a wider range of benefits not recognised in SC and management studies. Second, by recognising that the creation of value goes beyond product innovation, expanding VC studies (Tsai and Ghoshal, 1998). And third, by acknowledging the enhancement of firms' BST strategies derived from SC benefits and value created. These contributions are fulfilled through providing answers to the research questions guiding this study, stated next.

2.10. Research Questions

With the aim to understand the formation of SC benefits towards the creation of value and subsequent enhancement of firms' BST strategy, this research investigated:

- i) What strategies do individual SMEs in the UK's construction industry apply to generate SC benefits through network engagements?
- ii) How do SMEs, in the construction industry in the UK, create value from the SC benefits generated through network engagements?
- iii) How do SC benefits enhance the BST strategies of individual SMEs in the UK's construction industry?

2.11. Research Objectives

With the aim to answer the research questions, six actions are proposed. First, a literature review of main themes (see Figure 1), and on studies focused on their interrelations. Second, the construction of a research methodology, methods and design – explaining the philosophical perspectives, and data collection process – to investigate the core themes set in the research questions. Third, the development of an interview schedule to be used as a primary data collection instrument – supported on the literature review to gather information from the research unit, understand the phenomenon, and answer the research questions. Fourth, to apply semi-structured interviews to SMEs in the construction industry in the UK with three main purposes: first, to identify strategies that allow SMEs to obtain benefits from network engagements; second, to understand how SC benefits, are transformed by SMEs, to create value; and third, to understand whether SC benefits have influenced BST strategies of SMEs. Fifth, once the primary data collection has been completed, a thematic analysis would be applied to understand the process of generating SC benefits, the subsequent creation of value, and enhancement of firms' BST strategies. And sixth, as a result of the abductive analysis, this study aims to contribute to the SC and VC theories by expanding their current literatures through the identification and acknowledgement of the existence of strategies that SMEs deliberately execute to generate SC benefits and of strategies subsequently used by SMEs to transform such SC benefits into value and strengthen their BST strategies. Hence this thesis:

- i. Examines the current body of knowledge for the themes of SC, VC, firms' BST strategy and their relationships through a literature review from the perspective of organisational studies.
- ii. Describes its research methodology, method, and design to clarify this study's philosophical perspectives.
- iii. Develops an interview schedule as the data collection instrument.
- iv. Deploys semi-structured interviews to SMEs in the construction industry in the UK to identify the strategies that allow SMEs to obtain benefits from network engagements.
- v. Applies thematic analysis to examine the data collected, through the discovery of codes through first and second cycle processes (Saldaña, 2016), and identify resulting themes to produce aggregate dimensions.
- vi. Identifies how SMEs use SC benefits and deliberately transform them through the application of actions, supporting synergistic strategies, to create value.
- vii. Uses abductive analysis to expand the body of knowledge concerning how firms generate SC benefits, create value, and enhance their BST strategies through understanding their underlying SC-VC-BST relationship.

2.12. Chapter Summary

It can be assumed that SC is a developed theory, part of a metatheory constructed upon sociology, psychology and economics, where significant research has been produced (see Kwon and Adler, 2014). In the management literature, for example, the relevance of SC has been recognised through the potential benefits it can produce constrained by its risks and drawbacks. SC has entered several social science research areas published in top-ranked journals. Recent studies have found that SMEs highly depend on SC (Soundararajan et al., 2017) which is the result of inter-organisational supportive networks, to fulfil shortage in resources; hence, highlighting the relevance of building support networks not only to access resources but also to gain competitive advantages, create value, and enhance BST strategies.

Nonetheless, despite discoveries produced through the literature review there are pressing issues in need of further examination, for example, the relationship amongst SC and VC beyond economic rents has not been sufficiently explored neither theoretically nor empirically; the link across the three themes, SC, VC, and firms' BST strategy enhancement has not been studied in depth; thus, elucidating the need to develop empirical findings through primary data collection that help narrow this gap. Furthermore, this study examines SMEs in the construction industry in the UK since they account for over 99 percent of the businesses in the UK whilst highlighting that in such industry there are more accessible and less complex VC processes, but higher death rates compared to large businesses within the same industry.

Consequently, the literature review process helped reveal gaps in the extant body of literature providing the path to developing the research questions related to strategies SMEs apply to generate SC benefits through network engagement and how SMEs create value from SC benefits generated or how do such SC benefits enhance BST strategies of SMEs. Narrowing the knowledge gaps to such unknowns becomes the main aim of this thesis guided by the research paradigm, research design, methodology and methods described in Chapter Three.

Chapter 3. Methodology

Following research questions and objectives identified in Chapter 2, Chapter 3 explains and justifies the research design for this study presenting arguments for its research philosophy (namely its interpretivist ontological, epistemological and axiological premises), general methodology and specific methods, including data collection processes (e.g. sampling), and data analysis processes. Consequently, this investigation follows a social constructivist thought process through the concept of ‘creative sociologies’ (Morris, 1977) which understands humans as creative actors capable of and focused on ‘creating’ meaning through lived experiences, and application of creative qualitative approaches to provide meaning to those lived experiences. This qualitative approach was adopted to answer the three research questions through abductive analysis which, according to Peirce (1997), is the amalgamation of an inductive approach – referred to as the process of gathering primary data to “strengthen or problematise well-established theories” (Tavory and Timmermans, 2014, p. 5) – and a deductive approach – referred to as the process to propose hypotheses from existing theories. This chapter is organised as follows, first, the Research Philosophy (Section 3.1.) describes its interpretivist perspective based on a relativist ontology, and a constructivist epistemology. Second, the Research and Theory Development Methodology (Section 3.2.) presents the qualitative methodology and its rationale for the adoption of abductive analysis. Third, the Approach to Data Collection (Section 3.3.) presents arguments for the adoption of techniques and methods for data gathering, sampling and access as well as characteristics of sample as reliability of data collection process. Fourth, the Data Analysis Process (Section 3.4.) examines the validity of the research process, how/when data saturation was reached as well as sampling limitations. Fifth, the Thematic Analysis Method (Section 3.5.) inspects the seven-stage process to data analysis supporting the abductive analysis describing the top-down and bottom-up approaches. Sixth, Research Ethics (Section 3.6.) observes how the research ethics process was carried out and what controls were put in place to ensure research rigour guided by the University Guidelines. And seventh, Methodological Limitations (Section 3.7.) acknowledge constraints in this study’s research design whilst proposes avenues for future research.

3.1. Research Philosophy

This study contributes to the SC, VC, and BST literatures by addressing calls for research regarding the examination of firms’ strategic network resources (Partanen et al., 2018), the identification of resources that firms can use towards the creation of value (Hernández-Carrión et al., 2017), the examination of distinctive properties of structural and relational dimensions of SC (Stam et al., 2014), the development of appropriate processes and capabilities to create value (McGrath and O’Toole, 2018), and how the role of firms can contribute to societal sustainability challenges (Dyllick and Muff, 2016). Such calls for research have been recently identified grounded on known factors such as the ever-changing business purposes in society

(Scherer et al., 2006), the low recognition of the relevance of network engagement towards business sustainability and low prioritisation of social issues (Porter and Kramer, 2006), the insufficient number of studies acknowledging potential benefits derived from network engagement and SC, and the causal relationships that link them together (Lehtonen, 2004). This study narrows the knowledge gaps described in Chapter Two, widens research on the generation of SC benefits, provides insights into how SC benefits are deliberately transformed into value, and sets the stage for future SC-VC-BST research.

Moreover, the historical application of predominant quantitative studies in business (Hunt, 1994), the inclination of academics to use the research tools they are familiar with making them “guilty of the ‘law of the instrument’— one uses the tool one has even if in context the tool's use is highly inappropriate” (Woodside, 2010, p. 66), and the possibility of applying holistic, interpretive research methods that nurture critical perspectives through more in-depth, cohesive and accurate investigation demand a qualitative approach. Such approach permits a more comprehensive understanding (Jick, 1979) of the relationships and their outcomes amongst SMEs and their network engagements towards accruing SC benefits, subsequent creation of value and enhancement of BST strategies. Therefore, this study narrows the knowledge gap of investigating the creation of value as well as the strengthening of BST strategies resulting from SC benefits following a qualitative research design, through an interpretivist research philosophy, and grounded on a social constructivist approach. The development and nature of knowledge through a system of beliefs and assumptions is known as *research philosophy* (Saunders and Lewis, 2018) which guides the development of research. This study is grounded on a *relativist* ontological assumption of qualitative nature, a *constructivist* epistemological assumption, to adopt an *interpretivist* research philosophy. Rationales for these stances are examined below.

This study assumes a *relativist* ontology similar to those described by other researchers (Lincoln et al. 2017; Guba, 1990), whereby realities are constructed through the specific experiences of subjects/human consciousness. Social ontology focuses on the nature of social actors and how realities external to such actors become social constructions built up from their perceptions and actions (Bryman and Bell, 2015). In brief, this study adopts a relativist ontology assumption since “there are multiple realities and ways of accessing them” (Gray, 2018, p. 21). Such assumption understands that social reality is subjective since it is built by its actors whom are social individuals and as a consequence hold diverse, opposite at times while others complementary, views of reality (Collis and Hussey, 2009). Moreover, “ontological commitments, which relate to what we believe exists, often affect our epistemological concerns, which relate to our beliefs about how whatever exists can be studied and known” (O’Mahoney and Vincent, 2014, p. 1).

In line with the relativist ontology, this study follows a *constructivism* epistemology which conceives truth and meaning as created by the interaction of the researcher with other individuals. The name ‘constructivist’ is given because meaning is built upon the interactions amongst individuals rather than being discovered. This assumption gives way to the creation of different interpretations which could hold greater

value when understanding the world in practice. A benefit derived from adopting a constructivist epistemological stance is stepping away generalisation but rather understanding and acknowledgment of human and experiential diversity. This study investigates organisational leaders of SMEs from different trades within the construction industry recognising that participant firms come from diverse backgrounds, and avenues in which SC has produced benefits and value has been created. For a constructivist epistemology to exist and hold true, the purpose of the engagement amongst the researcher and participant should evidence mutual influence (Spencer et al., 2015). This is because “the dynamic interaction between the researcher and participant is viewed as central to capturing the inherently contextualized experiences of the participant” (Spencer et al., 2015, p. 83).

Based on a relativist ontology and a constructivist epistemology, this study holds an *interpretive* axiological perspective since the researcher interacts with participants to build knowledge and identify themes by utilising interviews as the primary data collection method since “choosing to collect data by interview suggests that you place greater value in personal interaction with your respondents than were you to decide to collect their views through an internet questionnaire” (Saunders and Lewis, 2018, p. 107). This study follows an interpretivist axiological assumption aiming for insightful and descriptive interactions with participants to explore the personal construction of the firms’ world (Gray, 2018), and the uniqueness of the research unit. Moreover, the axiological assumptions – which “emphasise the importance of values and ethics within the research process” (Saunders and Lewis, 2018, p. 107) – support the origins of this study which embrace the researcher’s humanistic perspective aimed to go beyond the profit-driven scope commonly explored and adopted in the management literature. The axiological assumption in this study helps the researcher explain how personal values give form, build the reasoning, and provide interpretation to the data gathered from participants.

Consequently, the ontological, epistemological, and axiological assumptions support the adoption of an *interpretivist philosophy*, also called social constructionism (Creswell & Poth, 2017; Spencer et al., 2015), which perceives reality to be built through social consensus of what is ‘real’ in terms of usefulness and meaningfulness to encourage change, action and further improvement (Lather, 2007). The adoption of an interpretivist perspective considered its strengths such as the acknowledgement of varied and diverse meanings that create and recognise a more truthful reality (Creswell & Poth, 2017); and that it understands that reality is socially constructed based on interactions, relationships and experiences with individuals and organisations (Berger and Luckmann, 1966). When reality is constructed, so is knowledge and meanings derived from social relationships that dynamically evolve in meaning (Gergen, 1996); thus, providing a more comprehensive and holistic interpretation of the real world. Additional strengths of interpretivism are the production of ‘rich’ subjective and qualitative data allowing for deeper investigation to ensure high validity, and generalisation of findings amongst similar settings (Collis and Hussey, 2009). This study adopts an interpretivist approach to examine “culturally derived and historically situated interpretations of

the social life-world” (Crotty, 1998, p. 67) through experiences evidenced by SMEs when engaging in networks that have helped them generate benefits and subsequently create value from deliberate actions.

3.2.Theory Development and Research Design: Overview

The adoption of a *qualitative* methodology in this study is supported on the aim for deeper understanding of real-world developments as evidenced by managers/directors of SMEs in the UK’s construction industry when pursuing network engagements to generate SC benefits. A qualitative research is known to provide paths towards learning about realities to study social phenomena, examine meanings individuals give to their relationships amongst themselves and with their external environments, to explore under-researched fields, and to “illuminate connections between individuals-groups and institutional contexts” (Leavy, 2014, p. 2). This study shares the view of Lincoln et al. (2017) to understand and examine reality via the “meaning-making activities” (p. 113) which are essential towards constructing initial sense and trigger (in)action. This study adopts an exploratory-explanatory qualitative methodology to address the knowledge gaps described in Chapter 2 by answering the research questions following the research objectives presented earlier.

One of the initial questions for the advancement of research evidenced the dilemma of whether to begin the research with a foundational theory or whether theory ought to result from research (Dewey, 1933). Such inquiry led to three main approaches for the development of theory: deduction, induction and abduction (Saunders and Lewis, 2018). Abduction is an integrative and iterative combination between deductive and inductive approaches focused on developing theories about the real world from literature reviews. Authors accept abductive inference as a “means of forming associations that enable the researcher to discern relations and connections that are not otherwise evident or obvious...The aim is to identify data that are beyond the initial theoretical premise.” (Meyer and Lunnay, 2013, p. 2). Therefore, abduction helps the researcher to generate ideas and think outside the box to ‘see something else’ (Danermark et al., 1997).

Abductive inference is fundamental to theory-driven research considering a defining characteristic of theory-driven research, is that it uses theory *a priori* (Montgomery et al. 1989). A central critique is that given the structured nature of the research, the researcher cannot logically identify the unintended artefacts of empirical data - the experiences of the participants are filtered through the theoretical lens (Caryn et al. 2010). The use of abductive inference enables researchers to address this critique by moving the analysis beyond the theoretical frame.” (Meyer and Lunnay, 2013, p. 2). An *abductive* approach was the most appropriate for this study based on five rationales. First, concepts in SC, VC and firms’ BST strategy were extracted from the literature review which helped to identify boundaries for the data collection process in SMEs in the UK’s construction industry. Since the aim of this investigation is to identify changing patterns emerging from the data collected compared to former concepts in order to formulate new or modify SC theories. Second, an abduction approach promotes “back-and-forth engagement with the social world as an empirical source for theoretical ideas, and with the literature, in a process of ‘dialectical shuffling’” (Bell et

al., 2018, p. 24). For example, published literature described the relational dimension of SC – represented in ‘trust’ – as the subsequent step after the structural dimension – represented by the type of network engagement – and the cognitive dimension – represented in the adoption of shared language, obligations and norms. However, data collected raised questions about this sequence described in the literature recognising that if there is no initial trust, even at minimum levels, there is no initial interaction or the willingness to adopt a shared language, fulfil obligations or even comply with norms. Third, it allows for the “process of moving from everyday descriptions and meanings given by people, to categories and concepts that create the basis of an understanding or an explanation of the phenomenon described” (Eriksson and Kovalainen, 2016, p. 24). Fourth, abduction is the logic of exploratory data analysis that help generate new ideas or hypotheses (Peirce, 1979, 1960). And fifth, abduction is a well-established approach for theory development in business research (Bell et al., 2018).

3.3.Approach to Data Collection

In order to determine the most appropriate data collection method, the construction of a purpose statement is a sensible approach (Creswell, 1994). Accordingly, the purpose statement below describes the phenomena this research is focused on, primarily to understand the relationships among three main themes: SC, VC, and BST strategy. Hence, the purpose of this study is:

“To investigate how SMEs in the UK’s construction industry generate social capital benefits through network engagements, deliberately transform them into different types of value, and enhance their business sustainability strategies.”

3.3.1. Research Method

In line with the purpose statement presented above, the phenomena in this research are investigated applying semi-structured interviews to SMEs in the UK’s construction industry, as the data collection method. The sampling strategy follows a non-probability sampling technique through a mix of the ‘criterion’ (Miles and Huberman, 1994), ‘opportunistic’ (Miles and Huberman, 1994), and ‘volunteer’ (Saunders and Lewis, 2018) techniques. This was the result of low initial engagement rate as explained further below. The ‘snowballing’ sampling technique, which gains new study participants via current participants who volunteer them (Saunders and Lewis, 2018), was unsuccessful since interviewees did not share contact details due to the General Data Protection Regulation (GDPR) rules that came into effect in 2016.

This study initially contacted firms only via face-to-face using semi-structured interviews as it is considered the “standard approach in qualitative business and management research” (King and Brooks, 2017, p. 8); however, many firms were not always available prompting the researcher to conduct additional

strategies. Consequently, the researcher aimed to contact firms via face-to-face, email, and/or telephone derived from listings found through Professional Statutory and Regulatory Bodies (PSRB) databases such as The Chartered Institute of Building (CIOB) and The Federation of Small Businesses (FSB). To contact firms in PSRB directories, the researcher contacted the associations first to inquire about the protocol for securing interviews with member firms (see Appendix J). The researcher also examined internet-based public directories such as Checkatrade, the UK Small Business Directory, and YELP (see Appendix I). Since this research has been carried out at one specific moment in time, it is classified as “cross-sectional” (Creswell, 1994, p. 119), which “examine[s] a phenomenon by taking a cross section of it at one point in time” (Rubin and Babbie, 2001, p. 323). In terms of the study setting, this research is developed in a ‘non-constrained’ setting (Sekaran, 2000, p. 133) since data is gathered in the natural environment where work proceeds normally as SMEs in the UK’s construction industry are mostly on site. Semi-structured interviews were the chosen research instrument described next.

The technique for primary qualitative data collection in this research was *semi-structured interviews*. Along with unstructured (in-depth) interviews, both methods are referred to as qualitative research interviews (King, 2004; Warren, 2002) and “often used in qualitative analysis” (Gray, 2018, p. 381). The semi-structured qualitative interview is defined as “an interview with the purpose of obtaining descriptions of the life world of the interviewee in order to interpret the meaning of the described phenomena” (Brinkmann and Kvale, 2015, p. 6). This research adopts the semi-structured interview typology mentioned above characterised by “...a list of themes and possibly some key questions to be covered...the order of questions may be varied depending on the flow of the conversation...additional questions may be required to explore research questions” (Saunders et al., 2012, pp. 374). They are also “...a list of questions on fairly specific topics to be covered...the interviewee has a great deal of leeway in how to reply...questions may not follow in exactly in the way outlined on the schedule...questions that are not included in the guide may be asked...similar wording will be used from interviewee to interviewee” (Bryman and Bell, 2015, p. 481). Furthermore, the interviewer takes “...a prepared outline of topics, issues or themes, but still has the possibility to vary the wording and order of questions in each interview...the tone of the interview is fairly conversational and informal ... [the interviewer] needs to make sure all the topics on the outline are covered” (Eriksson and Kovalainen, 2008, p. 82).

Additional rationales for the application of semi-structured interviews argue the interviewer “...can make better use of the knowledge-producing potentials of dialogues by allowing much more leeway for following up on whatever angles are deemed important by the interviewee...the interviewer has a greater say in focusing the conversation on issues that he or she deems important in relation to the research project” (Brinkmann, 2018, p. 579). Also, “The order of questions may also change depending on what direction the interview takes...additional questions may be asked, including some which were not anticipated...as new

issues arise” (Gray, 2018, p. 381). Moreover, ‘probing’ in semi-structured interviews is useful as a comprehensive data-gathering mechanism:

“The semi-structured interview allows for probing of views and opinions where it is desirable for respondents to expand on their answers...Such probing may also allow for the diversion of the interview into new pathways which, while not originally considered as part of the interview, help towards meeting the research objectives” (Gray, 2018, p. 381).

Semi-structured interviews allow for interviewer-led and informant-led moments providing “in-depth explanations regarding the study, [and help] to learn about the work context” (Carmeli et al., 2007, p. 979). Nonetheless, semi-structured interviews have disadvantages such as being slow and time-consuming in terms of data capture and analysis (Arksey and Knight, 1999), if the interview is longer than expected it is recommended to use random sampling, the interviewer can improvise and use own judgement. Other limitations are that only a fraction of the complete information is being communicated by the interviewee, “the presence of the researcher while conducting the interview could bias the response from the interviewee, and not all interviewees have the same level of articulation or perception which could affect end results” (Creswell and Creswell, 2018, p. 188).

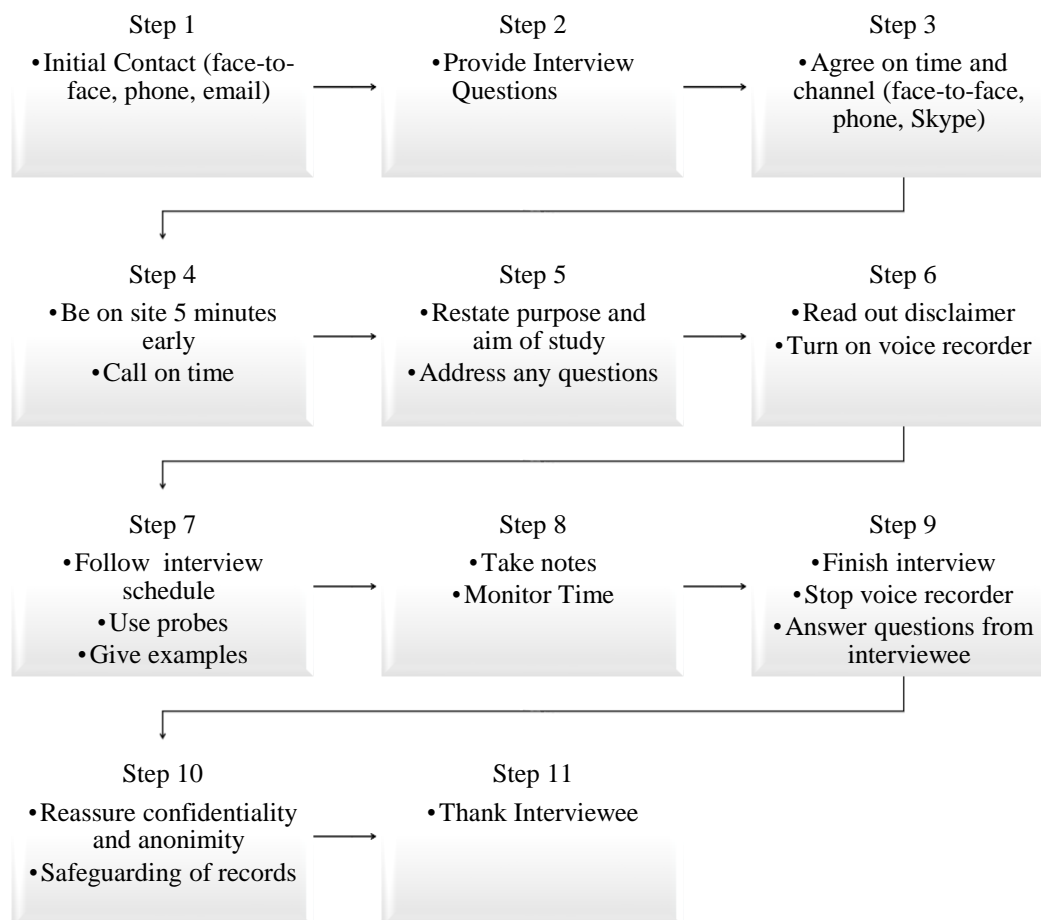
In brief, despite the limitations described above, this study adopts semi-structured interviews as the most appropriate data collection method because it provides a balance between a very rigid interview schedule and an in-depth interview to remain ‘on track’ whilst allowing flexibility to engage in deeper discussions about a specific concept the interviewer and interviewee deemed appropriately. Semi-structured interviews provide strengths to tackle limitations exhibited by other forms of data collection (e.g., questionnaires) such as higher response rate, the possibility to ask follow-up questions (probing), which could be not salient questions, the verification of answers’ accuracy, and the ability to “reveal underlying problems through observing body language or the verbal tones of the respondent” (Gray, 2018, p. 343). Also, during interviews the order of the questions is controlled by the interviewer and the identity of the interviewee can be verified.

3.3.2. Sampling and Access

The data collection process began with the foundations gained from the literature review in Chapter Two which led to the development of the interview schedule (see Appendix B). Once completed, it was validated through discussions and insights from two academics, one property developer and one architect. The forty-one semi-structured interviews began on 22nd of February 2019 and were completed on 24th of September 2019. The interviews were carried out in a series of a systematic process (see Figure 10). The standard format included: first, an initial face-to-face, email or phone contact was made with firms to “arrange preliminary access, negotiate plan of action, and arrange access” (Stake, 1995, p. 52) to collect primary data through a semi-structured interview since it is known as “the standard approach in qualitative business and

management research” (King and Brooks, 2017, p. 8) and because “The interview is the main road to multiple realities” (Stake, 1995). Second, the information and a sample of interview questions were emailed to the interviewee so that the person was aware of the information to be collected as well as to provide a written formal agreement indicating requirements for the interviewer and interviewee (Stake, 1995).

Figure 10. Interview Process



Third, the interviewee agreed and scheduled a time for either a phone, Skype or face-to-face interview. Fourth, the interviewer aimed to be five minutes early on-site if the interview was scheduled to be on-site or called on the agreed time if the interview was scheduled to be over the phone/Skype. Fifth, the interviewer introduced the purpose of the data collection, the aim of the study and addressed any initial questions. Sixth, prior to commencing with the interview questions, the interviewer read out the disclaimer and the characteristics of the interview as being anonymous, confidential, and only to be used for academic purposes (Stake, 1995), and the voice recorder would be turned on. Seventh, the interview schedule was followed using probes and providing examples to explain the aim of the question if needed since “formulating the questions and anticipating probes that evoke good responses is a special art” (Stake, 1995, p. 65). Eighth, the

interviewer took notes, and monitored time to keep it around 60 minutes. Ninth, the interview was finished, and the voice recording stopped, and any final questions answered. Tenth, the interviewer confirmed the confidentiality and anonymity of the information, and the safeguarding of records. Eleventh, the interviewer thanked the interviewee for their time and support with this research. For research ethics, as described at the end of this chapter, this study follows a utilitarian ethical theory (Deyhle et al., 1992), based on a pragmatic approach that acknowledges potential positive and/or negative consequences to the study, the participants, the researcher and/or to other stakeholders. The utilitarian ethical theory follows the agreement of respondents via informed consent, carry out field work in a sensitive way to avoid harm to respondents or to others, and to enforce strict confidentiality throughout the data collection and analysis process including reports (Flinders, 1992).

This study followed a non-probability sampling technique which, according to Saunders and Lewis (2018), has four categories: quota, purposive, volunteer and convenience sampling. Since the sample considered SMEs in the UK's construction industry, the author initially envisioned a purposive sampling of a 'typical' variety taking into account it is illustrative, and considered representative but not statistically – also known as 'typical cases' – under Miles and Huberman (1994). The purposive sampling technique in this study was first applied in 2017 with the aim to carry out pilot interviews.

This study adopted a mix of sampling techniques including the criterion, opportunistic and volunteer techniques. The 'criterion' sampling technique is based on cases that meet some criterion and are useful for quality assurance (Miles and Huberman, 1994); the 'opportunistic' sampling technique is based on following new leads whilst taking advantage of the unexpected, and the 'volunteer' sampling technique (Saunders and Lewis, 2018) is based on participants cooperating with the study voluntarily or being volunteered by someone else. These sampling techniques were adopted on the grounds that they allowed sampling rigour whilst also adding flexibility to interview participant firms. For instance, after evidencing a low response rate from initial firms approached by email, this study focused on getting face-to-face or phone contact with SMEs part of the construction industry in the UK following the criterion sampling technique. Also, the researcher applied opportunistic techniques based on going to construction sites and engaging with site managers and in case the manager was not present the researcher would set up an appointment or would come back at a later date. Another rationale for the sampling techniques follows Stake (1995) who suggests that "The researcher should have a connoisseur's appetite for the best persons, places, and occasions. "Best" usually means those that best help us understand [the research]" (p, 56).

The unit of analysis includes forty-one SMEs in the UK's construction industry, meaning, firms having between 0 and 249 employees (House of Commons Library, 2014). The criteria used for determining the sampling technique, sampling size, and data saturation point follow six points, also explained in Chapter Four. First, that participant firms were headquartered in the UK. Second, that participant firms had between 0 and 249 employees – considered SMEs. Third, that firms represented at least one of the SIC 2007

classifications for firms in the UK's construction industry. Fourth, that there was at least one participant firm from each of the twenty SIC 2007 classifications. Fifth, that managers/directors were willing to be interviewed and voice recorded. And sixth, that the 'stopping criterion' was fulfilled (Francis et al., 2010), as explained further below.

Additionally, the researcher visited supply stores, and went around city streets to find tradesmen, contractors and suppliers working on projects. The volunteer technique was also adopted by asking tradesmen, contractors, and suppliers to voluntarily participate in this study. The combination of these three sampling techniques was necessary to reach the sampling criteria which aimed to interview firms with less than 250 employees, be part of the construction industry, be headquartered in the UK, that the data collected provided answers to the research questions, and finally to interview at least one firm from every trade part of the construction industry in the UK. Unfortunately, the 'snowballing' sampling technique, based on adding new study participants through current participants who volunteer them (Saunders and Lewis, 2018) was unsuccessful, since interviewees did not want to reveal personal details or even volunteering someone for this study as the GDPR rules came into effect in 2016.

The combination of criterion, opportunistic and volunteer sampling techniques was the outcome of adopting other sampling techniques that failed either because of lack of participants, or because they did not meet the sampling criteria. The following is a recount of actions taken by the researcher since the beginning of the data collection phase. First, the investigator began to research and participate in events targeted at the UK's construction industry via face-to-face and email correspondence interaction with regulatory bodies since 2017. The researcher mainly partook in three events: one, at Eco-build in London, now called Future-build, during three consecutive years in March 2017, 2018, and 2019. Two, participating in The Business Show held in November 2018 and 2019 at the Excel Centre in London. And three, joining the Triple Point Heat Network meetings, in May 2018. Second, the researcher engaged either through phone, email and/or face-to-face conversations with representatives of thirty PSRB (see Appendix J).

Moreover, the researcher joined The Institution of Lighting Professionals (ILP) – membership ID: 18275 – to discuss his research and potentially obtain interviews. The researcher also engaged face-to-face with over 400 firms in the UK's construction industry through the three-year participation in Future-build and the two-year participation in The Business Show. The researcher also used secondary data captured from different online business directories such as Checkatrade, the UK Small Business Directory, and YELP using the filter for "the most feedback" (see Appendix I). The information gathered from each of the three databases included sub-trade, firm's name, phone number, firm's website, postal address, contact person and contact email (available upon request).

Following the initial contact, the researcher sent about 400 follow-up emails to a group including membership-based associations and private firms to request support with his academic study and an opportunity to discuss the aim of his research; however, this produced only five replies. From these contacts

only three interviews were produced, two of which occurred through the ILP in which the author was a member. As a consequence of the low success rate ($5/400 = 1.25$ percent), the researcher decided to modify the sampling strategy to a mix of sampling techniques (Thorne, 2014). The sampling techniques adopted are the criterion, opportunistic and volunteer techniques as described above.

The *sampling size* in this research was determined by five criteria: first, the cases were drawn from firms in the UK's construction industry with less than 250 employees. This is the cut-off point between SMEs' and large firms (House of Commons Library, 2014). Second, they were part of the construction industry. Third, they were headquartered in the UK. Fourth, their managers/directors were willing to be interviewed and voice recorded, as supported by Silverman (2011): "Very often, a case will be chosen simply because it allows access" (p. 385). And Fifth, the firms approached and subsequently chosen were representative of at least one of the sub-trades in the construction industry following criteria applied in earlier studies (Revell and Blackburn, 2007; Rostami et al., 2015). These criteria were followed with the aim to answer the research questions adopting an interpretive perspective using semi-structured interviews as the data collection method. The process of determining the sample size for this research began through the understanding that "decisions about samples – both sample size and sampling strategies – depend on prior decisions with regard to questions asked, instruments/methods chosen, and resources available" (Kemper et al., 2003, p. 277).

Appendix D presents the demographic profiles of participant firms including classifications in terms of number of employees per firm, type of sub-trade, number of firms per trade, proportion of firms interviewed per trade, tax approach, and years since establishment. The demographic data presented allows for the understanding and visualisation of the nature of the sample to support interview data and "to develop and describe the social context" (Janesick, 2014, p. 304). For this study, the demographic profile for the firm and the interviewees considers the five inclusion criteria described earlier in this chapter. It shows that the largest number of participant firms were in the electrical and interior design subtrades with a combined participation of ten firms (five each) or 24.5 percent whilst the bricklaying, decorating-painting, flooring/carpet, glazing, plastering, roofing, scaffolding, stonemasonry, surveying and tiling subtrades all had only one participant each (ten in total). At least one firm from each of the twenty SIC 2007 classifications for the UK's construction industry participated in this study contributing to the sampling criteria. Also, this characterisation evidences the breadth of the sample within each sub-trade, alphabetically sorted. Appendix D also presents details about the interviewees, indicating their role in the firm, years of experience in the industry, age, gender, level of education and nationality, with the purpose of creating generic profiles of participant categories, guided by earlier studies (Hinz and Jungbauer-Gans, 1999; Kilkenny et al., 1999). Appendix D also evidences a vast gender disparity (35 males vs 6 females), calling for future research in gender studies in the UK's construction industry, the predominance of NVQ Level 2

(GCSEs), Level 3 (A Levels), and bachelor’s degrees. The average number of years for participants’ industry experience was 20.5 years, and their average age was 46.

Table 7 includes a general classification of firms in terms of number of employees following the guidelines from the House of Commons (2014) which state that any legally-established firm with ‘zero’ employees is considered a sole-trader, between 1 and 9 employees – a ‘micro’ business, between 10 and 49 employees – a small-sized firm, and between 50 and 249 employees – a medium-sized firm. Table 7 shows interview participants were mostly ‘micro’ businesses with over 51 percent or 21 out of the 41 interviews.

Table 7. General classification of participant firms by number of employees and type of firm

Number of Employees	Number of Firms	Proportion (%)	Type of Firm
0*	6	15 %	Sole trader
1-9	21	51 %	Micro
10-49	9	22 %	Small
50-249	5	12 %	Medium
TOTAL	41	100 %	

Source: House of Commons’ (2014) classification.

* Sole traders (GOV UK, 2020).

Such high level of participation by micro businesses sets the opportunity for future research in sole-trading, small and medium firms. This does not mean the 21 ‘micro’ businesses are a representative sample of this group/study. Table 7 shows a high level of participation from micro businesses: micro and small firms accounted for over 73 percent of participant firms. There is an opportunity for future research to focus on other categories of firms, especially medium and sole traders.

Most qualitative research is grounded upon single cases in a specific social setting (Miles and Huberman, 1994) whilst qualitative researchers focus on small samples since this type of research finds detailed descriptions of a phenomenon using case studies (Patton, 1987). The important aspect in qualitative studies is ‘authenticity’ rather than a sample size. Authenticity is defined as the aim “to gather an ‘authentic’ understanding of people’s experiences” (Silverman, 2011, p. 44). Qualitative studies focus not only on ‘authenticity’ as described earlier, but also on being descriptive, informational and specific (Pinnegar and Daynes, 2007). For instance, Stake (1994) proposes the ‘intrinsic case study’ to select cases due to their “particularity and ordinariness” (p. 236) which make no attempt to generalise besides what it is found in that particular case since “Frequencies are rarely important in qualitative research, as one occurrence of the data is potentially as useful as many in understanding the process behind a topic” (Mason, 2010, p. 1) whilst “many of the most important, theoretically productive qualitative research studies were based on single cases” (Gobo, 2004, p. 442). Furthermore, since this is a qualitative study exploring an interrelated phenomenon, the minimum number of participant firms was reached at six (Morse, 1994) and the entire research process produced forty-one interviews which evidenced data saturation as explained in the

following section. To support this point, similar studies have evidenced that by the sixth interview there is sufficient data to “enable development of meaningful themes and useful interpretations” (Guest et al., 2006, p. 78). Further evidence is given by Nielsen and Landauer (1993) who proposed a mathematical model supported upon six dissimilar projects and established that six participants can provide eighty percent of the range of themes and codes whilst evidencing that by the twelfth interview, ninety percent was uncovered and began to level off. Kuzel (1992) made the distinction that for a homogeneous sample, six to eight interviews would suffice, and twelve to twenty when looking for disconfirming evidence or trying to achieve maximum variation” (p. 41).

As a general rule, the smallest sample size for any qualitative study must be equal to or greater than fifteen (Bertaux, 1981), but below fifty (Ritchie et al., 2003) whilst later studies suggest there is little ‘new’ information after twenty interviews (Green and Thorogood, 2009). Examples from several studies in terms of sample size across the five qualitative approaches are mentioned next. First, for narrative research, there are “many studies with one or two individuals” (Creswell and Poth, 2017, p. 159), except when a group of individuals is used to support the development of a shared story (Huber and Whelan, 1999). Second, for grounded theory, Morse (1994) suggests a range between thirty and fifty interviews whilst Creswell and Poth (2017) recommend between twenty and thirty participants, but this sample size could be much higher, according to Charmaz (2014). Third, for ethnography, Morse (1994) argues between thirty and fifty interviews, Bernard (2000) suggests between thirty and sixty for ethnoscience whilst Creswell and Poth (2017) expect “well-defined studies of single culture-sharing groups, with numerous artefacts, interviews and observations collected until the workings of the cultural group are clear” (p. 159). Fourth, for case studies, about five case studies in one single case study is suggested (Yin, 2014), whilst others suggest more than one case adulterates the authenticity of the case and particularity researchers can provide to the study (Wolcott, 2008). Fifth, in phenomenology, there are studies with one participant (Padilla, 2003), thirty-three (Edwards, 2006), and up to 325 (Polkinghorne, 1989); however, scholars recommend sample sizes between three and ten (Dukes, 1984), at least six (Morse, 1994), and five to twenty-five (Creswell, 1998).

The initial sampling phase began through face-to-face and email contact with at least thirty membership-based associations (see Appendix J) in order to arrange potential meetings with member firms. Whilst this process was ongoing, the researcher also engaged in secondary data research through online business directories. As discussed above, the response rate after engaging with membership-based associations, and firms belonging to one of the three online business directories was just over one percent requiring the researcher to adopt an alternative sampling strategy. The forty-one semi-structured interviews allowed participants to share their ‘experiences’ in a non-constrained environment, for example, out of the forty-one interviews, sixteen were conducted over the phone with no visual contact which acknowledged flexibility and freedom for respondents to be at their preferred location such as home, office or on-site; twenty-four interviews were conducted face-to-face at their offices or on-site which allowed respondents to

feel comfortable, free of pressure and able to take calls, and engage with their employees if needed; and only one interview was carried out over Skype which also allowed the interviewee to feel comfortable at their preferred location able to engage with family and work activities. The three different methods were laid out by the interviewer, but the interviewees had the final say as to their preferred method.

The process of interviewing began with the application of five pilot interviews (Messick, 1995; Molloy et al., 2011) following several rationales. First, to assess consistency of interviewees' understanding of terms (Zattoni et al., 2015); second, to validate researcher's assumptions concerning the appropriate level of vocabulary (Fowler, 1995); third, to enhance the theme validity; and fourth, to reword potentially misleading statements and/or questions (Carpenter and Westphal, 2001) so that answers relevant to the research questions are obtained. The five pilot interviews were carried out via these channels: three over the phone, one over Skype, and one face-to-face. The average time for the five pilot interviews was sixty-two minutes. Reasons for carrying out pilot interviews are based on the purpose to learn how to use the interview schedule, the average time it would take to complete an interview, the researcher's self-presentation (Uzzi, 1997), and the unearthing of new themes expanding SC literature. Pilot interviews were aimed to be carried out face-to-face, as they allow for "content validity and appropriateness of questions" (Liedong et al., 2017, p. 616); however, only one pilot interview was conducted face-to-face.

Prior to conducting pilot interviews, the researcher followed ten steps for carrying out semi-structured interviews. First, to understand that the research should be focused on "participants' lived experiences and his/her relation to an everyday life world, not just a participant's beliefs or attitudes about issues" (Kvale, 1996, p. 30). Second, that the interviews provide opportunities to interpret the connotation of core themes in the interviewee's life world. Third, that qualitative interviews seek knowledge in everyday language and do not aim to quantify responses. Fourth, that interviews aim to gather "open, nuanced, rich descriptions of different aspects of the participant's life world" (ibid, p. 30). Fifth, that the explanations of specific situations and relationships are elicited and not a general opinion. Sixth, that the interviewer must be 'open' to finding unexpected phenomena. Seventh, that the semi-structured interviews are "neither strictly structured with standardized questions, nor entirely non-directive" (ibid, p.31). Eighth, that statements given by interviewees can at times be unclear evidencing inconsistencies in his/her life world. Ninth, that the process of conducting an interview may produce new insights and retrospection on the interviewees; thus, generating new perspectives but also driving the interviewee to adjust or completely change a previous statement. And tenth, that the knowledge derived is "produced through the interpersonal interaction in the interview" (ibid, p. 31). The above aspects helped the interviewer internalise what semi-structured interviews intend to do.

Furthermore, prior to conducting the five pilot interviews, the researcher followed ten actions to assess his qualifications as an interviewer and be able to conduct field research. First, the interviewer made sure he was knowledgeable on the subject, familiar with the main aspects of the interview, and able to pursue

the interview schedule thoroughly. Second, during the interview, the researcher presented the purpose for the interview, and outlined the procedure allowing for the interviewee to ask any questions at any point. Third, the researcher made sure the questions were clear, simple, and easy to follow, avoiding technical/sociological jargon. Fourth, the interviewer gave opportunities for the participants to finish what they were saying and “let them proceed at their own pace of thinking and speaking” (Kvale, 1996, p. 148). Fifth, the interviewer listened actively, heard the nuances of meaning to identify what was (not) said and how it was said. Sixth, the interviewer listened to participants’ experiences but focused on the main questions/issues associated with the interview. Seventh, during the interview, the interviewer was in control, and asked or interrupted the participant if he/she is deviating too much. Eighth, the interviewer did not take everything word for word but questioned critically to clarify any complex or unclear statements. Ninth, the interviewer remembered what the interviewee had said in during initial questions to recall previous statements, find relationships, and request further elaboration. Tenth, the researcher provided interpretation of what the interviewee had said requesting confirmation. These steps helped the researcher to minimise his weaknesses coming into the interview phase and enhance his communication skills to perform comprehensive interviews that would provide answers to the research questions. These actions are aligned with the interviewing process, known as ‘qualification criteria for the interviewer’ (Kvale, 1996).

Table 8 presents the anonymised characterisation of firms that took part in the pilot interviews (Fortwengel and Sydow, 2018). The subtrades in the pilot interviews include one architect, one interior designer, one carpenter, one scaffolder, and a store manager that sells ironmongery products.

Table 8. Characterisation of Firms Participating in Pilot Interviews

#	Firm code	Sub-Trade	Respondent	Duration (min)	Channel
1	PI -1	Architecture	Business Develop. Director	45	Phone
2	PI -2	Interior Design	Director	120	Skype
3	PI -3	Carpentry & Joinery	Head of Carpentry	40	Phone
4	PI -4	Scaffolding	Director	60	Phone
5	PI -5	Ironwork/Blacksmith	Director	45	F2F

Once the pilot interviews had been completed, the initial interview schedule was improved. For example, some of the questions that interviewees in the pilot interviews found too complex or hard to follow were reworded and statements made clearer. The ‘BST’ section was brought forward as the second theme in the interview schedule to highlight the relevance of this topic to participant firms. The section on the ‘creation of value’ was moved after the ‘strategy’ theme to examine the relationship between the strategies, the SC benefits and the VC.

The concept of collaboration (Nahapiet and Ghoshal, 1998) was used incorrectly in the initial interview schedule in conjunction with cooperation. This is because this study does not examine the intra-organisational collaboration in projects or within business units rather the inter-organisational cooperation

and exchange of knowledge with stakeholders. The correct term is ‘knowledge sharing and cooperation’, supporting elements of the cognitive dimension (Inkpen and Tsang, 2005). This is an adaptation from Tsai and Ghoshal’s (1998) study which understood the cognitive dimension of SC from the perspective of single units within one organisation with a “shared vision” (p. 465) and “a common understanding of collective goals” (p. 465). As a result, this adaptation allowed this study to ask the questions to individual firms engaging with networks.

The section on firms’ strategy and cooperation/knowledge sharing was moved to a later stage with the theme of network interaction and cooperation/knowledge sharing rather than next to the theme of firms’ strategy and network ties. The section on ‘benefits of business-related interaction and economic VC’ was moved after the section on firms’ strategy and VC to suggest a link between the generation of SC benefits and the transformation process that SMEs deliberately carry out to create value. The section related to the ‘creation of economic value and firms’ strategy’ was improved with one additional question related to identifying which network had provided more benefits and influenced the firms’ strategy more positively. The ‘BST’ section was improved by adding one additional question related to the creation of value and the economic, social, and environmental sustainability.

Improvements to the interview schedule after the pilot interviews allowed for a more precise examination of the three main themes (SC, VC, BST strategies), their inter linkages and their relationship to BST. In total, there were forty-one interviews, including five pilot interviews, acknowledging thirty-six interviews were conducted afterwards. Table 9 presents the characterisation of the firms interviewed after the pilot interviews where the subtrade can be identified, the role of the respondent within the firm, the duration of the interview in minutes and the channel used to carry out the interview. Table 9 presents data related to sub-trade, the position within the organisation of the respondents, duration of interview and channel of communication following application in similar studies (Chittenden et al., 2005; Wu, 2008). At the end of the interview process, there was at least one firm that had been interviewed from the twenty different trades in the construction industry (ONS, 2008). The interviewee had the highest role in the firm

Table 9. Characterisation of participant firms after pilot interviews

#	Firm code	Sub-Trade	Respondent	Duration (mins)	Channel
6	I-1	Building	Director	60	Phone
7	I-2	Glazing	Head of Marketing	75	Phone
8	I-3	Electrical	Director	40	Phone
9	I-4	Electrical	Director	63	Phone
10	I-5	Architecture	Director	68	F2F
11	I-6	Architecture	Director	70	Phone
12	I-7	Ironwork/Blacksmith	Director	50	F2F
13	I-8	Electrical	Director	54	Phone
14	I-9	Central Heating Engineering	Director	103	F2F
15	I-10	Roofing	Director	58	F2F
16	I-11	Plastering	Administrator	54	F2F
17	I-12	Building	Director	48	F2F

18	I-13	Electrical	Director	37	Phone
19	I-14	Air Conditioning	Regional Manager	70	F2F
20	I-15	Decorating / Painting	Director	45	Phone
21	I-16	Carpentry & Joinery	Director	58	F2F
22	I-17	Bricklaying	Director	21	F2F
23	I-18	Stonemasonry	Site Manager	62	F2F
24	I-19	Ironwork/Blacksmith	Director	82	F2F
25	I-20	Plumbing	Branch Manager	74	F2F
26	I-21	Plumbing	Director	54	Phone
27	I-22	Interior Design	Showroom Manager	93	F2F
28	I-23	Flooring / Carpet	Partner	75	F2F
29	I-24	Structural Engineering	Director	62	F2F
30	I-25	Structural Engineering	Partner	107	F2F
31	I-26	Interior Design	Director	105	F2F
32	I-27	Carpentry & Joinery	Director	43	Phone
33	I-28	Interior Design	Manager	109	F2F
34	I-29	Central Heating Engineering	Director	75	F2F
35	I-30	Carpentry & Joinery	Head of Carpentry	97	F2F
36	I-31	Air conditioning	Director	87	F2F
37	I-32	Electrical	Director	62	Phone
38	I-33	Surveying	Manager	105	Phone
39	I-34	Building	Director	52	F2F
40	I-35	Tiling	Director	69	Phone
41	I-36	Interior Design	Director	83	F2F

(director) in 25 of the 36 interviews (70 percent), the average time per interview was just over an hour (67 minutes), and the preferred channel to carry out the interviews by the interviewees was face-to-face with 23 (64 percent), and a distant second, over the phone, with 13 (36 percent) out of 36. Once the characterisation process was completed in MS Excel, then the data was imported and coded in NVivo 12 through the descriptive coding process (Saldaña, 2016).

Overall, the interview sample size of forty-one interviews to SMEs in the UK's construction industry fulfils the sampling size criteria for a qualitative study as well as meets the following five inclusion criteria: first, it complies with the firm size having between 0 and 249 employees (House of Commons Library, 2014). Second, it is focused solely on the construction industry in the UK. Third, is representative of at least one of the sub-trades (twenty in total) following SIC 2007 (ONS, 2008) classifications. Fourth, the interview respondents were managers or directors. And fifth, it suggests data saturation, following the 'stopping criterion' (Francis et al., 2010) as explained in the following section. In summary, the sampling and sample size procedures meet the established methodological requirements and establish the scope and boundaries of this research.

3.3.3. *Achieving Reliability*

In terms of reliability, there are two forms in which qualitative research is considered reliable: first, by carrying out and presenting the research process in a 'transparent' way, suggesting the use of detailed

descriptions of the strategy and data analysis methods; and second, by holding ‘theoretical transparency’, suggesting the researcher explicitly describes the theoretical stance from which interpretation occurs whilst narrating how different perspectives are considered and which ones are disregarded (Moisander and Valtonen, 2006). This study, supported by interviews, measured reliability by addressing three “low-inference” key descriptors (Seale, 1999). First, that all interviews are recorded; second, that the interviews are ‘carefully’ transcribed based on the needs of reliable analysis such as transparency and confidentiality; and third, that there are ‘long extracts’ of data, along with the related question, presented in the research report. In respect of the reliability of transcripts of audio data and the audio file itself, they must be accompanied by transcripts and fieldnotes (Kirk and Miller, 1986).

Transparency, as an ingredient of reliability, is evidenced in this study through a detailed description of how the research was planned and how data was collected. This study demonstrates ‘theoretical transparency’ considering the examination of the theoretical approach and literature review in Chapter Two, and research design in Chapter Three. To fulfil the low-inference descriptors’ reliability criteria (Silverman, 2011) at the three fronts, the researcher adopted the following actions: first, two live-recording devices were used in every interview, one voice recorder – Olympus VN6800PC, and one smart phone – Motorola Z3 Play – with a voice recording software supported by *in-vivo* notes. Second, the forty-one interviews were transcribed with some audio interferences found; and third, the researcher selected the ‘long extracts’ of data found in Chapter 4 representing Findings gathered using the interview schedule (see Appendix B).

The criterion of supporting audio data with transcripts and fieldnotes (Kirk and Miller, 1986) was also fulfilled, and evidence can be produced upon request. Transparency has been further evidenced through a detailed description of processes such as sampling of participants – including selection criteria, access to the data, data saturation point, and sampling limitations above. Transparency has been established by acknowledging the data has been analysed by only the researcher, through an interpretive perspective using thematic analysis derived from *a priori* themes found in the literature review (Montgomery et al., 1989). These procedures follow Trent and Cho (2014) who argue that “in being transparent about data collection, analysis, and interpretation processes, researchers allow reviewers/readers insight into the research endeavour, and this transparency leads to credibility for both researcher and researcher’s claims” (p. 650).

Confidentiality has been ensured in two ways: one, by anonymisation of names; and two, by omitting any information that could allow for traceability of the participant or firm (Traianou, 2014). In this study, the former was applied by replacing the actual respondent’s and firm’s name with a code (e.g., I-1, I-2). The latter was ensured by omitting phone numbers and email addresses. Nonetheless, it is relevant to acknowledge that there is never a full state of confidentiality but rather more difficult ways to identify participants and traceability to a study (Wiles et al., 2008). In summary, this study supports adhering to reliability criteria to determine the consistency of Findings whilst acknowledging transparency and confidentiality.

3.3.4. *Achieving Validity*

The data analysis process is constrained by the validity in process of how data was collected; thus, validity in this study is ensured through accurate descriptions from participants, readers and the researcher (Creswell and Poth, 2017). Validity in this study is also considered strong since it meets three conditions: first, “the researcher builds rapport and gatekeepers, learn the culture and context” (Creswell and Poth, 2017, p. 262), and second, there is a detailed thick description – describing in detail the participants or setting being studied (Merriam and Tisdell, 2015); and third, the closeness of the researcher to participants in the study based on industry experience. These three conditions describe and associate the validation process in qualitative inquiry with trustworthiness and authenticity rather than a one-time verification point (Angen, 2000). Furthermore, this study adopted two validation strategies, the ‘Researcher’s Lens’ and ‘Reader’s or Reviewer’s Lens’ (Creswell, 2016). These strategies go in line with Creswell and Poth’s (2017) suggestion of adopting ‘at least’ two validation strategies “in any given qualitative study” (p. 263). To begin with, from the researcher’s lens strategy, this study engaged in two main actions: one, ‘corroborating evidence through triangulation of multiple data sources’, such action is evidenced through the use of multiple and different sources (e.g., academic journals, industry reports, government data, news outlets, and primary data), methods (e.g., desk research, semi-structured interviews), and theories to shed light on each one of the three main themes. Accordingly, validation began through finding themes, subthemes and codes (e.g., SC benefits (theme), private SC benefits (subtheme), and information and knowledge (codes)) during the literature review stage which were later confirmed through data collection as shown in Chapters Two and Four. This has been argued by Creswell and Poth (2017) to show validity by stating that “when qualitative researchers locate evidence to document a code or theme in different sources of data, they are triangulating information and providing validity to their findings” (p. 260), as illustrated in Chapter Two and Four. The second action undertaken as supporting element of the researcher’s lens strategy considered ‘clarifying researcher bias or engaging in reflexivity’, initially addressed in Chapter One, based on Robson (2002), through the acknowledgement of the researcher’s stance setting the framework for this investigation.

In reference to the ‘Reader’s or Reviewer’s Lens’ strategy, this study adopted mainly two actions: first, ‘enabling external audits’ which was carried out by two individuals working in the UK’s construction industry: one property developer and one architect. These individuals reviewed the interview schedule to assess four key points: first, that the questions were relevant for the current status of the UK’s construction industry; second, that the questions would get the desired answers – aiming for accuracy; third, that the questions were phrased in an unbiased form; and four that the questions exhibit clarity and connection with participants to assess accuracy (Miles and Huberman, 1994). Additionally, the five pilot interviews were carried out following suggestions from the research supervisors and Harding (2018) which helped the

researcher make the interview questions clearer, more concrete and easier for participants to familiarise with since the initial draft had an abundance of technical words.

The second action, ‘having a peer review or debriefing of the data and research process’, was carried out by two academics at Newcastle University Business School. During this validation process, the level of trustworthiness that the interview questions help answer the research questions was assessed, also that there was no biasness in the phrasing of the questions, and that the interview would take about 60 minutes but not more than 90 minutes (Jacob and Furgerson, 2012) which was also discussed with the two external auditors.

Furthermore, this study ensures content validity – defined as “the extent to which a data collection tool, such a questionnaire, provides enough data to answer the research question and meet all the objectives” (Saunders and Lewis, 2018, p. 149), and theme validity – defined as “the extent to which the questions asked actually collect data about what they are intended to examine” (ibid, p. 149). The former was achieved by setting boundaries on the data needed to be collected (e.g., SC dimensions, benefits, VC, firms’ BST strategy) and making sure that, by fulfilling the research objectives, the three research questions could be answered. The latter was achieved through designing clear and specific interview questions derived from the knowledge gaps identified by reviewing the extant literature, to ensure the research questions were answered. Considering this study examines a phenomenon, the question related to the number of interviews needed to evidence validity, requires addressing. This is explained in the following subsection where the data saturation point is addressed.

3.3.5. Data Saturation Point

Data saturation in qualitative studies has its roots in grounded theory (Glaser and Strauss, 1967) acknowledging that when “no additional data [is] being found whereby the sociologist can develop properties of the category. As he sees similar instances over and over again, the researcher becomes empirically confident that a category is saturated” (p. 61). Data saturation is considered to occur when the following three criteria have been met: first, the information gathered is sufficient to replicate the study (O’reilly and Parker, 2013; Walker, 2012); second, the ability to obtain additional new information has been achieved (Given, 2016; Guest et al., 2006); and third, when further coding is no longer feasible (Urquhart, 2013). Studies suggest as few as six interviews to reach data saturation (Guest et al., 2006), others by the sixteenth transcript (Damschroder et al., 2007) when theme saturation was achieved, others by the seventeenth interview (Bradway and Barg, 2006) whilst others at fifty (Hsiao et al., 2006). Other studies have continued sampling until there were no new findings and saturation was obtained (Williams et al., 2007), whilst others (Lonardi, 2007) stop sampling “as the main concepts started to show redundancy along the various stories, and trajectory models started to show clear shapes according to the criterion of theoretical

saturation” (p. 1261); others when “no new problems emerged” (Webber and Huxley, 2007, p. 484); others when categories showed “significant, recurring, and ambiguous” (Leavey et al., 2007, p. 549) saturation.

This study followed interview guidance (Guest et al., 2006) and carried out five pilot interviews. By the fifth interview, the researcher noticed there were new themes emerging and that six interviews may not answer the research questions. As a result, the researcher continued to sample firms, following guidelines from similar studies of sixteen to seventeen interviews (Bradway and Barg, 2006; Ungar et al., 2006); however, new themes continued to emerge and firms belonging to some sub-trades within the UK’s construction industry had not been included in the sample. By the forty-first interview, the researcher considered it unlikely that additional interviews could significantly modify the data gathered, and that further interviews could “yield little additional information” (Evans et al., 2014, p. 184). The re-emerging of themes, sub-themes and codes in the last interviews indicated the data saturation point was reached. This was concluded following the concept of ‘stopping criterion’ (Francis et al., 2010) based on two principles: first, an initial sample of ten interviews; and second, the ‘stopping criterion’ which states that “After ten interviews, when three further interviews have been conducted with no new themes emerging, we will define this as the point of data saturation” (ibid, p. 1234). In the end, the researcher obtained a sample size of forty-one interviews, and the knowledge gathered to answer the research questions; thus, reaching not only the data saturation point – also called ‘informational redundancy’ (Sandelowski, 2008), and the ‘stopping criterion’ (Francis et al., 2010) but also interviewing at least one firm from every sub-trade in the construction industry in the UK, per the SIC 2007 classification.

It is relevant to point out that the initial five pilot interviews unearthed most of the final themes and sub-themes. By the forty-first interview, the researcher evidenced all the research criteria set at the beginning of the study had been met considering seven criteria. First, that all the participant firms employed less than 250 employees; thus, being classified as SMEs. Second, that the participant firms were part of the construction industry. Third, that the firms were headquartered in the UK. Fourth, that the interviewees were managers or directors. Fifth, that there was sufficient data to answer the research questions. Sixth, that there were re-emerging themes, and sub-themes. And seventh, that the sample size included at least one firm representative of one of the twenty sub-trades described in the SIC 2007 classifications (ONS, 2008).

3.3.6. *Limitations of Sampling*

The sampling process encountered some hurdles. First, the nature of the industry being mostly on-site away from computers undermined the possibility of using online questionnaires to collect data and engage in mixed-method research. Second, the firms’ lack of available time for data collection related to academic research. Third, the lack of response from over 400 firms contacted face-to-face as mentioned in section 4.2. Fourth, the lack of connections by the researcher with the construction industry in the UK. Fifth, the

lack of support from PSRB constrained the researcher to communicate the aim of his study to PSRB members and allow them to decide whether to participate or not. Sixth, the low-response rate from firms contacted through email from online business directories (see Appendix J). And seventh, the failure of the ‘snowballing’ sampling technique aimed at gathering new interview participants from firms already participating in the interviews.

This study faced an additional hurdle evidenced when contacting firms face-to-face, phone and email and still being turned away for no specific reasons. The researcher even perceived a sense of unfriendliness to cooperate with this study. Nonetheless, through the modification of the initial sampling technique, the adoption of three sampling techniques as mentioned earlier, and the overcoming of several issues, this study was able to: first, fulfil the sample criteria; second, increase the response rate, and third, reach a saturation point through the participation of forty-one SMEs in the construction industry in the UK.

3.4. Approach to Data Analysis

Having described how data was collected, what instrument and method was used, how reliability and validity were accounted for, the next logical step is to describe how the data was analysed. This process is presented through the description of the data analysis process which, for this study, is thematic analysis (TA) supporting an abductive approach.

3.4.1. Data Analysis Process: Thematic Analysis Method

To support the abductive approach, and considering this investigation explores the SC-VC-BST relationship, this study applies *thematic analysis* since it would help identify themes within the SC-VC-BST relationship in order to produce new findings. Additionally, researchers have acknowledged “there can be little doubt that thematic analysis remains the most widely used form of analysis across qualitative research as a whole” (King and Brooks, 2017, p. 4). Thematic analysis (TA) supports understanding of a phenomenon as ‘lived’ by participants (Smith et al., 2009) whilst not being bounded to a methodological approach but rather “describe ways of carrying out analysis that you as a researcher need to tailor to the position your research is taking” (King and Brooks, 2017, p. 5) which in this case follows a qualitative methodology. Such flexibility in TA has allowed this study to be pursued deductively, known as a top-down approach, as well as inductively, known as a bottom-up approach, to engage in an iterative process of ‘back and forth’ to develop theories about the real world from the literature review and benefit from an abductive approach. The deductive process helped to confirm what was found in the literature review, and the inductive process helped to produce findings. Consequently, TA has been applied as the form of data analysis technique to identify, analyse, and report patterns within the data collected (Braun and Clarke, 2006), known as themes which are later compared with the *a priori* themes produced from the literature

review to develop aggregate dimensions and benefit from an abductive approach following the five rationales presented earlier.

Additional rationales for the adoption of TA in this study consider its ability to deeply examine textual data, resulting from interview transcripts, to reproduce “the main ideas and conclusions” (Pope et al., 2007, p. 96) as well as helps to identify, organise, and interpret themes and patterns from textual data (Cassell and Bishop, 2019). The definition of themes requires the allocation of codes “defined by the researcher, which involves using *a priori* codes drawn from research, reading or theory” (Blair, 2015, p. 19). Studies where interviews were analysed using TA (Goldschmidt et al., 2006; Kenny and Briner, 2010; Lockett et al., 2012), recognise several advantages of the method. First, TA allows for a systematic organisation of the data allows for the identification of gaps and unanswered questions. Second, TA supports the ability to compare respondent comments on specific issues. Third, TA helps with the identification of new themes and patterns derived from the sub-division and comparison of the data as a whole resulting in the development of conceptual relationships amongst themes; and fourth, authors concluded TA is overall a flexible data analysis technique that demands fewer specified procedures allowing researchers to adjust it to their needs in order to fulfil the research demands.

TA entails two core procedures: the definition of themes, and organisation of themes (King and Brooks, 2017), this study followed steps for the development of TA, proposed by Braun and Clarke (2013, 2006). The TA process began with the transcription of the interview data, known as “familiarizing yourself with the data” (Braun and Clarke, 2006, p. 87), which helped identifying the scope of the data and searching for “meanings and patterns” (ibid, p. 87) through writing notes and ideas. The second stage followed the generation of initial codes, focused on identifying “features of the data that appears interesting to the analyst” (ibid, p. 88), and “the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p. 63). This stage included the first and second cycle of coding where mainly two coding techniques were used, the deductive and inductive methods to produce an abductive analysis. The former is focused on identifying *a priori* codes extracted from the literature review (Montgomery et al., 1989), and the latter examined the data to search for new codes. The third stage is aimed at searching for themes derived from the codes whilst analysing relationships amongst them which help in the formation of theoretical categories and dimensions (Doldor, 2017). This stage includes a description on how each section within the interview schedule provided evidence to answer each of the research questions. The fourth stage is focused on reviewing the themes found in the previous stage through a distillation process of evaluation and comparison with the data set from the individual perspective of each interview and from the global perspective of the entire data set. The fifth stage is focused on describing the process for defining and naming the themes that comprehend the ‘essence’ of the emerging themes in the fourth stage. The sixth stage is described as the production of the final report, part of Findings.

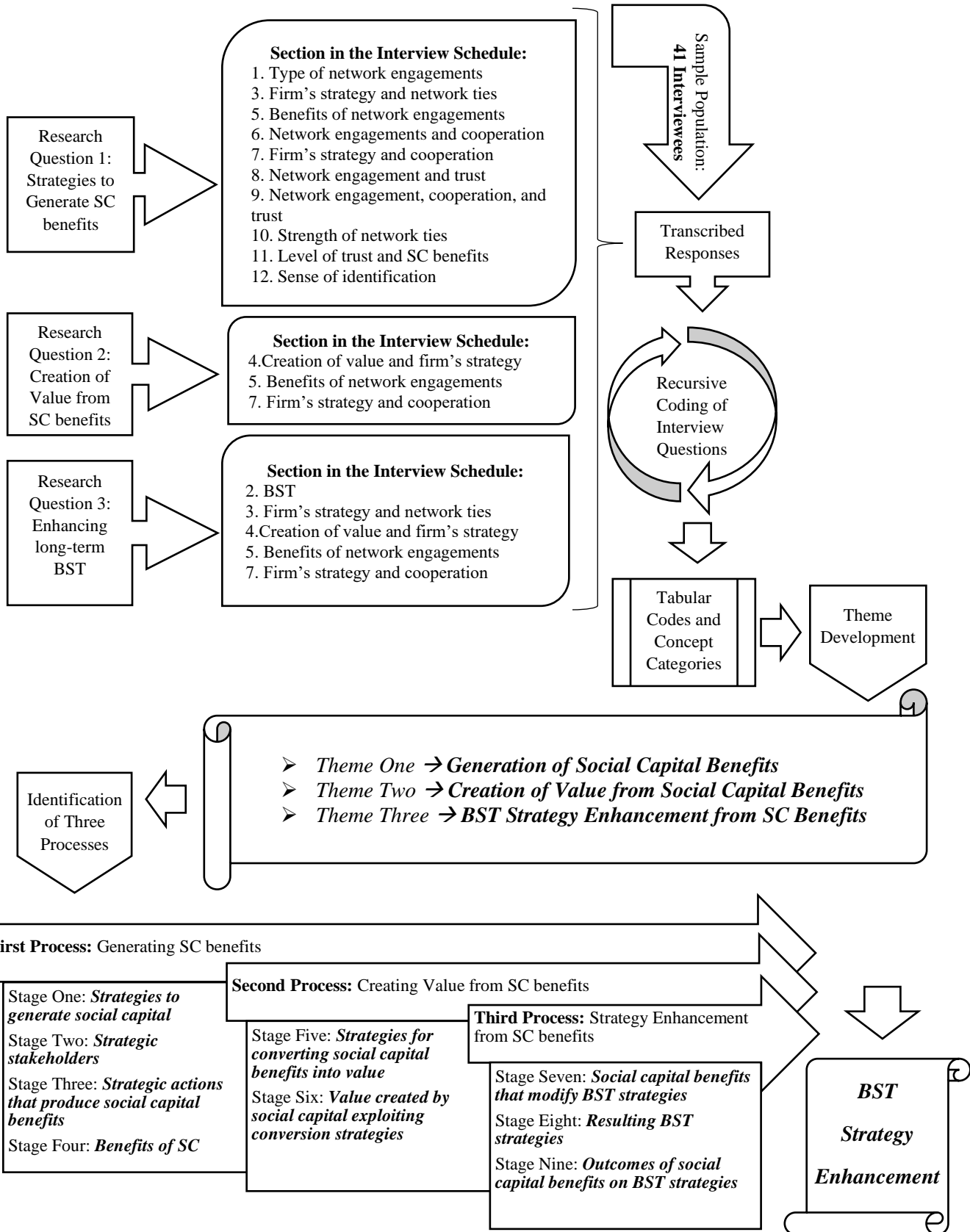
The present study adopts an interpretivist theoretical perspective to examine the dynamics of the generation of SC to create value aimed towards the enhancement of firms' BST strategy using thematic analysis (Braun and Clarke, 2013). The aim in this research is to identify individual SC benefits, value created beyond economic frontiers plus any influence on firms' BST strategy resulting from network engagement among SMEs in the construction industry in the UK. The thematic analysis began with the formulation of three research questions focused on understanding the relationship amongst SC, VC, and firms' BST strategy (see Figure 11).

The three research questions began with the inquiry about what strategies SMEs, in the construction industry in the UK, would carry out to achieve their goals and generate SC, invariably, these strategies would revolve around the interaction with strategic stakeholders (e.g., clients/customers, tradesmen/contractors, suppliers/distributors, accreditation bodies, membership-based associations); thus, it is likely that SC will be generated. The second question was developed based on Findings from the first research question to identify how SMEs use SC benefits to transform them into value, and the third question would also be developed based on Findings from the first one but focused on examining how SC benefits enhance BST strategies of SMEs. The next phase in this process, required a literature review of SC and the SC-VC relationship to provide insights into what knowledge did(not) exist to support the development of an interview schedule. Next, the interview questions were constructed, sorted in sections, and aligned with the research questions (see Figure 11).

Once the interview questions were developed, the primary data collection phase took place. Initially, five pilot interviews were carried out to verify and amend the interview schedule, and then thirty-six afterwards for a total sample population of forty-one semi-structured interviews. Once this process was completed, all audio data was transcribed into MS Word. After that, the transcripts would be 'coded' in MS Excel by using words representing categories. Such process provided the identification of three major processes and nine stages, composing an overarching process, necessary to answer the three research questions (see Figure 11).

After the three processes and the nine stages had been identified, the data was imported into NVivo 12 for further analysis producing tabular codes and concept categories. Such concept categories would then be the foundation for theme development as described hereafter. Thematic analysis consists of seven phases beginning with the transcription process (Braun and Clarke, 2006).

Figure 11. Evolution from research questions to themes and processes



3.4.2. Transcription

Transcription for the forty-one interviews began in October 2019 and finished in January 2020. This process was carried out by the interviewer who took notes that provided insights into the ‘moment’ or ‘mood’ of the participant to identify key pauses, and implicit meanings. The main tools used to capture the initial data were the voice recorder, and a headset. Once interviews had been completed, the transcription process began. The transcription process involved the transformation of audio files (.mp3) into text data. It took four months and produced forty-one files, one for each interview. Every interview had a different length in terms of time, with an average of 67 minutes; however, there were interviews shorter than 45 minutes but also some over 100 minutes this was due mainly to participants’ availability.

The transcription, and the TA process in general, were carried out using three different applications, MS Word, MS Excel, and NVivo 12. MS Word mainly helped with three tasks: first, the initial transcription from audio into readable data; second, curating the transcripts to produce readable texts that made sense; and third, anonymising data to avoid revealing interviewees’ information. This was a vital initial step in TA, since transcripts need to be ‘thorough and of high value’ (Braun and Clarke, 2013, p. 162) whilst avoiding errors in sentence structures, omissions, and/or mistaken words or phrases. The transcription process was aided by the notes used during and after the interviews. The size of the MS Word files also varied due to mainly three factors: first, some participants liked to be more descriptive and engaged more with the interview questions; thus, providing richer explanations and examples. Second, introverted vs extroverted personality types also played a role in the collection of data by influencing the depth explored in each interview question. And third, the participants’ availability of time influenced the level of description and/or the number of examples given to support their answers. The transcription process helped to ‘revive’ the interview and recognise key moments where emerging themes were mentioned and highlighted. In total there were 1580 double-spaced pages transcribed and anonymised using MS Word.

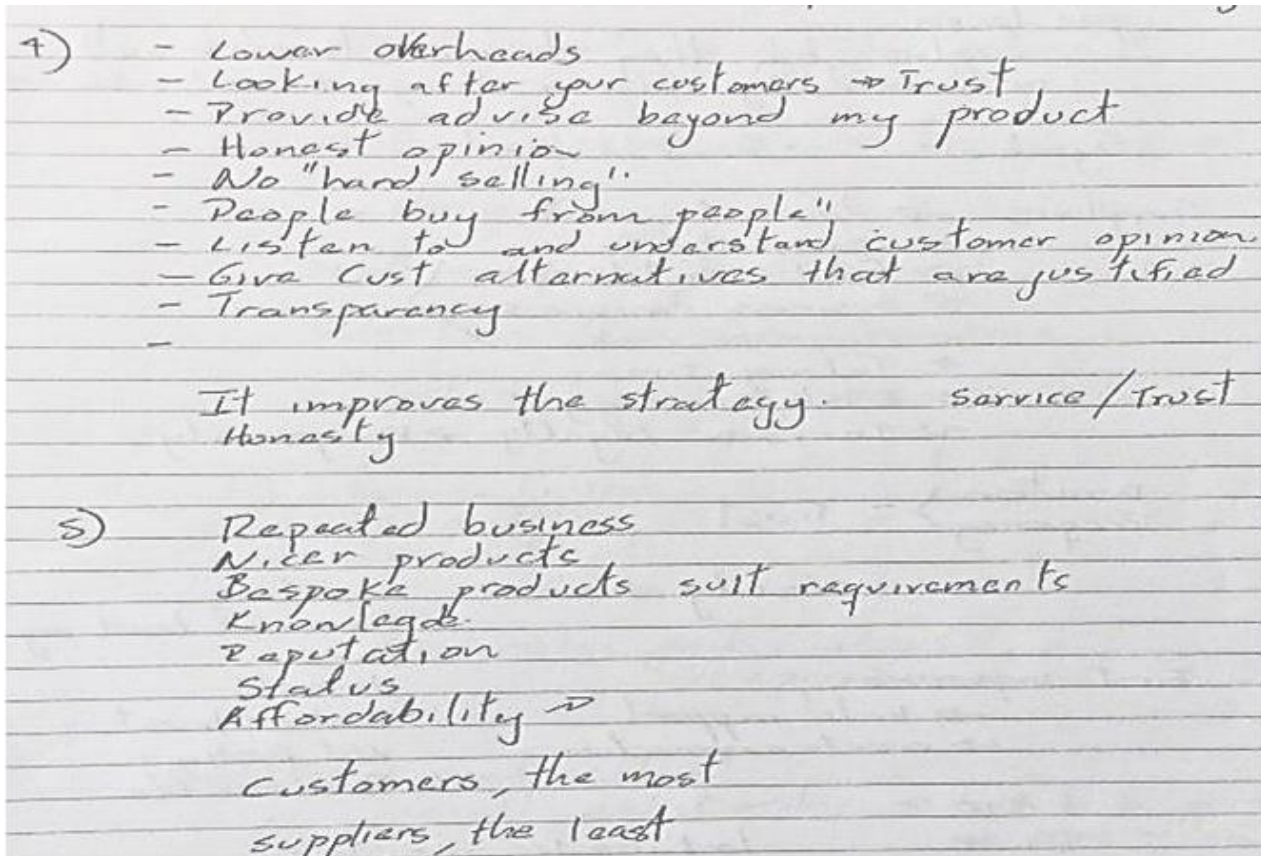
Once the transcription had been read and compared with audio files once again, transcripts resulting from the forty-one interviews were ready to be coded but first, the interviewer needed to become familiarised with the data, suggesting to be “immerse in the data through repeated reading of the data, and reading the data in an active way, searching for meanings, patterns and so on” (Braun and Clarke, 2006, p. 87). This process is explained next.

3.4.3. Reading and familiarisation with the data

The immersion in the data took various forms and steps. To begin with, during each of the interviews, the interviewer took notes using a pen and a notebook which provided support to jot down additional comments when a particular answer needed clarification. This action helped the interviewer ask further questions to obtain a clearer answer in case there was not enough detail, or the answer needed further exemplification.

Additionally, once every interview had finished, the interviewer would write down comments and ideas that set the stage for identifying key themes at later stages. These two steps helped the interviewer to be vigilant on later interviews to ask specific questions and to clarify certain concepts to participants in case they needed it. The standardisation of interview questions plus the repetitive process helped with the richness of data (Guest et al., 2011; Schreier, 2012) to feel comfortable with asking questions, rephrasing them, and providing examples to interviewees. During the note-taking phase, some initial codes began to emerge, mainly those examined in the literature review (see Figure 12).

Figure 12. Sample of notes taken during interviews



Examples of initial codes encountered during the interviews included SC benefits such as increase in revenue, access to new markets, but also new codes began to emerge such as engagement in cooptation practices, and identification of malpractices in network engagements. Figure 12 presents a snapshot of notes taken during an interview.

The following step taken to increase familiarity with the data was to transform each of the forty-one interviews from its current format, in MS Word, into a table-like transcript where each piece of information could be closely examined and dissected. Consequently, each transcript was converted into a MS Excel sheet where every answer provided by the interviewee would have a label address, a label, and a

reference or illustrative quote. This was useful to determine which labels came up more often and which codes had high levels of similarity. Also, during this process, names of participants and organisations were anonymised.

Original Transcription in MS Word:

[I-30, Head of Carpentry] 7:39
 “This company has got their own rubbish truck, and when it's full goes to the recycling centre.”

Interviewer 7:47
 Okay. I don't think you have to pay to get rid of that. Do you?

[I-30, Head of Carpentry] 7:53
 “Yes, we do, and whatever can be recycled is recycled.”

Coded in MS Excel:

Label Address	Label	Reference
I-30-7	waste management	This company has got their own rubbish truck, and whatever can be recycled is recycled.

The next step taken to increase familiarity with the data was to identify a textual code and one of the three main themes (SC, VC, Strategy). The idea of producing a textual code follows the in-vivo coding technique (Saldaña, 2016) whilst preserving context and meaning (Bryman, 2006). Table 10 illustrates an example of the process for identifying the stage and code for each label and reference.

Table 10. Example of allocation of stage and code to a label and reference

<i>Stage</i>	<i>Code</i>	<i>Label Address</i>	<i>Label</i>	<i>Reference</i>
2. Strategic actions that produce SC benefits	Identify firms' standpoint	PI-1-74	Fine-tune objectives	"So, we understand that it [participating in CPDs] also enhances it [our firms' BST strategy] - it gives us an idea of the changes to our objectives based on what we are hearing at the events."

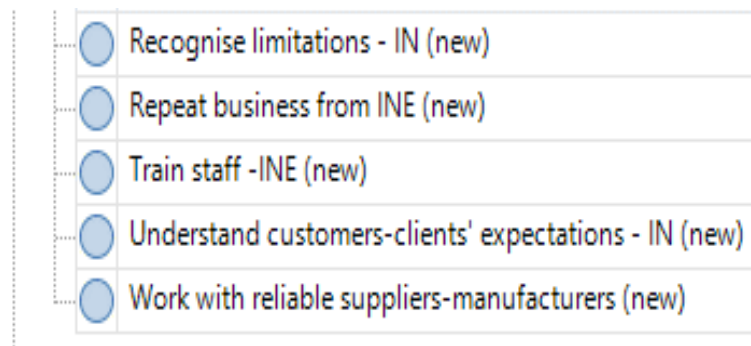
In total there were 4,511 codes of which 15 percent was common across the interviews and the remaining 85 percent was unique. This proved to be a lengthy task as there were somewhat similar codes which prompted to look for a more efficient way of finding common codes. As a result, the interviewer continued with the data analysis in NVivo 12 where codes could be easily created and references from the MS Excel file could be linked after consultation with main supervisors. The next step was the generation of

codes through two cycles of coding applying mainly four coding techniques: descriptive, deductive, and inductive for the first cycle, and axial coding for the second cycle.

3.4.4. *Generating initial codes*

This study engaged in the process of coding by grouping one datum at a time into categories that were organised and later categorised. The process of coding in this qualitative study began by understanding the notion of ‘code’ defined as “a researcher-generated construct that symbolises or “translates” data” (Vogt et al., 2014, p. 13) to identify patterns, categories, propositions, and/or the development of theory. Coding is guided and interpreted from the researcher’s perspective or analytic lens, and as Saldaña (2016) concludes “what is happening with the data depends on what type of filter covers the researcher’s lens and from which angle you view the phenomenon” (p. 8). The coding process applied first and second cycles of coding (Saldaña, 2016). For the former, the elemental and grammatical methods were applied to address the deductive-inductive coding techniques whereas for the latter, the axial coding was applied. The deductive coding was applied based on the themes derived from the literature review and encompassed the concept and descriptive coding methods (Saldaña, 2016). The inductive coding method applied *In-Vivo* coding – which are “terms used by [participants] themselves” (Strauss, 1987, p. 33), and ‘open coding’ (see Figure 13) – aimed at dissecting transcripts into smaller pieces of data to inspect and compare them in order to discover parallels and variances (Strauss and Corbin, 1998).

Figure 13. Example of initial codes



Source: Author’s development using NVivo 12.

The inductive coding took longer than the deductive coding to be developed because some codes needed to be renamed, whilst others needed to be grouped with similar codes to have a more representative code also considering low frequency of references. Figure 13 is an extract of initial codes using NVivo 12. Other initial coding techniques include descriptive coding – which “summarises in a word or short phrase the basic topic of a passage of qualitative data” (Saldaña, 2016, p. 102). According to Saldaña (2016) “coding is the transitional process between data collection and more extensive data analysis” (p. 5) whilst

Charmaz (2002) describes coding as the ‘critical link’ to explain the meaning of the data collected. The second cycle of coding is aimed at developing an understanding of categories, themes, concepts and theories resulting from the initial coding cycle (Saldaña, 2016). Accordingly, this study follows the first cycle of coding (Saldaña, 2016) examined next.

First Cycle Coding Method

The first cycle of coding helped organising the data collected in the semi-structured interviews, also described as “a systematic order, to make something part of a system or classification, to categorize” (Saldaña, 2016, p. 9). Hence, for this study, the abductive approach began with the first cycle coding method which examined and applied the deductive coding – a top-down approach – using ‘*a priori*’ themes found in the literature review, followed by the inductive coding technique to the forty-one interview transcripts. The deductive coding is explained first.

Deductive coding was used to allocate interview data to pre-existing themes and subthemes found in the literature review, in other words, adopting a top-down approach (Eriksson and Kovalainen, 2016). This coding technique is based on the use of categories (e.g., themes and subthemes) created using ‘*a priori*’ codes derived from the literature review (Montgomery et al., 1989), presented in Chapter Two to confirm Findings in earlier studies and set the starting point for the identification of new knowledge within the data collected from the interviews. The *a priori* themes and subthemes helped in the development of the initial structure crafted mainly from three themes whilst exploring their links to BST.

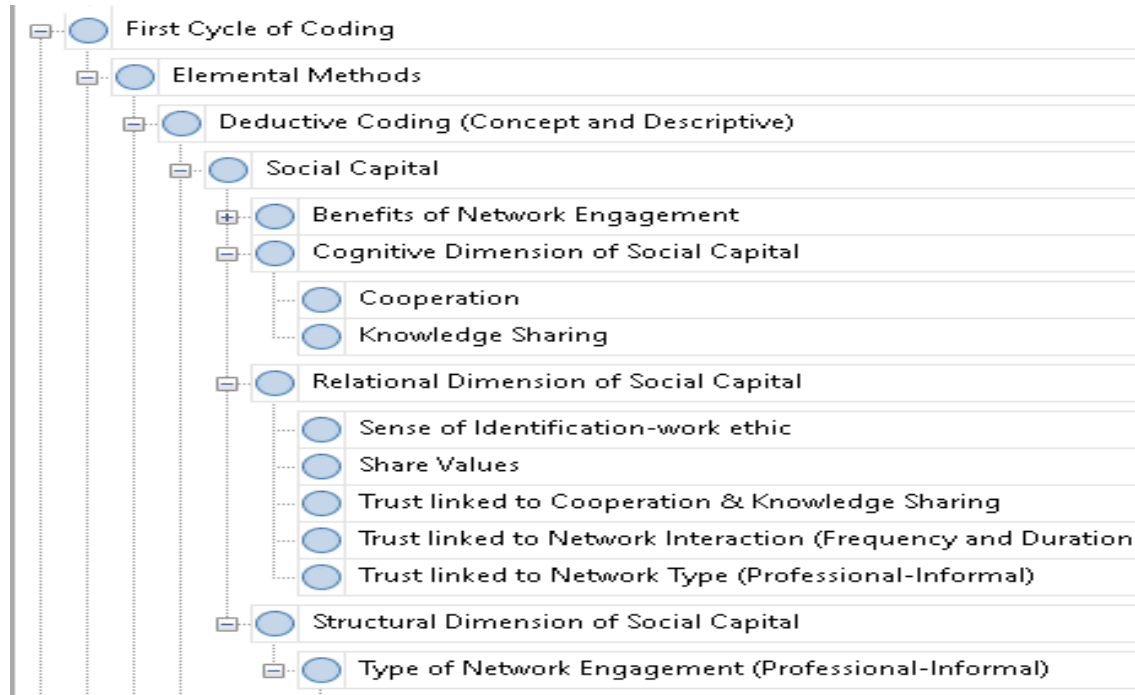
Initially, the SC dimensions and benefits themes were derived from Nahapiet and Ghoshal’s (1998) proposition model of SC dimensions linked to VC (Tsai and Ghosal, 1998). Secondly, the VC theme was derived from works by Moran and Ghoshal (1996) and Bowman and Ambrosini (2000). Thirdly, the firm strategy concept was linked to VC supported on works by Porter (1980; 1985) and Brandenburger and Stuart Jr. (1996). The SC, VC and firms’ strategy themes were linked to BST (Broccardo and Zicari, 2020; 2015; Rai, 2016). The deductive coding results are in the Findings chapter, and the resulting *a priori* structure that supported the development of the interview questions is below (for definitions, please see Appendix A). The deductive coding process encompasses mainly the descriptive coding process, where Findings for the three main themes are described to evidence the *a priori* codes found through the literature review.

The **descriptive coding** method provides guidance to allocate interview data to specific predetermined codes derived from the literature review. The descriptive coding summary produced in NVivo 12 is shown in Figure 14. The description coding technique was useful to link the responses of each participant to each construct, themes and subthemes providing an overall perspective of (dis) similar answers for the same question. Additionally, the descriptive coding technique assisted with the identification of relevance given to specific topics during the interview by some participants whilst describing with less detail other topics. This was made clearer when firms described their lack of engagement in membership-based networks.

A priori themes applied to develop interview questions

1. Social Capital
 - 1.1. SC Dimensions
 - 1.1.1. Structural Dimension
 - 1.1.1.1. Membership-based Network Ties
 - 1.1.1.2. Other Support Network Ties
 - 1.1.2. Cognitive Dimension
 - 1.1.2.1. Cooperation
 - 1.1.2.2. Knowledge Sharing
 - 1.1.3. Relational Dimension
 - 1.1.3.1. Trust
 - 1.1.3.2. Sense of Identification
 - 1.2. SC Benefits
 - 1.2.1. Information
 - 1.2.1.1. Access to diverse/broad information
 - 1.2.2. Knowledge
 - 1.2.3. Firm Performance
 - 1.2.4. Influence, Control, Power
 - 1.2.5. Solidarity
 - 1.2.6. Trust
2. Value Creation
 - 2.1. New Product/Service
 - 2.2. Modification of a Product/Service
3. Firms' BST Strategy
 - 3.1. Economic
 - 3.2. Social
 - 3.3. Environmental

Figure 14. Code summary by code from the descriptive coding process



Source: Author's development using NVivo 12.

Once the deductive coding phase was complete, the inductive coding or 'bottom-up' approach was pursued. **Inductive coding** was applied to discover new codes; thus, adopting a bottom-up approach (Eriksson and Kovalainen, 2016). Figure 15 is a sample of additional SC benefits found in the literature review represented by codes (detailed examination of these benefits is presented in Chapter 5).

Figure 15. Excerpt of SC benefits found in the data collected.



Source: Author's development using NVivo 12.

Second Cycle Coding Methods

The second cycle of coding helped to identify underlying themes that supported other less relevant themes. In other words, this cycle provided guidance to “linking seemingly unrelated facts logically....fitting categories one with another” (Morse, 1994, p. 25). The second cycle applied the axial coding technique described next. *Axial coding* has helped to “strategically reassemble data that were “split” or “fractured” during the initial coding process” (Strauss and Corbin, 1998, p. 124). Additionally, this coding technique supported the process of distinguishing between “dominant ones [themes] and less important ones [themes]” (Boeije, 2010, p. 109). In addition to support this differentiation, axial coding has helped to link together categories not previously linked in the initial inductive coding process. This coding phase follows Strauss and Corbin’s (1998) work based on an interactionist paradigm that applies axial coding to provide an understanding of the core phenomenon found in the data within its context, the conditions that have influenced it, the strategies by which it has been dealt with, and the effect observed.

Axial coding supports the identification of relationships amongst the categories resulting from the first initial coding phase and “builds a model of the phenomena that includes the conditions under which it occurs, the context in which it occurs, the action and interactional strategies that describe the phenomena, and the consequences of these actions” (Mertens, 1998, p. 352). The axial coding process also helped to set the foundations for the “Reviewing themes” section, which according to Braun and Clarke (2006), is a phase that involves two levels of review: first, it requires reviewing the themes at the level of the coded data extracts to “consider whether they appear to form a coherent pattern” (p. 91). Second, to review the extracted themes and compare them with the entire data set to evidence “whether your candidate thematic map ‘accurately’ reflects the meanings evident in the data set as a whole” (p. 91). Eriksson and Kovalainen (2016) also describe axial coding to have two levels of analysis, one, “the actual words used by the respondent” (p. 208), and two, “our conceptualisation of these words, which is our interpretation of the events described in the text” (p. 208); moreover, the authors describe the actual process of axial coding to aim “for answers to questions such as why or how come, where, when, how and with what results” (p. 208) to reveal the relationships between categories that provide the interpretation to the phenomenon. The axial coding helped visualise the linking amongst the three themes related to the generation of SC benefits, creation of value and enhancing of SMEs’ BST strategies.

3.4.5. Searching for themes

This stage aimed to group similar codes into themes that provided supporting arguments to answer the research questions. Searching for themes “re-focuses the analysis at the broader level of themes, rather than codes, involves sorting the different codes into potential themes, and collating all the relevant coded data extracts within the identified themes” (Braun and Clarke, 2006, p. 89).

3.4.6. Reviewing themes

This phase was focused on revising the themes identified in the previous phase to shed light on to those themes with richer frequency of references and to merge those with less supporting data with other in similar conditions whilst aiming to achieve a “clear and identifiable distinctions between themes” (Braun and Clarke, 2006, p. 91). The ‘reviewing of the themes’ phase also aimed to refine and review the resulting themes derived from the previous phase and look at them from a different perspective to examine whether they are in line with the research questions and if there is a pattern that makes sense. In this research for example, the examination in this phase looked at how the three main themes could be linked through stages in each of the three processes identified whilst acknowledging that each stage plays an essential role in the generation of SC benefits to create value and enhance BST strategies.

3.4.7. Defining and naming themes

In this phase, a suitable thematic analysis was developed (see Chapter 5) to present each of the processes whilst “identifying the ‘essence’ of what each theme is about and determining what aspect of the data each theme captures” (Braun and Clarke, 2006) to produce aggregate dimensions. This process was the result of further examination of core Findings that emerged from the data analysis providing support for the development of the connecting line across the themes to evidence their inter-relationship and the role they play within each process.

3.4.8. Producing report

This is the last phase of TA where themes have been distilled and aggregated to provide a representation of Findings and data analysis. The purpose of a thesis is “to tell the complicated story of your data in a way which convinces the reader of the merit and the validity of your analysis” (Braun and Clarke, 2006, p. 93), and this story is presented in the next chapter. Findings tell the story through the elaboration of stages that build each of the three processes that provide answers to the research questions. Such story has been supported by illustrative quotes from the data collected as a result of the data analysis to suggest the emergence and predominance of the themes and overarching process.

3.5. Research Ethics

Ethical considerations for this study were first discussed with the main research supervisor, Dr. Natalia Yakovleva, who presented the ‘Newcastle University Ethics Policy for Research, Teaching and Consultancy’ as the framework to develop an initial draft of the ethics’ proposal. As a result of the initial

draft, the researcher understood ethical considerations were an integral part of the governance framework at Newcastle University to ensure the highest possible benefit whilst minimizing any potential harm to himself, his supervisory panel, all participant firms, and any stakeholder involved in the study. The researcher followed the three main principles set by the University: first, welfare, focused on acknowledging “the welfare of participants as a goal of [his] activity” (p. 4). Second, autonomy, based on honesty, safeguarding of others and himself besides making sure participants are well informed and provided consent to participate in the study. And justice, considering “a fair distribution of effort, costs and benefits” (p. 4).

Once the initial proposal was submitted, the main research supervisor recognised this study to have low-risk, suggesting “there are no significant ethical issues (and therefore no further review is needed)” (Newcastle University, 2020, p. 5). Consequently, the researcher followed the Newcastle University Ethical Approval Process during October- November 2017. The process began by the completion of the ‘University Ethics Form’ through e-Portfolio following feedback from the main supervisor. The Ethics Approval form was also part of the Project Proposal which together were submitted on December 2, 2017. The Project Approval was granted on January 16, 2018. Having recognised the specific consequences, benefits and drawbacks for the researcher, the participants, and other stakeholders, the researcher identify the ‘utilitarian’ ethical theory (Deyhle et al., 1992) which often presents a “traditional scientific stance” (Miles and Huberman, 1994, p. 289) by following the agreement of respondents via informed consent, carry out field work in a sensitive form to avoid harm to respondents or to others, and to enforce strict confidentiality throughout the data collection and analysis process including reports (Flinders, 1992). Four ethical principles follow the utilitarian theory, namely that the research identifies whether there is harm to participants, lack of informed consent, invasion of privacy, or any type of deception involved (Diener and Crandall, 1978).

Considering research ethics, the utilitarian ethical theory, and Diener and Crandall’s propositions, this study developed ethical considerations for the unit of analysis – in this case SMEs in the construction industry in the UK. The unit of analysis involved the interaction with an adult population, 18 years old and older, not requiring consent to participate from anyone apart from their own willingness to participate in the study. This study also considered the interviews to be carried out on on-site, and with limited time for the interview. Nonetheless, not only the setting is important when covering research ethics but also the explanation of the nature of the study, the purpose of the data collected, managers’/directors’ willingness to participate, and confidentiality of data shared during the interview (Leavy, 2014). This study made every effort to accommodate not only the preferred setting for the participant to be interviewed, as described earlier, but also to explain the nature of the study during initial conversations over the phone, face-to-face and email. Accordingly, the researcher explained that the purpose of the data collected was to be used for academic purposes to support a doctoral degree at Newcastle University to understand the benefits that SMEs in the construction industry in the UK, receive when engaging with stakeholders in order to identify

how those benefits create value beyond economic rents, whether those benefits and value created enhance and strengthen firms' BST strategy.

Also, the researcher read a 'research consent' form out to the participants (see Appendix C) where it was explained and mutually agreed that the study was anonymous, that no personal or financial data had to be shared, that the respondent could contact Newcastle University at any point to confirm the veracity of the investigation, that they were free to choose to (not) answer any question in interview schedule, that they voluntarily agree to be voice-recorded throughout the interview, and that they can opt out of the interview at any point if they chose to do so. Soon after this stage, the interviewer asked for permission to record the interview. Once the interviewee had agreed to be recorded, the interview began. At the beginning of the interview, the interviewee had a printed copy given for readability and accuracy purposes where interview questions could be followed while the interviewer was asking the questions. This protocol provided greater clarity of the questions being asked with the provision that there were clarifications to be made, explanations or examples needed. During the interview, the interviewer used probing to request further details, to generate engagement and to clarify complex descriptions whilst acknowledging respondents' positive non-verbal language acting sensitively (Leavy, 2014). At the end of each interview, the researcher thanked the interviewee for participating, and stopped the recording device becoming the end of the data collection process. Firms' data was stored safely in a personal computer, and not shared with other firms except with the designated university bodies upon request following Bell et al.'s (2018) guidelines. Such guidelines include data management – safe storage and handling of data, copyright – which belongs to the researcher (UK Data Archive, 2011), reciprocity and trust – evidenced through mutual benefits of participants sharing their information whilst the researcher sharing the findings, and the need to declare affiliation and conflicts of interest – which was made clear to participants by stating that this was a self-funded study supporting a doctoral degree at Newcastle University.

3.6. Research Limitations

This study presents limitations and anticipates suggestions for future research further discussed in the Conclusion chapter. For example, the need for additional examinations is required not only from the qualitative perspective in the form of in-depth interviews to further determine the influence of benefits derived from network engagement towards VC and strengthening of firms' economic, social, and environmental sustainability, but also from the quantitative perspective that allows for generalizability. This study presented a specific limitation during the initial stage of quantitative data collection producing an extremely low response rate through email and other forms of digital interaction with only 5 replies out of 400 emails sent suggesting a 1.25 percent response rate which for this study meant a change of strategy for data collection was required. For future research, the quantitative perspective may prove to be a difficult challenge particularly in the construction industry, as this study found out, due to its nature being nearly

always on-site and away from any electronic devices such as a desktop computer, tablet or laptop through which questionnaires could be distributed, answered, and submitted for data analysis. Further limitations of this study rely upon one-industry context and market segmentation factors such as demographics, geographical location, psychographics, and behavioural influencing the responses obtained. In summary, this study comprehends a qualitative research design that adopts a relativist ontology, a constructivist epistemology, and an interpretivist axiology. The research applies interpretivism as the philosophical/theoretical perspective following a qualitative methodology that analyses data collected from semi-structured interviews using thematic analysis via an abductive approach (combining deductive and inductive coding in an iterative process).

3.7.Chapter Summary

This chapter completed the methodology section in this thesis describing the strength of the validity and reliability process through the adoption of transparency in the form of a clear account of steps taken to describe how the research was planned, executed, analysed, and reported. The interview process adopted three key descriptors for the data collection phase ensuring the use of reliable audio recording equipment, careful transcription of the audio data, and the existence of long extracts of data. Despite the sampling and data collection processes spanning for seven months, the data collected provided high quality findings, from forty-one interviews, as the main ingredient for the data analysis phase not without limitations and setbacks such as the lack of cooperation from membership-based organisations, accreditation bodies, and several construction companies throughout the data collection process. The data analysis process, applying TA, described throughout this chapter followed six phases (Braun and Clarke, 2006) to ensure reliability and validity during the presentation of findings. The TA process helped identify conceptual and core codes producing emerging themes that subsequently helped in the identification of aggregate dimensions for each of the nine stages that form the three main subprocesses completing one overarching process (see Section 5.3.). Findings of this study are presented next.

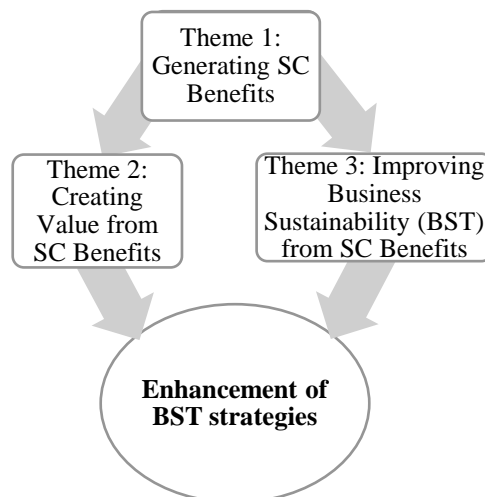
Chapter 4. Findings

This chapter examines the SC-VC-BST strategy relationship and answers the three research questions. The research process had five objectives: first, to identify how network engagements produce SC; second, to confirm that SC, as experienced by business practitioners, produces the benefits described in the literature, and whether there were any additional benefits; third, to explore whether SC benefits only produced financial and manufacturing value (Tsai and Ghoshal, 1998) or if there are other categories of value created – intellectual, human, natural, and social – (IIRC, 2013); fourth, to investigate the SC-VC-BST strategy relationship and identify any (co)dependencies; and fifth, to examine whether the interaction among the SC dimensions exhibits similar or alternative dynamics (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998). This chapter is organised around the research questions describing the process of generating SC benefits through the identification of strategies deliberately applied by SMEs leading up to the acquisition of SC benefits which answers research question one. For research question two, the identification of strategies deliberately applied by SMEs to transform SC benefits into value and the categories of value created; and for research question three, the identification of strategies that have enhanced the BST of SMEs, the resulting BST sustainability strategies, and the influence of SC benefits on such strategies.

4.1. Overview of Main Themes and Overarching Process

To answer the three research questions, three themes were examined in this chapter: Theme One, ‘Generating SC benefits’; Theme Two, ‘Creating value from SC benefits’; and Theme Three, ‘Improving Business Sustainability (BST) from SC benefits’ to produce ‘Enhancement of BST strategies’. Figure 16 represents how the three main themes are interrelated and how the enhancement of BST strategies occurs.

Figure 16. Three Themes in this study for strategy enhancement



These themes are examined using quotes from interviews with participants to support each theme and explain how they are interrelated to demonstrate how the three main themes answer the research questions and construct one overarching process composed of nine stages (see Figure 17), through a first and second level of analysis to develop aggregate dimensions presented in **sections 5.3. and 5.4.**

Figure 17. Firms' strategies generating SC benefits, transformation into value, and enhancement of BST strategies.

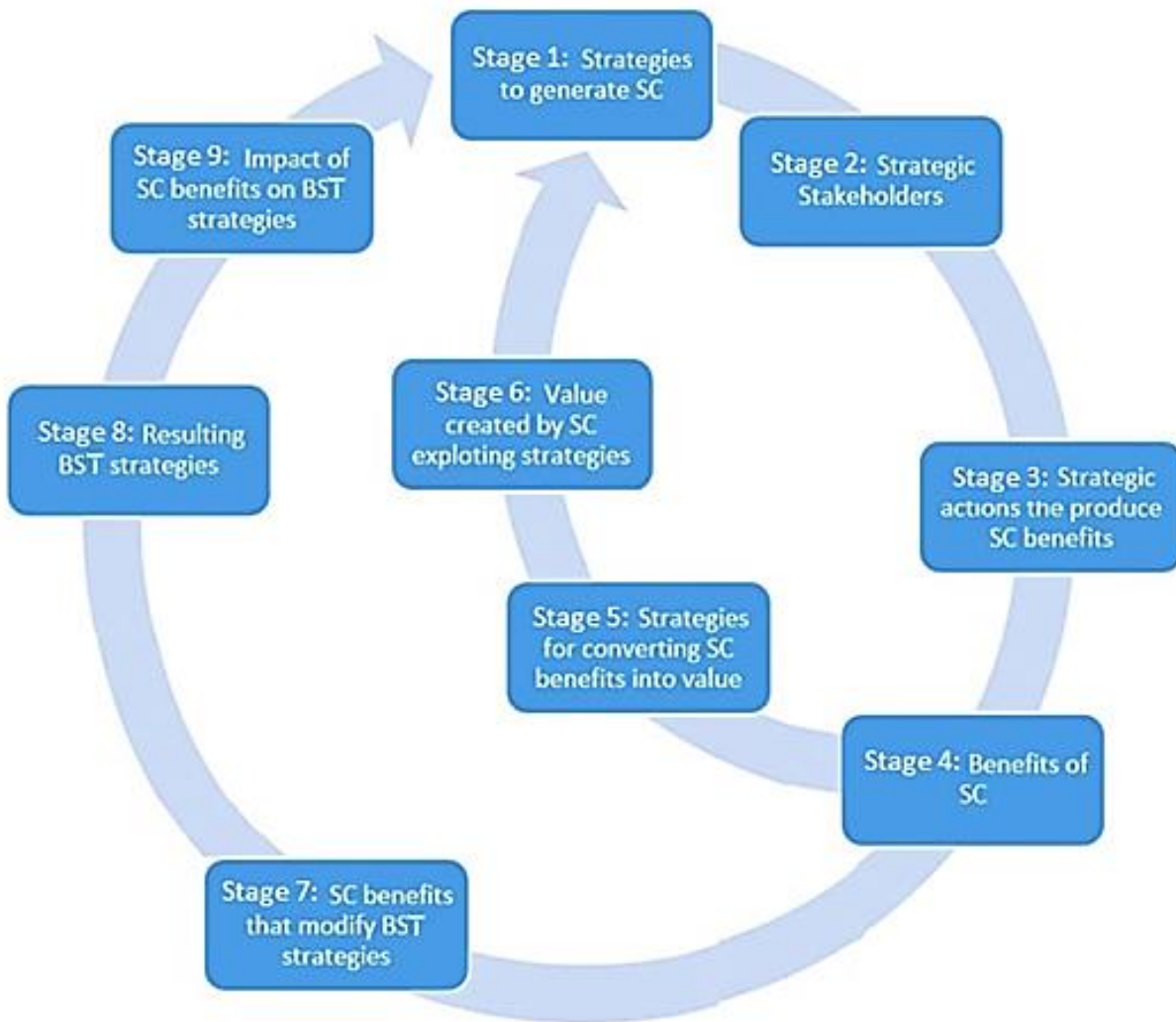


Table 11 identifies the link from the three research questions to Theme One – generation of SC benefits (see Section 5.2.1.), Theme Two – creation of value from SC benefits (see Section 5.2.2.), and Theme Three – improvement of business sustainability strategies from SC benefits (see Section 5.2.3.) as well as with their respective stages within the overarching process and the resulting aggregate dimensions.

Table 11. Research questions and themes development

RQ #	Research Questions	Top-Level Themes	Stages of Overarching Process	Aggregate Dimensions
1 st	What strategies do individual SMEs in the UK's construction industry apply to generate SC benefits through network engagement?	Generation of SC Benefits	Stage One: Actions applied to generate SC benefits	Accreditation and strategic engagements
			Stage Two: Strategic stakeholders	Identify Strategic Stakeholders
			Stage Three: Actions that have produced SC benefits	Integrity in positive engagements with strategic stakeholders
			Stage Four: Resulting SC benefits	Social
Human				
Financial				
Manufacturing				
Natural				
Intellectual				
2 nd	How do SMEs, in the construction industry in the UK, create value from the SC benefits generated?	Creation of Value from SC benefits	Stage Five: Actions for converting SC benefits into value	Integrity
			Stage Six: Types of value created from SC exploiting conversion actions	Social
				Financial
				Human
				Intellectual
				Manufacturing
Natural				
3 rd	How do SC benefits enhance the BST strategies of individual SMEs in the UK's construction industry?	Improvement of business sustainability strategies (BST) from SC benefits	Stage Seven: Identify SC benefits that enhance BST strategies	Social
				Financial
				Manufacturing
				Human
				Natural
				Intellectual
			Stage Eight: Resulting BST strategies	Social
				Economic
				Environmental
			Stage Nine: Outcomes of SC benefits of BST strategies	Economic
				Social
				Environmental

4.2. Findings for Main Themes

Three main themes have been identified for the analysis of the relationship between SC and VC, and their influence on firms' BST strategy. First, 'generation of SC benefits', focused on understanding what actions SMEs deliberately apply to generate SC benefits, and what concrete benefits result from such actions; second, 'creation of value from SC benefits', concerned with understanding how SMEs deliberately

transform SC benefits into a type of value in any of its six forms (e.g., financial, manufacturing, social, human, intellectual, or natural); and third, ‘strategy enhancement from SC benefits and VC’, aimed at understanding how the SC benefits generated aid in the improvement of firms’ BST strategies. Findings are supported by illustrative quotes, guiding the body of evidence, beginning with Theme One – Generation of SC benefits.

4.2.1. Theme One: Generation of SC benefits

The process for the creation of SC benefits begins via deliberate actions set by firms to establish network engagements. Such engagements are the building block of the structural dimension of SC along with the cognitive and relational dimensions, the three main subthemes of SC. For this study, the generation of SC benefits was examined amongst SMEs in the construction industry in the UK and the interrelationship of the three SC dimensions to generate benefits through specific actions. The first step that firms follow towards the creation of SC benefits is to deliberately deploy actions that nurture network engagements; then, once firms have planned such actions, they focus on nurturing network engagements with strategic stakeholders such as clients/customers, tradesmen/contractors, suppliers/distributors, accreditation bodies, membership-based associations, and communities. To examine how SC is generated, a closer inspection into the three SC dimensions along with their subthemes was carried out through the data analysis; therefore, Theme One examines Findings related to actions that SMEs have deliberately applied to generate SC benefits through network engagements as part of the analysis on the structural dimension of SC and its subtheme, ‘types of network ties’.

Structural Dimension

This dimension of SC is focused on the development of relationships amongst firms and stakeholders. The structural dimension examined the subcategory ‘types of network ties’ defined as those stakeholders that firms decide to develop business interactions with. Accordingly, the data described that such interactions are the result of deliberate actions set out by SMEs to engage with stakeholders. Findings produced thirteen, including five core actions, that SMEs have deliberately carried out to foster network engagements with external stakeholders. Actions with the richest frequency of references included: first, ‘to engage with stakeholders’, mainly with clients and/or customers, defined as those deliberate activities carried out by firms with the aim of selling and/or offering products/services to persons/institutions interested in acquiring/hiring them:

"First just a meeting, and then email, confirming things and an email of project stages, and then phone calls. If they cannot ring and ask me things, I ring and ask them for regular meetings. And

thirdly, I would make sure that at least once a week, we'd have a meeting" [I-6, Architecture, Director]

Second, 'to work on projects with tradesmen/contractors', defined as the deliberate participation in projects with persons that have skills and/or offer services to the construction industry:

"Sometimes you're working literally alongside a different trade, but they're employing you. So, loads of times I've gone on and they've said, "we've enjoyed working with you, you work well with us" They have you in mind for other jobs. So that is a definite" [I-11, Plastering, Administrator]

Third, 'to engage with suppliers/distributors', defined as deliberate actions of buying products/services for the construction industry from firms that sell and/or distribute them:

"With the wholesalers [suppliers/distributors] most of that stuff is not bought in this country, it comes from Germany, so I've got a good relationship with most of the people I deal with there but it's very digital, pretty much just pen pals, but we do get on and there is a relationship there, there is an understanding with most of them" [I-22, Interior Design, Showroom Manager]

Fourth, 'to hold a trade and/or professional accreditation', described as the deliberate pursuing of certifications by a trade/professional association that allows firms to perform a trade/skill in the construction industry:

"We belong to Sussex Chamber of Commerce, and we also belong to the NIC-EIC, ECA, Gas Safe and Fgas because we'd not be able to get jobs without these certifications" [I-9, Central Heating, Director]

And fifth, 'to pay for memberships in organisations', defined as the ability and intention to pay for a monthly/annual membership in one or more organisations (e.g., business directories, trade/professional associations, chambers of commerce):

"We are RIBA members [membership-based association] for different reasons since it helps with the growth of our customer base because we speak to architects that know who we are, and what our product is, it is also useful because they [membership-based association] keep us up-to-date with changes in building regulations that might have an effect on our business...we certainly get market based information but they email it to us on a weekly basis...the other advantage of being members is understanding architects better and understanding the ground of work" [I-2, Glazing, Head of Marketing]

Findings suggest these five core actions are pursued deliberately by leaders in firms with different aims, either to increase revenue, to enter (expand) a market, to reduce costs through procurement strategies, to get access to new contracts, to increase firm's reputation, and to increase systemic trust through the membership in associations such as RIBA, Sussex Chamber of Commerce, NIC-EIC, among others considering arguments examined in sections 2.2.4. and 2.2.5. Nonetheless, initial actions, including the five core actions, are not pursued at random, as a result of careless thinking, or impulsively; Findings suggest firms go through a planning process that allows them to provide an order to network engagements.

The first level of analysis, presented in the first four columns in Table 12, evidences SMEs plan mainly five actions to pursue network engagements. This was concluded after considering those main five actions experienced the richest frequency of references whilst accounting for 89 percent of the references from the thirteen actions identified (see Tables 12 and 13).

Table 12. Core actions and emergent subtheme

First level of Analysis					Second Level of Analysis
Label	Action Code	References	# of Firms	Total	Actions for Networking
1AC1	To engage with clients/customers	623	41	Core Codes: 1976 1976/2229 = 89%	<i>To engage with strategic stakeholders.</i> <i>To be accredited.</i>
1AC2	To work on projects with tradesmen and/or contractors	439	41		
1AC3	To engage with suppliers/distributors	348	38		
1AC4	To hold a trade/professional accreditation	288	27		
1AC5	To pay for memberships in organisations	278	27		
Total Core Action Codes		1976	41		
Total references (1AC1-1AC13)		2229			

The first level of analysis led to the second level of analysis that produced a second-order theme evidencing the main actions SMEs apply towards networking which are ‘*Hold a trade accreditation, engage with clients and/or customers, work with tradesmen and/or contractors, engage with suppliers and/or distributors, and pay for memberships*’. The second level of analysis is further examined in section 5.3.

In the interest of clarity, and to avoid double-counting, an additional column was added next to the number of references where the analysis and identification of core actions that were applied by each individual firm, identified that 41 out of 41 firms engage with clients and/or customers plus work on projects with tradesmen and/or contractors whereas only 38 out of 41 engage with suppliers and/or distributors. This is understandable from the perspective that some firms described their business as service-based and not dependant on any supplier or distributor (e.g., energy management consulting, surveyors, and scaffolders). However, only 27 out of 41 (66%) firms hold a trade and/or professional accreditation plus pay for a membership in an association, chamber of commerce, and/or business directory missing potential opportunities described by firms that have a membership and/or accreditation as well as lower their systemic trust. In total, out of the five core actions to engage with networks and possibly generate SC benefits, only twenty-one (51%) firms have applied all five core actions, eleven (27%) have applied all but one core action, seven (17%) only three core actions, and two (5%) only two core actions. Additional supporting actions for

network engagements mentioned by participants include those in Table 13 for a total of thirteen actions applied with the aim to develop relations that could produce SC benefits.

Table 13. Additional action codes applied by firms for network engagements

Label	Action Code	References	# of Firms	Definition
1AC6	To engage with manufacturers	82	22	The deliberate intention of buying products from firms that manufacture products for the construction industry.
1AC7	To advertise products/services	64	23	The presentation of products/services using diverse channels (e.g., social media, printed press, radio, TV) with the intention of generating revenue and/or brand awareness.
1AC8	To attend seminars/conferences	41	11	The intentional participation in formal presentations or conferences on topics related to the construction industry.
1AC9	To participate in social events	40	16	The deliberate participation in informal gatherings (e.g., parties, concerts, BBQs, sports).
1AC10	To work on projects with competitors	17	9	The deliberate participation in projects with firms that sell same/similar products/services.
1AC11	To attend business meetings	6	2	defined as the deliberate participation in informal breakfast/lunch gatherings.
1AC12	To use digital communication channels	2	2	the deliberate actions engaging through social media, websites, videos, blogs, and/or email with the purpose of offering products/services.
1AC13	To have a physical store	1	1	the deliberate action of renting/buying a brick-and-mortar place with the purpose of offering products /services.
Total references (1AC1-1AC13)		2229	41	

Once organisational leaders have decided on and carried out the actions in Tables 12 and 13, they decided who they needed to interact with. Such parties are labelled ‘strategic stakeholders’ including clients and/or customers, tradesmen, contractors, accreditation bodies, trade associations, suppliers, manufacturers, and communities:

"It [our network interaction] is a real mixture, so it is everything from the people who actually use our product, so probably builders, people that specify our products, specifiers, architects, people who essentially buy our products, housing associations, councils, developers, and then you have got the merchants." [I-1, Building, Director]

Participants also described engagement with several stakeholders that hold different levels of salience for the firm depending on their perceived relevance, reliability, and usefulness. For example, interviewees

highlighted the stakeholders they interact with the most are clients and/or customers characterised by buying and/or using products and/or services from firms:

"Through interaction, engagement, asking questions, we develop strong relationships, and the stronger relationships you've got with them [clients/customers], the more likely they are to buy your products again and again. " [I-1, Building, Director]

Second, tradesmen and/or contractors, comprising persons that have skills and/or offer services for the UK's construction industry:

"We have a team that works with us, I will call on a structural engineer that I'll use all the time and from the design side of view, plus, if I need a planning consultant, or building consultant, and then from the actual building projects, we have a group of tradesmen who work with us on all our projects that we have built up over the years." [I-6, Architecture, Director]

Third, suppliers and/or distributors, encompassing firms that sell and/or distribute products and/or services for the UK's construction industry:

"The advantage of having a close relationship with suppliers is that we can just ring them up anytime and pick their knowledge to help our customers." [I-20, Plumbing, Branch Manager]

And in fourth place, membership-based organisations, defined as centralised organisations that offer services for a fee to trade members interacting with the UK's construction industry:

"The ECA [Electrical Contractors Association] are the most proactive. At the end of the day, wholesalers, and suppliers want to sell you the product. The NIC [accreditation body], they're more of a requirement than anything else. And the ECA, because it's run by its members who are contractors, I think it's much more proactive in providing useful information and things like that." [I-32, Electrical, Director]

Findings revealed that these four stakeholders account for about 77 percent of the references (see Table 14) suggesting firms ought to develop their strategies focused on those four stakeholders. For example, SMEs could provide training to increase customer service quality and develop meaningful connections with tradesmen/contractors through holding values such as honesty, reliability, and transparent communication. Additionally, the deliberate engagement of firms with membership-based associations is mainly due to systemic trust, as managers and directors look for support from institutions that represent their trade "If I see someone with a Checkatrade sticker on the van, I just think he just paid 150 pounds for a Checkatrade sticker. It doesn't mean he's any good...I would respect somebody with a national association of scaffold contractors' badge " [PI-4, Scaffolding, Director] as well as give them certain 'status' through selectivity dynamics considering "They [membership-based associations] have a level of professionalism about them, and you know that they would only allow selective firms into their professional association" [PI-1, Architecture, Business Dev. Director]. Other managers-directors look for access to quality information that helps them provide well-informed customer/client service "The [professional association] gives you free specialist codes of practice, you can download them for free, and that's a fantastic resource because that helps support arguments, when you're with a client" [PI-2, Interior Design, Director]. Furthermore, the

deliberate engagement with membership-based associations, evidences the relevance of systemic trust, but also the link between four theories: SC theory – explaining the deliberate network engagements, stakeholder theory – explaining the salience of interest groups for organisations, VC theory – explaining the deliberate transformation of assets to generate revenue, and BST theory – arguing in favour of optimising actions to make sound decisions and increase the life of the firm.

The first level of analysis, in Table 14, identified four core categories of network ties suggesting that SMEs engage with clients and/or customers, work with tradesmen and/or contractors, use the support from suppliers and/or distributors, and join membership-based organisations; thus, leading to the second level of analysis that produced a second-order theme labelled ‘*SMEs engage with clients/customers, work with tradesmen-contractors, use the support from suppliers-distributors, and join membership-based organisations*’, examined in section 5.3.

Findings also evidenced 41 out of 41 interviewees engage with clients and/or customers and tradesmen and/or contractors whereas only 38 engage with suppliers and/or distributors, and only 27 have a membership in a trade and/or professional association. This suggests that despite clients/customers and tradesmen/contractors being generally essential for the operation of SMEs in the UK’s construction industry, membership in trade/professional associations is not.

Table 14. Structural Dimension - core stakeholders and emergent theme

First level of analysis					Second level of analysis
Label	Stakeholder code	Refs.	# of Firms	Total	Strategic stakeholders
2St1	Clients/Customers	406	41	Core Codes: 890 890/1153 = 77%	<i>SMEs engage with clients/customers, work with tradesmen-contractors, use the support from suppliers/distributors, and join membership-based organisations.</i>
2St2	Tradesmen/Contractors	197	41		
2St3	Suppliers/Distributors	166	38		
2St4	Membership-based associations	121	27		
Total Core Codes		890	41		
Total References in Stakeholders (2St1-2St9)		1153			

Data analysis also clarified that leaders in 26 firms have engaged with all four stakeholders, 13 firms with three stakeholders, and two with two stakeholders, suggesting leaders have to engage with mainly three core stakeholders to enhance their BST strategies. Supporting stakeholders SMEs in the UK’s construction industry engage with are in Table 15.

To sum up, the data analysis has revealed, for the structural dimension of SC, that SMEs in the construction industry in the UK have deliberately pursued mainly four actions to interact with specific parties, denominated strategic stakeholders. First, the engagement with clients and/or customers, as the principal port of call, to find out their expectations and how firms can better address them.

Table 15. Additional stakeholders SMEs engage with

Label	Action Code	References	# of Firms	Definition
2St5	Accreditation bodies	95	20	Organisations, that provide accreditations and certifications to firms involved with the UK's construction industry (e.g., Gas Safe, NIC-EIC, Construction Safe, CHAS).
2St6	Qualified Workforce	84	27	Personnel employed temporarily and/or long-term by firms depending on the firm's needs.
2St7	Colleagues	38	17	Former and/or current workmates and/or acquaintances the firm has or is currently working with.
2St8	Manufacturers	37	10	Firms that produce goods for the construction industry.
2St9	Competitors	9	5	Firms that are selling and/or offering same and/or similar products and/or services as other firms.
Total references (2St1-2St9)		1153	41	

Second, the need to work on projects with other tradesmen and/or contractors, as usually in construction more than one trade is involved in most projects. Third, the engagement with suppliers and/or distributors as they are the source of materials and tools to fulfil clients and/or customers' expectations. And fourth, the holding (renewing) of a trade and/or professional accreditation, which according to participants, help firms have access to workshops, seminars and trustworthy information that can be presented to clients/customers.

Cognitive Dimension

This SC dimension is centred around the resources that provide shared representation, interpretation, and systems of meaning between parties in a network building of the relationship which basically is concerned with sharing the context that facilitates such exchange. The cognitive dimension encompasses the shared language and codes to facilitate sharing collective narratives which are supported by the structural dimension. Accordingly, the cognitive dimension of SC is produced through two subthemes: shared language and codes, and shared narratives. Shared language is defined as the method by which individuals talk and trade information and develop relationships in society whereas shared codes are, according to Littlejohn (2002), "a set of organizing principles behind the language employed by members of a social group" (p. 278), that is to say, there are forms of language representations through 'elaborated codes' and

'restricted codes', as examined in Chapter 2. Codes are also described as the organisation of data into groups to provide a framework for observing and interpreting the environment around them. The use of language and codes in SMEs in the UK's construction industry is not only necessary for staff interactions but becomes essential for synergistic approaches in this industry where diverse tradesmen depend on each other. Shared language and codes could take many forms, including banter:

"We've got a WhatsApp chat group, and the amount of abuse we give each other on that tells me that there's a high level of respect for everyone in the company, and everyone gets it. Probably, if we don't have the banter, it would have been more like a job and less like a family. And it's that sort of community we've got here. And I love it. I've never looked anywhere else. Having that banter is what I look forward to. I get up in the morning...I'm looking forward to coming to work now. The way I see banter, it's a sense of belonging. It's having some value and feeling important. It's just camaraderie. And it's just phenomenal." [I-30, Carpentry, Head of Carpentry]

Having a shared language provides the support for individuals and firms to generate SC benefits. The process is initiated through network ties (structural dimension) and nurtured by trust and norms (relational dimension). Participants clarified that sharing the same language has allowed communication within the firm and with external stakeholders which has enhanced firms' social strategy:

"I would say, firm's [social, human, intellectual, financial, and manufacturing] strategies have not only been better through my experience, I mean it is probably 80 percent experience which includes me and my business partner talking to each other to agree on what's happening, and 20 percent my partner talking to other firms" [I-1, Building, Director]

Communication processes through a shared language have been disrupted through an increased use of social media (e.g., Facebook, Twitter, YouTube) providing platforms for stakeholders to engage (structural dimension), develop trust (relational dimension), and share experiences (cognitive dimension) about each other without actually interacting, so in this way, SC has been generated without a live interaction:

"Whenever I look for a business partner, I'd do research and due diligence on that person or institution. I'd look on various networks to see the associations they are in but obviously I'd look them up online, on their social media, LinkedIn, do reviews, due diligence on the company and the corporate structure and that sort of thing" [I-3, Electrical, Director]

The identification and application of a shared code, through 'first impressions', were found to happen during initial interactions between firms and stakeholders:

"First impression is very important. It's like any business or any painter that turn up at my house, when I first look at you, how you are dressed, how your vehicle looks, level of politeness, the aggressiveness to get the job, getting the balance right is a very difficult thing sometimes and very often you can't teach that to your staff, it has to come from birth and from the beginning you have to try to get as many of the boxes ticked as possible then you are off to a good start, and then product knowledge and that sort of quality of what you're trying to sell. I know I only need one staff member who is perhaps not as polite or a little bit rude and some customers would think, "...hum? I didn't quite get the service I was expecting", and then you don't know how they would make a decision next time. That's how strict we are in our customer service" [PI-5, Ironwork, Director]

Further representations of codes, particularly ‘restricted codes’, are present between clients/customers and firms through the implicit understanding of current and future needs:

“When we develop customer relations, we see that as an opportunity, and we discuss with our staff how close we need to stay with them [customers] because sometimes I ask customers and they say “I don’t need anything now”, but I know that if I don’t stay close we might lose that customer, so I know that they might not need something right now but at some point in the future. So, we track all that and we keep close relationships with our customers based on our sales reps and our CRM [customer relationship management] system which tracks tasks, and keeps everything updated so we don’t work to reengage with customers” [PI-1, Architecture, Business Dev. Director]

Interviewees also described that sharing a language *per se* (e.g., English among native speakers) during stakeholders’ engagements was not enough to establish a commercial relation. For example, firms described the need to get the right message across through understanding clients’ expectations due to reasons such as the lack of experience negotiating with clients:

“I wasn’t very clear with my clients when I started, I learned to use a more specific language. Now, I never go and advise for free. I always charge... It’s a way of telling people that you’re very happy to help them, but you’re also depending on fees from consultations” [I-6, Architectural, Director]

In terms of shared narratives, defined as trading and having common stories, myths, and metaphors among individuals and groups, these facilitate the exchange of practice and tacit experience amongst stakeholders engaging in a network. Shared narratives can be present through positive and negative experiences. For example, a branch manager mentioned an experience where he had to use skills, he had built over the years to obtain the product that his customer was looking for. Such story has been shared amongst staff members, used as a training example for future situations, and shared as a tacit experience with other stakeholders:

“When we have problems with stock, I am not always polite, no. I mean the thing with manufacturers is, if I ring one up and I think they’re rude –I’d say, ‘You’re quite rude, and because I’ve been doing it so long, I know what they are up to. So, when I have customers coming to the counter and I have these people [manufacturers] on the phone I would hear them say, “no we don’t have any in stock” and I’ll go, well that comes off as we need to cut these guys [manufacturers] off. Then, they’ll look at their inventory again, and say ‘Oh there is one available yeah sorry, I found it’. If I didn’t have that experience, I’d just put my file down and say, sorry, we can’t do it. Then, the customer knows I am going the extra mile and is likely to come back. I think, for customer service, a lot of it is about knowledge, and sharing that experience with the youngsters.” [I-20, Plumbing, Branch Manager]

As evidenced by this Branch Manager, passing on experiences and knowledge could be useful but it is advisable that managers be selective of the knowledge that gets passed on as there could be pieces of information that could undermine firms’ operations such as ordering lower quality supplies; thus, affecting customer satisfaction levels.

Findings also recognised those firms who share a particular condition (e.g., operating in the same trade, identifying a limitation) with another firm understand each other’s situation, recognise its meaning, and develop relationships which nurture the development of SC benefits; thus, providing a meaning and a

level of sympathy to those initial interactions whilst strengthening future engagements. In this quote, the firm understands its limitations and recognise the relevance of working together with another firm in a similar condition:

“I mean, when engaging in a project we have to realise our limitations. So, if we hear that there's a huge contract going on, although it could be worth a lot of money it would overstretch us, and it wouldn't be worth for us approaching it. So, we have to realise what we can and can't do, and not overextend ourselves. So, we have to be very careful with our scheduling and satisfy that and if we were to chase jobs that were too big for us, we'd cooperate with another small firm to pursue that bigger job that neither small company could handle individually, and so we're going to do it together so we can both get the work” [PI-4, Scaffolding, Director]

In essence, Findings for the cognitive dimension of SC not only confirmed examples found in the literature but identified that shared language facilitates the generation of SC benefits, and that sharing a code also supports interaction amongst parties through the use of banter and ‘abuse’ as illustrated above. Moreover, the data analysis helped identify certain implicit codes such as ‘first impression’ and social media profiles. Findings for the cognitive dimension also evidenced factors influencing the sharing of language such as level of experience and following unconventional routes to communicate with other stakeholders whilst data analysis for shared narratives identified that sharing of positive and negative experiences not only with customers but with younger employees influence the quality and development of network engagements. Findings also identified the cognitive dimension occurs through shared conditions such as operating in the same trade or sharing a limitation which helps to generate SC benefits.

Relational Dimension

This dimension of SC encompasses four concepts that determine the dynamics of a relationship: trust, obligations, norms, and a sense of identification, described next. Trust is defined as a belief in the good intentions, the openness, the competence, and the reliability of another party (Mishira, 1996):

"When a customer becomes a recurrent customer, we see trust has been developed and certainly strengthen our relationship" [I-2, Glazing, Head of Marketing]

That said, trust can be built/destroyed in different ways, for example, by repeat business or lack thereof, by (not) fulfilling promises, and by (not) upholding stakeholders' interests such as in the case of systemic trust. The level of trust is determined during the initial engagements and either increased or decreased in subsequent engagements, for example, participants recognised there is always a level of initial trust:

“Obviously, there is some level of trust when you first interact with people otherwise nobody will do business with anybody, they take you at face value, but you don't, or I don't especially instil a big sort of degree of trust in people until I know them really.” [I-32, Electrical, Director]

The concept of trust is a feeling built or destroyed overtime whilst participants highlighted the significance of determining initial levels of trust during initial interactions guiding future engagements:

"I've had builders who I'd trust to get on with stuff – we'll have a weekly meeting, I'll get up the next week– and it'll be done to the standards. Whereas I have got other builders who I have worked with less who I don't trust as much – and it depends on those initial interactions, like, I'll speak to them, I'll go away one week and come back, and half has not been done. So, then I'm going to be like I need to be in touch with this guy more often. Make sure it's all being done. [I-5, Architectural, Director]

As described in section 2.2.4 and 2.2.5., trust is not only present in individual and inter-organisational relationships but also amongst individuals and institutions, known as 'systemic trust'. Interviewees acknowledged the relevance of systemic trust when engaging with stakeholders "Not having a badge does not mean I will disregard working with that firm or individual, but it might tip the decision" [PI-4, Scaffold, Director]. Other participants recognised the existence of benefits "Yeah, it [being part of a professional association] would only add to your network and your personal information. So, it will definitely enhance [benefits for our firm] it" [PI-4, Scaffold, Director], specifically, access to new customers:

"The [professional] Association will approach [new shops in the area] them and since you are part of the association, they'd say to them that there is a shop down the street that's where they can get keys cut, so it's got a pathway into our business through it" [PI-5, Ironwork, Director]

"That's why I signed up with them [professional association], to sort of give myself an extra stamp...and "I have gotten some work through their [the professional association's website] page." [I-5, Architectural, Director].

Furthermore, belonging to certain associations was vital to running their business for some interviewees,

"If we didn't belong to certain professional associations, it would affect us because we'd lose - we wouldn't be able to do certain types of work, and carry out their procedures and have their quality assurance visits every year if we didn't belong to those associations...it'd probably diminish our workload or might reduce where and who we could work for but belonging to them it does expand companies that we can work for." [I-9, Central Heating Engineering, Director]

as well as being able to develop trust of their clients/customers and status in front of stakeholders,

"being part of certain professional associations will develop trust from current and potential customers as well as status"[I-10, Roofing, Director]

Nonetheless, systemic trust has been undermined by issues such as costs, in the form of fees and time "Reasons for not joining an association...right...for us, cost is one, and at this stage it it's time, just time consuming, and it is not something that comes high in our agenda with what I am doing at this stage. For example, there are buying groups in this industry. We work through a distributor, our distributor is part of a buying group, if we work with the distributor then we probably join the buying groups, trying to sell to them, but we do not need [to join the associations] it because of who our distributor is." [I-1, Building, Director] as well as letting members down by not being fully transparent "one trade association, I felt that – and I'm not the only one who felt the same – the leadership was keeping the information for themselves"

[I-4, Electrical, Director] or moving away from its main purpose "They [Professional associations] are much more lobbying organisations than helping members of the organization to get more work" [I-4, Electrical, Director]

The second concept, obligations, is defined as a commitment or duty to undertake some activity now or in the future, and participants highlighted two concepts, reciprocity and reliability, that provide a more cooperative perspective to obligations rather than a zero-sum transaction whilst evidencing a link to systemic trust [second quote]:

“With the trades, we have a trades' reciprocity. So, if we've helped them, they help us – there's that reciprocity and there's mutual respect between us. So, that helps to strengthen our relationships because if they trust us, they will help us knowing we'll help them”. [I-29, Central Heating, Director]

“It will always be about reliability. If someone is a member of an association, you'd expect them to have probity, to behave honourably because there are codes of practice. So, I would assume that someone who's a member of a professional organisation is going to approach a project with me in a professional way”. [PI-2, Interior Design, Director]

Obligations in network engagements are also affected by the level of sharing constrained by the amount of knowledge shared or cooperation given, known as *quid pro quo*, which suggests ‘if you share, I share’:

“Whenever I go to conferences or seminars, I engage with potential clients and other stakeholders in the trade, I would share market trends and other information I ‘ve researched to offer a low-cost energy management system. I would then follow up with a phone call or email but then nothing happens, so, I’ve learned not to overextend myself sharing more knowledge than I should, it’s *quid pro quo*, you share – they share” [I-3, Electrical, Director]

Obligations are also represented within firms’ operations influencing outcomes and staff’s expectations:

“I think it [obligation] stands for - as long as everyone tries the hardest. I think honestly, no one will ever say anything to anyone if everyone tries their hardest - that's all anyone asks for. Certain things are going to be, as long as there's a thought process behind things. So, it's about commitment.” [I-28, Interior Design, Manager]

Additionally, obligations are represented in the form of ‘not letting others down’, for example, one interviewee buys materials from the same supplier, and because of the continuous engagements, the suppliers have recommended the firm to a potential customer, but then the firm enters into an implicit and unsigned agreement to deliver a quality job and fulfil potential customer’s expectations:

“If you don't have your suppliers for your consumables and raw materials to do the job well, you can't do your job can you? Sometimes my suppliers will ring me up and say, somebody's asked me if they can get this job done, and I've passed on your phone number. So, suppliers are also able to extend your business, but despite being a positive reciprocal relationship, there is also some sort of pressure to get it right” [I-7, Ironwork, Director]

Obligations could also result from unexpected circumstances, pressing firms for an implicit 'mandatory' compensation to the other firm:

"In the past there have been times when my partner's not been able to work, but we've had scaffold still up for like three, four days which is costing me a considerable amount of money to do, and one of the owners from the firms we work with at times has helped us taking the job down, I know it's a quiet time of year at Christmas and all the rest, but he doesn't have to do it, and that kind of thing we really appreciate... I've put up a small job for him at his house, for nothing, it was a personal way for me to repay it. So, there'll always be some kind of repayment in kind" [PI-4, Scaffold, Director]

The third concept, 'norms', is described as a socially defined right to control an action held by others and not by the actor which in some trades, part of the UK's construction industry, are a code of honour:

"There's a code of conduct for how you should treat fellow structural engineers. So, if a client fell out with a structural engineer that they were employing. We would go against the code of ethics for the Institution of Structural Engineers [IStructE], if we just suddenly said, "oh, we'll go and work for you". Instead, we need to approach the other structural engineer, make sure that they've been paid for what they've done. Make sure that it's not going to cause any problems if we now take over and finish a job for this particular client. So, there are ethical considerations that they put in place, and if you do breach those, they can potentially strike you off". [I-25, Structural Engineering, Partner]

Norms are usually challenged, particularly those related to obligations with the government, which put SMEs under pressure and test their ethics and morals, but participants highlighted that without norms there is no trust:

"We sometimes get the odd customer, and you get people approach you and they want to pay you cash to avoid paying tax, they want you to cut corners. That's generally the first indication that they're not going to be overly trustworthy. I like to work right, within the tax laws. I'm trying to be straight as such, because it's like anything...you start trying to cover things up, you have to do more things to cover up the last things you tried to cover up. It's better, just to do it straight, we all have to pay tax. So, I mean, there are plenty of people that don't like paying it...and you do come across them to be honest." [I-32, Electrical, Director]

Norms are also represented by adhering to benchmarks and standards of practice set by regulatory bodies, which could influence whether certain firms can access contracts and work within an industry; thus, evidencing the relationship with systemic trust:

"We follow national curriculum. They [trade associations] have a level of professionalism about them, and they only allow selective firms into their professional association. So, they [clients/customers] have the trust from the organisations, that we know its members or the firms that are in there that are working with them, they are also sound business nature to work with them, and so, they help restore our business clientele" [PI-1, Architecture, Business Dev. Director]

The fourth concept, a 'sense of identification', is defined as the process whereby individuals identify with another person or group of people, represented by the share of values and/or work ethic:

“I believe sharing values and work ethic is paramount, especially with them [membership-based networks and accreditation bodies] because there's a code of conduct, we have to abide by; however, I believe that with them [other support networks] the values and work ethic is set on an individual basis because every customer is different”. [I-24, Structural Engineer, Director]

Sharing values and work ethic have also been identified in work relationships, for example, interviewees mentioned there are network engagements with strategic stakeholders which are only focused on a product/service exchange; however, participants mentioned there are other more meaningful work interactions driven by the nature of the relationship grounded in trust:

“I think that when you do business with people, there are people that you work very closely with, and there are people you don't. So there might be people who you buy from or you sell to that actually you don't have very much to do with them it doesn't carry a special interest, you like them but you just don't interact with them that much because they want your products and services, and nothing more...I'd say there are others where you work with much more closely like for example, we have a sales agent, he is likely to help us sign a new distributor, the group of sales people, then the trust is much bigger there because they are representing us as a company, I need to trust them that they represent us well, because I'm putting a lot of the future of this business on how they perform. I need a huge amount of trust in what they do as opposed to somebody who might buy one of our products and use it on a job, so it is the level of work you do with them, that is important.” [I-1, Building, Director]

Interviewees also mentioned that before they could share the same values (e.g., integrity, probity, reliability) they first had to know what those values were and then personally interact to identify such values and determine if they share them to agree on working engagements which could increase/decrease levels of systemic trust:

“In terms of the membership-based and accreditation bodies, I didn't know what their values were, they only care about me paying their fees whereas with my staff, having the same work ethic was a key point to a good working relationship. If they didn't work in the same way and have the same idea about customer service and cleanliness and – then we wouldn't work together. So, my office manager, she really liked me, and she loved working in the business so much. She used to take her computer on holiday with her she would do several hours of work on holiday just to make sure everything kept going. If I'd ever mentioned bonus payments she'd just go no I want to do it. So, she would do pay runs on holiday, she would make sure that the inbox was maintained. She would probably spend an hour - two hours every second day, and that was because of trust, goodwill, and sharing the same values.” [I-12, Building, Director]

Regarding work ethic, interviewees described how it does not always have the expected outcomes on staff but there is an implicit obligation imposed on the management team to set an example:

I try to share my work ethic. I get in at seven and stay until five or later... and I'd like them [staff] to understand that if I'm doing that, they should do the same. Everyday I'm in early, I leave late. I'm answering the phone over the weekends, I'm talking to them over the weekends. I would like that work ethic to pass on to them...I'm not saying it does, but that's what I'd like.... but by doing that, if I don't do that, then they haven't got that excuse to tell me, “Oh, you don't come in Friday afternoons or whatever.” [I-9, Central Heating Engineering, Director]

Participants also revealed how work ethic not only is a requirement for subsequent contracts and projects, but it must be supported by elements within the relational dimension (e.g., trust), and by a competitive strategy (e.g., low-cost leadership, differentiation, focus):

“Recently, three big companies were quoting to the Council, but we've worked with all of them. So, whoever got the contract will likely use us. So, we don't care who's getting a contract, our price stays the same. So, trust in that respect is important...and they know how we work and that we get on because sometimes you're working literally alongside a different trade, but they're employing you. So, I mean, lots of times I've gone on, we've enjoyed working with you, you work well with us. They have you in mind for other jobs. So that is a definite, but obviously, it's the price as well, but we do try and be competitive, because it's such a specialist market. There's only four or five maybe less companies competing directly with you.” [I-11, Plastering, Administrator]

In brief, the relational dimension of SC, carries mainly three purposes for firms: “to access other parties for exchange, to gain anticipation of value through exchange and combination, and to take advantage of the motivation of parties to engage in knowledge creation through exchange and combination” (Nahapiet and Ghoshal, 1998, p. 254), and requires four elements before SC benefits can be generated: trust, obligations, norms, and a sense of identification. These elements alone as a group and on their own do not suffice the requirement to produce SC benefits, as each one of them play a role towards the understanding of the nature and development of the relationship. For example, one interviewee clarified that if there is no trust during initial engagements, nobody will trade with anybody suggesting every initial interaction carries a degree of trust. On the subject of obligations, interviewees acknowledged that every interaction also carries some level of obligation with the other party; for example, the concept of reciprocity described as the ‘implicit’ commitment to help the other party now or at some point in the future, especially in the construction industry where tradesmen interact with other tradesmen and suppliers on a weekly basis. Norms were also highlighted as an important concept since they set limits and determine the level of expectations and nature of respect among the parties involved; for example, the code of conduct among membership-based associations. The fourth concept, sense of identification, was also dubbed as a core ingredient for the development of SC since many tradesmen mentioned the significance of sharing same values and work ethic with other tradesmen, and especially new employees. Despite the desire of firms to develop network engagements (structural dimension of SC), share codes and language (cognitive dimension of SC), and the adoption of trust, obligations, norms, and a sense of identification (relational dimension of SC), SC benefits do not occur instantly due to such desire, rather, they occur due to applying deliberate strategic actions that produce benefits. Actions participants have acknowledged to produce SC benefits are presented next.

Actions that have produced SC benefits

Findings for this section were categorised as internal or external. The former, related to processes within the firm such as those involving employees, managers, and owners with relation to effectiveness and

efficiency of firms' operations. The latter is related to those interactions bearing benefits with stakeholders outside the firm such as clients and/or customers, tradesmen and/or contractors, suppliers and/or distributors, membership-based organisations and/or accreditation bodies. The actions are deliberate procedures that firms have applied that have produced SC benefits. Findings suggest sixteen actions (6 internal and 10 external) have generated SC benefits, including seven core actions, for SMEs in the construction industry. From the internal perspective – suggesting deliberate procedures applied within the firm – the actions that produced SC benefits for SMEs include “to improve firm’s operations”, defined as the pursuing of actions that make firm’s activities better than before network engagements:

“On the [social and manufacturing/servicing] strategy of the business, I think it is about the constant engagement with customers, learning from every project, and hiring the right people” [I-21, Plumbing, Director]

The second most referenced action was “to apply personal values and work ethic”, defined as to hold values such as honesty, integrity, clear communication, reliability, and accountability in business activities:

“In terms of the [manufacturing/servicing] strategy, if we see a change in trends from the networks coming in or what we're discussing at events or training, then we would have amended our strategy. But the old values remain...we can't sell on quality, so, they enhance our strategy and objectives by reaffirming them if that makes sense" [PI-1, Architecture, Business Development. Director]

The third most referenced action was ‘to enhance firm’s business plan’, defined as the intention to modify firm’s goals, objectives, and actions to better address market trends and fulfil clients and/or customers’ expectations:

"I always have a deadline, for example, short term is three months, and I have got a set of goals and if those set of goals are not coming to fruition within three months, or even sooner, then you have to change. You have to adapt" [I-4, Electrical, Director]

The fourth most referenced action was ‘to build quality products and/or services’, defined as to put effort into building and delivering high quality products/services:

“We aim at providing a high level of service. So, we expect our fitters to leave the customer very happy. Room returned to normal or hoovered. So, when you stand back and go, that looks great. So that's really important to us. And it's about how we're seen as a company in the community, we want to be seen as a good company to work for, and a good company to work with” [I-35, Tiling, Director]

Additional internal actions include ‘to perform effective internet research’, described as to find data, information, and knowledge using internet services to better meet firm’s objectives; and ‘to apply effective recruitment processes’, defined as to implement internal processes to allow for the organisation to short-list and hire the appropriate workforce to meet firm’s demands. Resulting from the three core strategies was the emergent theme: *‘Improve firm’s operations and business plan whilst applying personal values and work ethic’*. Out of the six internal actions identified, the first four obtained the richest frequency of references becoming the core concepts which covered about 97 percent of the internal actions; thus, being the strongest codes supporting the development of the emergent theme. In terms of internal actions deliberately applied

by SMEs to generate SC benefits, Table 16 identifies 41 out of 41 interviewed firms apply personal values and work ethics when engaging with strategic stakeholders whereas 39 improve firms' operations and enhance firms' business plans, and 37 build quality products and/or services.

Table 16. Internal and External Core Strategies to generate SC benefits and Emerging Themes

First Level of Analysis						Second Level			
	Label	Concept Code	Refs.	# of Firms	Total	Actions for SC benefits			
Internal	3ACI1	To improve firm's operations	622	39	Core Codes: 1792	<i>To improve firm's operations.</i>			
	3ACI2	To apply personal values/work ethic	475	41					
	3ACI3	To enhance firm's business plan	373	39					
	3ACI4	To build quality products/services	322	37					
	Subtotal Core Internal Actions			1792	41	1792/1840=97%	<i>To have business probity.</i>		
	3ACI5	To perform effective internet research	28	15					
	3ACI6	Apply effective recruitment processes	20	9					
Total References in Internal (3ACI1-3ACI6)			1840	41					
External	3ACE1	To have positive relationships with clients/customers	623	41	Core Codes: 1976	<i>To have positive engagements with strategic stakeholders.</i>			
	3ACE2	To have positive engagements with tradesmen/contractors	439	41					
	3ACE3	To have positive engagements with suppliers/distributors	348	39					
	3ACE4	To hold a trade/professional accreditation	288	31					
	3ACE5	To have continuous membership in trade/professional associations	278	28					
	Subtotal Core External Actions			1976			41	1976/2220=89%	<i>To be accredited.</i>
	3ACE6	To have positive engagements with manufacturers	82	22					
	3ACE7	To continuously advertise products and/or services	64	23					
	3ACE8	To attend to conferences and/or seminars	41	11					
	3ACE9	To participate in social activities	40	16					
	3ACE10	To have positive engagements with competitors	17	9					
Total References in External (3ACE1-3ACE10)			2220	41					

These are, nonetheless, highly positive numbers considering that SMEs could have less training and/or experience when improving their operations or enhancing their business plans due to constrained resources compared to large firms. Also, the analysis identified that 36 out of 41 firms have applied all four core actions, 3 firms have applied three, two firms have applied one and one firm has applied one core action which calls for further examination of the potential causes influencing the lack of application of internal actions by some SMEs.

Considering external engagement actions, described as those deliberate activities focused on interacting with parties outside the firm with the aim to generate SC benefits, the data analysis produced ten actions including four core actions that generate SC benefits. First, participants mentioned the relevance of ‘having positive relationships with clients and/or customers’, defined as to establish clear, honest, and reliable relationships with clients/customers where expectations are met, and cooperation is present:

"So, I have a few companies [clients] that I work with quite closely. So, some of them I speak to every second day, and that frequent interaction has high levels of cooperation" [I-3, Electrical, Director]

Also, participants described the relevance of ‘having positive engagements with tradesmen and/or contractors’, defined as deliberate actions to establish clear, honest, and reliable relationships with tradesmen and/or contractors:

"I always treat my electrician contractors like friends, but as honestly as I can be, because if they're working for me, I want them to sort of have respect for us. And I want them to do a good job for me" [I-8, Electrical, Director]

Interviewees also highlighted ‘to have positive engagements with suppliers and/or distributors’, defined as deliberate actions to establish clear, honest, and reliable relationships with suppliers/distributors:

“...with the suppliers, if they're telling people to phone you up, come and work for them, they must know, it is a circle because we're going to them for the material, they tell people to come to us and do the job then we go back to them to get materials, so they know it's a cycle” [I-9, Central Heating, Director]

Other highlights were ‘to hold a trade and/or professional accreditation’, defined as deliberate actions to adjust firm’s activities to gain (renew) a trade and/or professional accreditation:

“I think Gas Safe has influenced us the most because they are the certification body and because of them we are allowed to work” [I-21, Plumbing, Director]

and ‘to have continuous memberships in trade and/or professional associations’, defined as the ability and willingness to pay for (renew) a membership in trade and/or professional organisations:

“For us, we need to have at least two memberships with professional bodies since they are a requirement from our customers to verify us and for us to win contracts” [I-10, Roofing, Director]

The five core concepts covered about 89 percent of the external actions; thus, being the strongest codes supporting the development of the emergent theme: “*To have positive relationships with clients/customers, tradesmen-contractors, and suppliers/distributors as well as to hold a trade accreditation*”. The two emerging themes are represented in a flow chart described in section 5.3.

The analysis also identified that when SMEs engage with external stakeholders, 41 out of 41 participant firms have deliberately nurtured positive relations with clients and/or customers also through working on projects with tradesmen and/or contractors to generate SC benefits; however, only 39 have with suppliers and/or distributors due to the nature of some trades in the construction industry which do not

require such engagement, as discussed earlier. Also, only 23 out of 41 participant firms acknowledged holding a trade and/or professional accreditation, this is also due to the nature of some trades within the construction industry in the UK which do not require firms to hold any certification/accreditation, as discussed earlier, or simply because they have not decided to hold one to carry out their routine operations. Further analysis to understand what SMEs have applied which external actions to generate SC benefits, revealed that 24 out of 41 firms have applied all five external actions, 10 out of 41 have applied four external actions, 6 have applied three, and one has applied two external actions. Additional external actions that have been supported by SMEs to produce SC benefits are presented in Table 17.

Table 17. Further external actions that have generated SC benefits for SMEs

Label	Action Code	References	# of Firms	Definition
3ACE6	To have positive engagements with manufacturers	82	22	The deliberate actions to establish clear, honest, and reliable relationships with manufacturers.
3ACE7	To pursue constant advertisement of products/services	64	23	The deliberate actions to develop a marketing campaign that produces recurrent advertisement of products/services.
3ACE8	To attend relevant seminars/conferences	41	11	The deliberate actions to sign up for and participate in seminars/conferences usually sponsored by trade/professional associations that directly address firm's needs and/or wants.
3ACE9	To participate in social events	40	16	The deliberate actions to host or join social events (e.g., at pubs, outdoor activities, on trips).
3ACE10	To have positive engagements with competitors	17	9	The deliberate actions to establish clear, honest, and reliable relationships with competitors.
Total references (3ACE1-3ACE10)		2220	41	

Ultimately, the three SC dimensions – structural, cognitive, and relational – supported by deliberately applied actions presented in Tables 16 and 17 – produce a wide array of benefits. Such SC benefits, initially categorised as financial or manufacturing (Tsai and Ghoshal, 1998), have been discovered in Findings to belong to four additional categories (social, human, intellectual, natural) for a total of six categories, described next.

Benefits of SC

The application of deliberate actions before, during, and after network engagements produce positive outcomes – known as SC benefits. The SC benefits that were identified from the SC literature include information, knowledge, support, influence, power, firm performance enhancement, solidarity, acquisition

and exchange of resources, and trust. Findings recognise such benefits are the result of the interrelation of three dimensions of SC whilst also discovering new additional benefits and subcategories of benefits. Moreover, the data analysis process identified a total of thirty-seven (including eleven core) benefits, based on frequency of references, resulting from network engagements with social benefits receiving the richest frequency of references.

Social Benefits

Social benefits are defined as the positive outcomes from network engagements that influence relationships within and between firms and strategic stakeholders. Findings produced eighteen, including four core benefits. First, participants mentioned the ‘identification of essential relational practices’, defined as the recognition of vital relational actions that allow and strengthen future engagements with stakeholders:

“We have some companies we build up a good relationship with. We don't even have to quote for some stuff. We just turn up and do it, and they just pay it...we normally kind of expect more repeat business from that company we helped out solve a problem” [I-13, Electrical, Director]

Second, respondents mentioned ‘to identify initial trust guiding future engagements’, defined as the opportunity to measure the required level of initial and future trust in network engagements:

“Trust is built differently in each network. In the professional is about having the appropriate qualifications and certifications, whereas in the informal network is about the performance, duration and frequency of interaction and buying power” [I-10, Roofing, Director]

"I have got builders who I have worked with less who I don't trust as much. It kind of depends on those initial interactions. For example, I'll speak to them. I'll go away one week and come back, and half has not been done. So, then I'm going to be like I need to be in touch with this guy more often and make sure it's all being done. " [I-5, Architecture, Director]

Third, respondents pointed ‘to define clients and/or customers expectations’, defined as the possibility to identify the of scope of and set limitations to clients’ and/or customers’ expectations:

“The most important activity is interacting with the customer to find out what they are looking for, what they are after.” [I-27, Carpentry, Director]

Fourth, respondents also described ‘to exchange information with tradesmen and/or contractors’, defined as the possibility to develop reliable relationships with tradesmen and/or contractors through exchanging information:

“Other tradesmen see what I did, and they see that I did it right and properly. They say give me your telephone number, just in case I know someone who knows. and then I do the same. If I know a plasterer, they know someone who needs a plasterer, I'll call you, most of the time, we end up exchanging telephone numbers.” [I-16, Carpentry, Director]

Further social benefits mentioned by firms can be accessed on Appendix E. Table 18 includes core benefits identified for all the six categories, suggesting that the first level of analysis, presented in the first five columns, evidenced that SMEs generate mainly eleven core benefits across the six categories (four social,

two human, one financial, one manufacturing and/or servicing, one natural, and two intellectual) resulting from network engagements. In terms of the social benefits, four core benefits were identified after examining those with the richest frequency of references accounting for 75 percent of the references from the eighteen social benefits identified. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing the four main social benefits that SMEs generate from networking engagements which are ‘to identify relational sustainability practices based on trust whilst acknowledging stakeholders’ expectations.’ The second level of analysis is examined in section 5.3.

Data analysis revealed that 41 out of 41 SMEs have gained social benefits such as identifying essential relational practices, define the level of initial trust for subsequent engagements, and acknowledgment of clients’ and/or customers’ expectations whereas only 36 SMEs gained the benefit of exchanging information with tradesmen and/or contractors. Further analysis identified that 36 out of 41 SMEs have gained all four benefits whereas only 5 out of 41 gained three benefits.

Table 18. Core social capital benefits

Type	First Level of Analysis					Second Level of Analysis
	Label	SC Benefit Code	Refs.	# of Firms	Total	Resulting Benefits of SC
Social	4S1	To identify essential relational practices	1134	41	Core Codes: 2796 Total Refs: 3702 2796/3702 =75%	<i>To identify level of trust, norms, and obligations.</i> <i>To exchange resources with stakeholders.</i>
	4S2	To define initial trust guiding future engagements	882	41		
	4S3	To define clients/customers’ expectations	478	41		
	4S4	To exchange information with tradesmen/contractors	302	36		
	Subtotal for Social Benefits’ References			2796		
Human	4H1	To successfully apply firm’s internal actions	827	41	Core Codes: 1418 Total Refs: 1607 1418/1607=88%	<i>To identify firm’s plans for human resources department.</i> <i>To identify areas for individual development.</i>
	4H2	To identify areas for individual growth	299	30		
	4H3	To reaffirm personal values	292	31		
	Subtotal for Human Benefits’ References			1418		
Financial	4F1	To identify practices to improve financial health	1134	41	Core Codes: 1134 Total Refs: 1274 1134/1274=89%	<i>To identify practices to improve financial health.</i>
	Subtotal for Financial Benefits’ References			1134		
Manu f.	4M1	To identify manufacturing/servicing improvement practices	1134	41	Core Codes: 1134	<i>To identify manufacturing</i>

	Subtotal for Manufacturing Benefits' References		1134	41	Total Refs: 1786 1134/1786=63%	<i>improvement practices.</i>
Natural	4N1	To identify environmental practices	1127	41	Core Codes: 1134 Total Refs: 1131 1127/1131=99%	<i>To identify environmentally friendly practices.</i>
	Subtotal for Natural Benefits' References		1134	41		
Intellectual	4I1	To recognise firm's limitations	213	31	Core Codes: 365 Total Refs: 549 365/549= 66%	<i>To be conscious of firm's capabilities. To recognise firm's unique selling proposition.</i>
	4I2	To identify firm's unique selling proposition	152	22		
	Subtotal for Intellectual Benefits' References		365	41		

Human Benefits

The second category with the richest frequency of references was 'human benefits' which is focused on the outcomes from network engagements that positively influence staff's competencies, capabilities, and experience. This category produced six benefits including three core benefits overall. First, interviewees mentioned 'to successfully apply firm's internal actions', defined as the ability to put firm's goals and objectives into action to support its workforce to be more effective:

"We've got the knowledge to put packages together to manage the training needed for a project, but if we needed to get a consultant, we identify that and we bring in that expertise. So, we outsource some stuff but the vast majority of the jobs we do ourselves." [I-18, Stonemasonry, Site Manager]

Second, 'to identify areas for individual growth', defined as the option to recognise areas where staff, including the interviewee, can improve:

"As I worked in projects, I got experience on how to be clearer to a client...and by being clearer with a client, I got more confident" [I-6, Architecture, Director]

Third, 'to reaffirm personal values', defined as the opportunity to reiterate personal values (e.g., higher reliability levels, honesty, accountability, clearer and more dynamic communications) through network engagements:

"With the tradesmen, suppliers and manufacturers, having the same work ethic was a key point to a good working relationship. If they didn't work in the same way and have the same idea about customer service and cleanliness and honesty– then we wouldn't work together." [I-12, Building, Director]

Other human benefits identified by participants can be accessed on Appendix E. Out of the six benefits identified in the first level of analysis, the first three experienced the richest frequency of references (see Table 18); thus, becoming the core codes which covered 88 percent of the human benefits. The first level

of analysis led to the second level of analysis which produced a second-order theme evidencing three core human benefits that SMEs generate from network engagements which are ‘*to apply firm’s internal actions whilst identifying areas for personal growth*’. The analysis revealed that 41 out of 41 SMEs have gained human benefits such as successfully applying internal practices; however, only 30 SMEs gained the benefit of identifying areas for personal growth and 31 gained the benefit of reaffirming personal values through network engagements. Further analysis identified that 25 out of 41 firms gained the three benefits, 11 firms gained two benefits, and 5 firms only one benefit. The second level of analysis is examined in section 5.3.

Financial Benefits

Financial benefits are defined as the economic rents produced due to the provision of goods and/or services to stakeholders, debts, grants, and/or investments. The third category of benefits based on richness of frequency references, as mentioned by the interviewees, produced ‘financial benefits’ which evidenced two benefits including one core benefit overall. The financial benefit with the richest frequency of references, mentioned by participants was “the identification of practices to improve financial health”, defined as the ability to recognise actions that enhance firms’ financial processes:

“Despite sharing information with RICS, CIOB, CHAS as professional bodies, we do not get any feedback to better our financial strategy whereas with the specialist contractors we do because it is a two-way relationship based on mutual knowledge sharing” [I-18, Stonemasonry, Site Manager]

The second financial benefit found in the data was the ‘access to new contracts’, defined as the opportunity to increase revenues by signing new contracts. Out of the two financial benefits, the first one experienced the richest frequency of references. This became the core benefit which covered 89 percent of the financial benefits (see Table 18). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing one core financial benefit that SMEs generate from network engagements, ‘*to identify financial sustainability practices*’. It is worth mentioning that the first level of analysis also revealed that 41 out of 41 SMEs gained the core financial benefit of identifying practices to improve their financial health. The second level of analysis is examined in section 5.3.

Manufacturing Benefits

Manufacturing benefits are related to the outcomes from network engagements that positively influence the production of goods with the use of machinery and/or provision of services that a firm offers to stakeholders. The fourth category of benefits with the richest frequency of references, as mentioned by the interviewees, was the one examining ‘manufacturing benefits’, which evidenced three benefits including one core benefit overall. The manufacturing benefit with the richest frequency of references, mentioned by participants was

“the identification of manufacturing and/or servicing improvement practices”, defined as the ability to recognise actions that enhance the development of manufacturing and/or servicing processes:

“Other companies have allowed us to improve our service, because now we can offer a better service and a wider range of services. We only used to install but now we've got a fabrication shop. So, we also manufacture and install " [I-7, Ironwork, Director]

Further manufacturing benefits mentioned by interviewees can be found in Appendix E. Out of the three manufacturing benefits found, the first one experienced the richest frequency of references; thus, becoming the core benefit which covered 63 percent of the manufacturing benefits (see Table 18). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing one core manufacturing benefit that SMEs generate from network engagements, *‘to identify manufacturing/servicing improvement practices’*. The initial stage of analysis also evidenced that 41 out of 41 SMEs mentioned having gained the manufacturing benefit of identifying improvement practices. The second level of analysis is examined in section 5.3.

v. *Natural Benefits*

Natural benefits are related to the outcomes from network engagements that positive influence a firm’s environmental processes with the use of renewable and non-renewable environmental resources in order to provide products and/or services to stakeholders. The fifth category with the richest frequency of references was the ‘natural benefits’ with two benefits including one core benefit overall. Participants mentioned *‘to identify environmentally friendly practices’*, defined as the continual recognition of practices that minimise environmental footprint and increase the level of protection of Mother Earth:

“We are a small company, economic sustainability is number one, then environmental sustainability, which in our case helps provide the economic sustainability for us, whereas social sustainability in my eyes we are not in the position to do very much until we get the other two covered." [I-1, Building, Director]

The second benefit mentioned in the interviews was the ‘access to eco-friendly products and/or services’, defined as the opportunity to procure eco-friendly inventory and/or services. Out of the two benefits identified, the first one experienced the richest frequency of references; thus, becoming the core benefit which covered 99 percent of the natural benefits (see Table 18). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing one core natural benefit that SMEs generate from network engagements which is *‘to identify environmental practices.’* After the first level of analysis, it could be evidenced that 41 out of 41 firms have gained the core benefit of identifying environmental practices. The second level of analysis is examined in section 5.3.

Intellectual Benefits

Intellectual benefits are related to the outcomes from network engagements that positive influence organisational knowledge-based intangibles such as experience, patents, copyrights, software, rights, licenses besides systems, procedures and protocols. The sixth and last category of benefits in Findings was 'intellectual benefits' with six benefits including two core benefits overall. Interviewees mentioned benefits such as "to recognise firm's limitations", defined as the opportunity to be aware of firm's weaknesses, reach, and constraints (e.g., time, supplies, tools, workforce, goals, objectives):

"We have turned down jobs that are just too big for us. If we take on a very big project then we'd lose all our other works from our local people who are talking to their neighbours, and work could come that way, for example." [I-11, Plastering, Administrator]

Second, 'to identify firm's unique selling proposition', defined as the opportunity to be aware of firm's actions and/or products/services that make it different and desirable compared to competitors:

"We try to answer emails as soon and as accurately as possible, we aim to be reliable to meet customers' needs, we also have competitive pricing and overall, we follow manufacturing instructions. The value of our company is our workmanship, keeping our word, being reliable" [I-21, Plumbing, Director]

Other benefits found in the interviews are defined in Appendix E. Out of the six benefits identified, the first two experienced the richest frequency of references; thus, becoming the core benefits which covered 66 percent of the intellectual benefits (see Table 18). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing two core intellectual benefits that SMEs generate from network engagements which are '*to identify firm's unique selling proposition whilst being aware of firm's limitations.*' The second level of analysis is examined in section 5.3. Analysis to identify the firms that have applied each of the core intellectual benefits revealed that 31 out of 41 SMEs gained the core intellectual benefit of recognising firm's limitations whereas only 22 SMEs obtained the benefit of identifying firm's unique selling proposition. Further analysis identified that 20 out of 41 firms have gained the two core intellectual benefits, 13 firms have gained one benefit, and 8 firms have gained no intellectual benefits demonstrating the need for greater level of investigation into the factors that support and/or undermine SMEs acquiring intellectual benefits resulting from network engagements.

Benefits already established in the literature

From the data collected, there was evidence to support all the benefits presented in the literature review. For example, influence, defined as the deliberate actions by a network member to intercede on behalf of and benefit another network member:

"...because I've got a relationship with the council. I can ring up and have an informal discussion where I send them a few sketches, or we can very quickly come to a room rather than have to go through a real formal process which takes weeks and weeks". [I-5, Architecture, Director]

Knowledge is defined as a skill in, understanding of, or information about something, which a person gets by engaging in a network:

“The benefits of the engagement with other companies like this is knowledge and recommendations”. [I-31, Air Conditioning, Director]

Support, defined as the ability to help someone or offer help with something when needed:

“In terms of financial sustainability, the suppliers have provided much needed support, one has given me extra terms, others have come to me because I’ve done a good turnover and offered rebates”. [I-36, Interior Design, Director]

Information, defined as facts or details about a person, organisation, product:

“The ECA, because it's run by the contractors, I think it's much more proactive in providing useful information without actually wanting anything for it.” [I-32, Electrical, Director]

Power, defined as the ability to control or influence people, organisations, events:

"Once you're in an industry for a long time, it is not what you know, it is very much who you know" [I-4, Electrical, Director]

Firm performance enhancement, defined as the ability of actions to improve the outcome of deliberate actions set by the firm:

“We've got some regional partners some based in Scotland, others in North Wales, Devon and Cornwall. Relationships with them are really key, we try to work with them very closely. We have meetings with them, we go visit them, because not only do we give work to them, but also, they are ambassadors for us as well. So, they bring work to us from those regions, which is more money for us. " [I-2, Glazing, Head of Marketing]

Solidarity, defined as the agreement between and support for members of a group:

"Collaboration in those meetings [with membership-based associations] might not grow our customer base, but it grows our knowledge" [I-2, Glazing, Head of Marketing]

Trust, defined as a belief in the good intentions, the openness, the competence, and the reliability of another party:

“During initial engagements, it was quite important that the client and contractor or consultant, understand that I do know what I'm talking about without being arrogant about it. That's why they're paying me, and if there's no trust, on either side, then there's no point continuing” [I-6, Architectural, Director]

Acquisition and exchange of resources, defined as the ability to get access to resources such as knowledge, support, capital, and exchange them for other resources such as influence, control, power:

"Knowledge gets shared both ways from me to them [other tradesmen] and from them to me" [I-8, Electrical, Director]

Cooperation is the process of working with another individual or organisation to achieve something:

“Cooperation certainly has helped us as a small firm, we have improved certain processes and adjust [our strategies] for future interactions”. [I-34, Building, Director]

And knowledge sharing is information or facts exchanged by stakeholders engaged in a network:

"By working closely with plumbers, we are able to get insights into how they work, learn from them and exchange knowledge". [PI-3, Carpentry, Head of Carpentry]

To summarise, the analysis for Theme One identified several Findings from an inductive approach, and confirmed aspects described in the literature review from a deductive approach. Findings from an inductive approach include the identification of deliberate actions, supporting complementary strategies, carried out by firms before any SC benefits were generated. This is a significant finding that expands current SC theory considering mainly two takeaways: one, that none of the SC models had found and/or investigated a connection with deliberate actions, as supporting elements of synergistic strategies, taken by firms to engage with networks and possibly generate SC benefits; and two, that such deliberate actions guide why, how, when, and with who those network engagements occur and ultimately what potential SC benefits could be generated. Core actions, identified and examined in the structural dimension of SC, are supporting elements to the social, intellectual, human, and manufacturing strategies. For the social strategy, these core actions include the engagement with clients and/or customers, the intention to work on projects with tradesmen and/or contractors, and the engagement with reliable suppliers and/or distributors. In terms of the human and intellectual strategy, the core action was holding a trade and/or professional accreditation. Such initial actions, supporting synergistic strategies, paved the road towards engagement with strategic stakeholders – namely clients, customers, tradesmen, contractors, suppliers, distributors, and membership-based associations – to generate SC benefits. In terms of the actions, confirmed by participants to produce SC benefits, as described in this section, include to improve firm's operations, enhance firm's business plan, apply personal values and work ethic, and to hold a trade/professional accreditation which support the human, intellectual, and manufacturing/servicing strategy. Corresponding to social strategy, the supporting actions were to have positive engagements with strategic stakeholders.

In Theme One, additional SC benefits were found which expand current SC literature. This was carried out by identifying six categories – social, financial, manufacturing, human, intellectual, and natural – to differentiate between those benefits that influence relations with stakeholders from those that increase revenue of firms from those that optimise manufacturing and/or servicing operations from those that enhance knowledge in the workforce and firms and from those that promote environmental value. Core benefits for each category include: for social benefits: the clarification of initial levels of trust guiding future stakeholder engagements, the acknowledgement of clients' and customers' expectations, and the engagement with tradesmen and/or contractors; human benefits: the application of firm's internal strategies and the identification of areas for personal growth; financial benefits: the identification of financial sustainability practices; manufacturing benefits: the identification of manufacturing and/or servicing

sustainability practices; natural benefits: the identification of environmental practices; and intellectual benefits: the recognition of firm's limitations, and unique selling proposition. Theme One also supported the generation of emergent themes through a second level of analysis described in section 5.3.

4.2.2. Theme Two: Creation of Value from SC benefits

The second major theme examines how SMEs transform SC benefits into value. Such benefits were described in Theme One and were generated by firms as a result from carrying out initial strategies through the interaction with the three SC dimensions. The categories of value that can be created are supported on the International Integrated Reporting Framework (IIRC, 2013) which include financial, human, intellectual, manufacturing, natural, and social. Consequently, the next step in the description of Findings produced a second theme which revolved around the identification of strategies that SMEs deliberately apply to transform SC benefits into value and the identification of the value created. Theme Two is divided in two sections: first, strategies SMEs apply to transform SC benefits into value; and second, the value created, within the six categories, resulting from such strategies.

Actions to transform SC benefits into value

Findings helped the identification of five internal and seventeen external actions including three and six core actions respectively. The nine core actions were selected based on the richness of the frequency of references; thus, the three core internal actions include, first, the 'constant evaluation of products and/or services offered', defined as the continual recognition of firm's operational processes to sell products/services as a form of self-demandingness:

“Contractors used to ring me up and ask me to install a staircase for them, and I'd go and install it, but then I started to think, well, I could make these things myself. So why am I installing it for them when I could be installing it for myself? So, I thought, well, I might as well give it a go and open my own fabrication shop. So, now I can manufacture stuff and install it for myself” [I-7, Ironwork, Director]

Second, 'to hire temporary staff', defined as to carry out recruitment processes to fulfil firm's operational demands, and acknowledge the nature of the firm as part of the construction industry marred by fluctuations in demand, accessibility to projects, seasonality, and political, economic, social, and environmental factors':

“Head office employed seasonal people to ring up local plumbers, and that's how we've got more businesses.” [I-20, Plumbing, Branch Manager]

And third, the 'constant evaluation of firm's aims', defined as the continual assessment of firm's actions to remain on the right path and achieve its aims:

“When we go for our Key Performance Indicators, we can see exactly what sector we're lacking. So, we might be doing four or five quotes per month on schools and we might not win any of those jobs. So, we think, actually, we don't really want to be working on that. They're not providing monetization for that anymore, because we're not successful at it. You might need to give up on that and concentrate on something where we are winning.” [I-25, Structural Engineering, Partner]

Relating to external actions, there were six core actions presented in a descending order beginning with the one having the richest frequency of references ‘to be approachable’, defined as the desire to be friendly, honest, reliable, and trustworthy with stakeholders:

“We spent a lot of time with customers. To me it’s about building a relationship quickly with a customer not pushy but being more helpful” [I-28, Interior Design, Manager]

The second most frequently mentioned action was ‘to join diverse networks’, defined as the engagement with membership-based and other support networks, known as systemic trust:

“A lot of my work is recommendations from other surveyors, agents, solicitors, people I’d done surveys for. I’d probably say about ninety percent of my work is from recommendations, and that is really just from going to different social events, different meetings” [I-33, Surveying, Manager]

"the informal network are more likely to share information back to you and develop a personal connection whereas being part of certain professional associations will give you status and will develop trust from current and potential customers" [I-10, Roofing, Director]

Third, ‘to deliver quality products and/or services’, defined as the provision of superior products/services to stakeholders:

“We give customers the option, you can buy this boiler, it's a hundred pounds cheaper, but that one, you'll get five years warranty compared to two years warranty. We let them weight that up but we guide them towards the better if possible” [I-9, Central Heating, Director]

Fourth, ‘to demonstrate firm’s reliability’, defined as the action to ensure firm’s trustworthiness in every interaction with stakeholders:

“We like to be reliable. For example, we were on a job, somebody phoned us up, and said “we’ve got a problem. Can you do some welding for us?” So, I said we can do that for you. And he asked “When can you do it? I said we can do it now. We put his beam up, put it in, made a welded connection, and that's how that relationship started out. It started off as a welding job and now we're doing a second project for them and then we've spoken about something in the future. Yes, I mean, I guess that falls back down to trust, again, really.” [I-19, Ironwork, Director]

Fifth, ‘to apply personal values and work ethic as often as possible’, defined as the action to be perceived as honest, transparent, reliable, presentable, and accountable during network engagements:

“I tell my customers, ‘I know what something costs in our trade. So, if somebody is coming in ridiculously cheap, they're either not going to do a good job or they're not doing it properly, I’ve told clients that those guys undercutting everybody isn’t legal or safe, and they've still gone for the other person that’s cheaper than you. So, you can only do so much sometimes.” [I-8, Electrical, Director]

And sixth, 'to meet and/or exceed clients and/or customers' expectations', defined as the ability to fulfil and/or go beyond what clients/customers need/want (e.g., deliver the right product/service, ensure tidiness, additional advice, go the extra mile):

“An example is a college that we're doing work for, we've always done the heating system and we've had the odd occasion, they called us into look at their AC. Now, they've fallen out with their AC people because they're not giving them the same service that we give them with their heating. They've now asked us to do their AC. We've now won getting their AC contract because of the good service we give them on our heating.” [I-9, Central Heating, Director]

The first level of analysis, described in the first four columns (see Table 19), evidenced SMEs carry out mainly nine actions (three internal and six external) to transform SC benefits into value. This analysis considered those main nine actions that experienced the richest frequency of references whilst accounting for 67 percent of the five internal, and 70 percent of the seventeen references for the external actions identified (see Table 19). The first level of analysis led to the second level of analysis which produced two second-order themes evidencing the main actions SMEs apply to transform SC benefits into value which are '*to constantly evaluate products and/or services offered with the support of temporary staff whilst evaluating firm's aims*', and '*to be approachable, join diverse networks, deliver quality products and/or services, demonstrate firm's reliability, apply personal values and work ethic, and meet clients'/customers' expectations*'. The second level of analysis is examined in section 5.3.

Analysis to identify internal actions SMEs have deliberately applied to transform the SC benefits, identified in Theme One, and linking them to each individual firm identified that only 6 out of 41 SMEs have constantly evaluated its products and/or services offered, 6 have hired temporary staff to support the firm's overall financial strategy, and 6 have constantly evaluated its aims. It is worth highlighting that some of the firms have applied two of the core internal actions (e.g., 6, 7, 8), for example, further analysis revealed that three firms have applied two internal actions, 12 firms have applied one internal action whereas 26 out of 41 firms did not apply any internal action to transform SC benefits into value.

Further analysis helped to identify those external actions SMEs have deliberately applied to transform the SC benefits, identified in Theme One, and link them to each individual firm. Such analysis identified that with the aim to deliberately transform SC benefits into value, 30 out of 41 SMEs were approachable, 24 joined diverse networks, 25 delivered quality products and/or services, 23 demonstrated reliability as a firm, 19 applied personal values and work ethic, and 17 met (exceeded) clients' and/or customers' expectations.

Table 19. Internal and external strategies to transform SC benefits into value

First Level of Analysis						Second Level of Analysis	
Internal	Label	Action Code	Refs.	# firms	Total	Actions to Create Value from SC Benefits	
	5ACI1	Constant evaluation of products/services offered	13	6	Core Codes: 32	<i>Constant assessment of business operations, mission, and vision.</i> <i>To constantly adjust recruitment processes.</i>	
	5ACI2	To hire temporary staff	10	6			
	5ACI3	Constant evaluation of firm's aims	9	6			
	Subtotal Core Codes			32	41		32/48=67%
	Total references in Internal Actions (5ACI1-5ACI5)			48			
External	5ACE1	To be approachable	92	29	Core Codes: 384 384/545=70%		<i>To interact, with integrity, in diverse networks.</i> <i>To reliably meet (exceed) clients'/customers' expectations.</i>
	5ACE2	To join diverse networks	77	26			
	5ACE3	To deliver quality products/services	66	27			
	5ACE4	To demonstrate firm's reliability	62	24			
	5ACE5	To apply personal values/work ethic as often as possible	44	19			
	5ACE6	To meet (exceed) clients' and/or customers' expectations	43	17			
	Subtotal Core Codes			384		41	
	Total references in External Actions (5ACE1-5ACE17)			545			

Additional analysis revealed that 9 out of 41 firms have applied all six external actions, 6 firms have applied 5 external actions, 7 firms have applied 4, 4 firms have applied three, another 4 firms have applied two, 6 firms have applied one, and 5 firms have failed to apply any external actions to transform SC benefits into any type of value. Interviewees described additional internal and external actions they have applied to transform SC benefits into value such as those presented in Table 20.

Table 20. Internal and external actions SMEs have applied to transform SC benefits into value.

	Label	Action Code	Refs.	# of Firms	Definition
Internal	5ACI4	Continual market research	8	7	the ongoing examination of secondary market data via different sources (e.g., colleagues, tradesmen, membership-based associations, the internet).
	5ACI5	To invest resources into hiring quality staff	8	7	to acknowledge the need to invest time, money, and allocation of staff to recruit the appropriate workforce to fulfil firm's goals.

	Total references for internal actions (5ACI1-5ACI5)		48	41	
External	5ACE7	To promote environmental sustainability practices	37	21	the offering of eco-friendly products and/or apply practices focused on protecting Mother Earth.
	5ACE8	To deliver positive outcomes in projects with tradesmen and/or contractors	32	14	to make sure outcomes of projects with tradesmen/contractors are beneficial for those involved.
	5ACE9	To cooperate with firms to improve products and/or services offered	14	4	to engage with other firms to make firm's products and/or services better.
	5ACE10	To repeat business with suppliers, distributors, manufacturers	13	8	to maintain beneficial operations with suppliers, distributors and/or manufacturers.
	5ACE11	To apply 'trial and error' actions	13	4	the process of making mistakes whilst trying different strategies to achieve firm's goals.
	5ACE12	To be cautious in initial engagements	11	7	the process of refraining to fully trust another party during initial firm's interactions.
	5ACE13	To gratify/spoil stakeholders	9	6	the process of being extra generous with certain stakeholders, especially clients (e.g., send flowers on special occasions, provide invitations to events).
	5ACE14	Continual engagement with membership-based networks	9	6	the action to maintain monthly membership with trade associations, chambers of commerce, and business assemblies.
	5ACE15	To sponsor and or participate in outreach activities	8	7	the process of sponsoring and/or participating in activities to support communities and enrich social fabric.
	5ACE16	To promote active communication across stakeholders	8	6	the process of having continual communication with strategic stakeholders.
	5ACE17	To renew trade/professional accreditation(s)	7	6	the action to maintain accreditation that allow firms to work and deliver product/services to clients/customers.
	Total references for external actions (5ACE1-5ACE17)		545	41	

Categories of Value Creation

The second section of Theme Two was concerned with the identification of the categories of value and specific representations of value that SMEs have created as a result of SC benefits previously obtained.

Consequently, this second segment describes the representations of value that SMEs have created from network engagements – the structural dimension – and the interrelationship with the other two SC dimensions through planned and deliberate actions. Value has been described in terms of categories derived from six forms of capital such as financial, manufactured, intellectual, human, social and relationships, and natural (IIRC, 2013). Data analysis revealed a total of thirty representations of VC across the six different categories of value, including fourteen core representations, resulting from the twenty-two actions SMEs have carried out. The following Findings have been sorted into each of the six categories which describe how SMEs have created value by applying actions presented in Tables 19 and 20. Each of the six categories of value is listed in a descending order, based on the frequency of references, starting with ‘social value’ which received the highest number of references.

Social Value

Social value is the enhancement of individual and collective welfare resulting from exchanged benefits through the interrelationships among firms and stakeholders. Participant firms described ten forms in which they create social value, and out of those ten, four had the highest level of references. The first evidence of how SMEs have been able to create social value, according to the richness of references, is ‘to enhance firm’s relational practices’, defined as the ability to change, adapt, and/or improve firm’s relational actions to achieve its goals which sometimes mean managers/directors have to optimise their network engagements by taking unconventional approaches:

Interviewer: To summarise, what you're saying is, we don't need to engage with a membership-based association, to get all these benefits, is that correct?

[I-4]: “That’s correct. And I think in the case of my business, you’ve got more or less three sectors engaged to deal with the project: first, you’ve got the finance. Second, the technical aspects, and the delivery program with the operations after the commissioning. So, the people are separated between the three categories, and then by networking with all those three different categories you're able to get benefits and avoid the need for membership-based associations.” [I-4, Electrical, Director]

[I-6]: “For a small trader, it [participating of breakfast meetings] doesn't work. I go there at seven o'clock in the morning, and by the time I came out of the place, it was half past nine, once a week. So, half past nine, I was never on site before half past ten. It forced me to be late on Wednesday, it forced me to find someone to call in for me but it does work in terms of building relationships, because it was only one member of a trade, all professions. It wasn't just for builders.” [I-16, Carpentry, Director]

[I-26]: “Some people go through a conventional training and they learn that if you belong- if you become part of a recognised association, people will think you are reputable and I don't think that they - that it's not necessarily true. So, I just don't - I simply don't see the point. I haven't gone through a conventional route to get here.” [I-26, Interior Design, Director]

Second, interviewees mentioned ‘to increase brand awareness’, defined as the ability to expand firm’s recognition across markets:

“As our firm grew bigger, we were chasing the recommendations and the Architecture people, the architects got in touch with us rather than [paying for advertisement] through Checkatrade” [I-12, Building, Director]

Third, participants pronounced ‘to boost firm’s reputation’, defined as the ability to increase the level of reputation held by stakeholders through past experiences:

“There's a lot of builders and when you’re on a personal basis – we’re not certified – we’re not accredited as a company, but we are on a personal basis, so we're much better on a personal basis. I mean you have to be accredited, but we found that the customers that know us, they don’t need that from us because they know who we are and what we provide.” [I-19, Ironwork, Director]

Fourth, interviewees highlighted ‘to strengthen stakeholders’ trust in the firm’, defined as the ability to increase the level of trust in the firm held by stakeholders and the perception of the firm overall:

“Doing our job right just means that you get more work, but it can also actually be that I get invited to other events. So, it's not unintentionally, but if you've got a good client base, you know a lot of people, you then go to conferences and social events.” [I-33, Surveying, Manager]

“You'd like to think that it’s becoming more of a recognized thing, so belonging to these associations gets you status and reputation. And like I said earlier, the NIC is a bit of a requirement. I've been around for years and years, and they've become less and less valuable to the contractor. I think, only the fact that you're a NIC contractor, and you've got that badge. And, you know, that's really all that's worth, especially to us as a company.” [I-32, Electrician, Director]

“with professional associations, you pay an annual subscription for it, and I’ve realized that issue though that's great. They offer you good terms, they offer you lots of things, but in reality, if you run your business properly and your structured, you don't actually need them.” [I-36, Interior Design, Director]

"I'm going to say my relationships with the manufacturers are enormous and there are different trade associations. So, I think that if you put me there, and you put the architects there and you put the manufacturers there. The professional organizations go that way, the informal goes that way, and I spend more time doing that, than I do that. So [professional networks] might be important to gaining a project, but once I'm in the project, my role in that project is supported by the informal structures." [PI-2, Interior Design, Director]

Fifth, ‘to build loyalty amongst clients and/or customers’, defined as the deliberate actions that firms apply to initiate (renew) loyalty of clients/customers through positive outcomes:

“If I look after customers, there is a big chance they will pass my number and I get another job from their recommendations. Sometimes even in the same job. For example, years ago I went to a house to fix a toilet and that job took me to more projects in the same house. I did many jobs for those people.” [I-16, Carpentry, Director]

The five representations of social value illustrated above showed the richest frequency of references from the data collected and were identified as core social values through the first level of analysis with 78 percent of the overall number of references (see Table 21).

Further representations of social value described by participants can be found in Appendix F. Table 21 shows the first level of analysis in the first five columns which, for the social value, produced five core values as a result of a deliberate transformation of SC benefits. The first level of analysis led to the second

level of analysis which produced six second-order themes evidencing the main representations of value created by firms. These six second-order themes are ‘to strengthen stakeholders’ trust, boost firm’s reputation and brand awareness, and enhance firm’s relational practices’; ‘to increase firm’s revenue whilst enhancing its financial practices’; ‘to feel supported by stakeholders whilst enhancing firm’s HR strategies’; ‘to improve firm’s intellectual practices through acquiring business knowledge’, ‘to enhance firm’s manufacturing practices through optimising efficiency and effectiveness’; and ‘to strengthen environmental practices’. Emergent subthemes are discussed in section 5.3.

Table 21. Core categories of value created

Type	First Level of Analysis					Second Level of Analysis
	Label	Value Code	Refs.	# of Firms	Total	Core Value Created
Social	6S1	To enhance firm’s relational practices	75	27	Core Codes: 326 Total Refs: 415 326/415 =78%	<i>To increase firm’s reputation through strengthening stakeholders’ trust in the firm.</i>
	6S2	To increase brand awareness	74	27		
	6S3	To boost firm’s reputation	73	27		
	6S4	To strengthen stakeholders’ trust in the firm	53	21		
	6S5	To build loyalty amongst clients/customers	51	21		
	Subtotal for Social Value References (6S1-6S5)			326		
Financial	6F1	To increase firm’s revenue	108	37	Core Codes: 194 Total Refs: 282 194/282 =69%	<i>To adjust financial strategies aiming to increase revenue.</i>
	6F2	To enhance firm’s financial practices	86	28		
	Subtotal for Financial Value References (6F1-6F2)			194		
Human	6H1	To enhance firm’s human resources’ practices	77	27	Core Codes: 114 Total Refs: 158 114/158=72%	<i>To enhance human resources department with supportive practices.</i>
	6H2	To feel supported by the organisation	37	13		
	Subtotal for Human Value References (6H1-6H2)			114		
Intellectual	6I1	To improve firm’s intellectual practices	70	28	Core Codes: 105 Total Refs: 151 105/151=69%	<i>To enhance business knowledge-development programs.</i>
	6I2	To increase firm’s business knowledge	35	15		
	Subtotal for Intellectual Value References (6I1-6I2)			105		
Manuf.	6M1	To enhance firm’s manufacturing practices	74	27	Core Codes: 105 Total Refs: 125 105/125=84%	<i>To optimise firm’s manufacturing practices increasing</i>
	6M2	To optimise firm’s efficiency and effectiveness in its operations	31	16		

	Subtotal for Manufacturing Value References (6M1-6M2)		105	41		<i>effectiveness and efficiency.</i>
Natural	6N1	To strengthen environmental practices	33	21	Core Code: 33	<i>To strengthen environmentally friendly practices.</i>
	Subtotal for Natural Value References		33	41		

Data analysis to identify the link between the core social value identified in Table 21 and the firm that has created each specific value identified that 27 out of 41 SMEs have transformed SC benefits into mainly three social values: enhancing firm’s relational practices, to increase brand awareness, and to boost firm’s reputation whereas only 21 created a fourth and fifth social value: to strengthen stakeholders’ trust in the firm and to build loyalty amongst clients and/or customers respectively. Further analysis identified that 13 out of 41 firms were able to transform SC benefits into the five core social values, 4 firms into four core social values, 11 firms into three core social values, 2 firms into two core social values, 5 firms into one social value, and 6 firms failed to transform SC benefits into any social value.

Financial Value

Financial value is described as the economic funds that a firm can gain from the exchange of goods and/or services through network engagements to use in the manufacture and/or provision of services to stakeholders. Participant firms described four categories of financial value resulting from SC benefits, and out of those four, two exhibited the richest frequency of references beginning with the ‘increase in firm’s revenue’, described as the ability to boost income via new contracts and/or sale of products/services’:

"When I first started, I did a lot of stuff for customer service and reputation that impacted my profit, I did a lot of extra work for the good of the project. I probably would now invoice for, but I didn't used to. Now, I am a lot clearer at the beginning of the project. I say: this is what my services entail, and this is what they don't." [I-5, Architecture, Director]

Second, ‘to enhance firm’s financial practices’, defined as the ability to change, adapt, and/or improve firm’s financial actions to achieve its goals:

“When I'm at networking events, I learn a lot from other small companies similar to us, we share ideas them and with reps that come in, they like to know how we work and they go: “I've heard of something that we would like you guys to try”, and it can be something that's a bit different from what we're used to, so, we get a lot of [financial] information from them related to what's working out in the market.” [I-35, Tiling, Director]

Extra representations of financial value highlighted by participants are presented in Appendix F. The two representations of financial value illustrated above, exhibited the richest frequency of references from the data collected, and were identified as core financial values through the first level of analysis with 69 percent of the overall number of references, as shown in Table 21. The same table describes the first level of analysis

in the first five columns evidencing SMEs mainly obtain two categories of financial value. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing two main financial values that SMEs generate from SC benefits which are *'to enhance firm's financial practices and increase firm's revenue'*. The second level of analysis is examined in section 5.3. Data analysis to find the relation between core financial values, identified in Table 21, with the firms that have created each of the core financial values identified that 37 out of 41 SMEs have created the core financial benefit of increasing firm's revenue whereas only 28 were able to enhance firm's financial practices. Further analysis revealed that 27 out of 41 firms were able to transform SC benefits into the two financial values whereas 11 SMEs were able to transform SC benefits into one financial value, and only 3 firms were unable to appropriate any financial value from SC benefits.

Human Value

Human value is described as the improvement in staff's competencies, capabilities, experience, and motivation levels. Participant firms illustrated seven forms in which they create human value, and out of those seven, two had the richest level of frequency references. The first evidence of how SMEs have been able to create human value, according to the richness of references, is *'to enhance firm's human resources practices'*, defined as the ability to modify and/or improve firm's workforce actions to achieve its goals:

"I would hire people and when the business goes quiet, I would get rid of those that are not that good, or not very good. Never have them back. I'll rather give someone else a try. And that way you keep the better workers" [I-19, Ironwork, Director]

Second, *'to feel supported by the organisation'*, defined as the ability to feel part of an organisation, network, and/or community where help (e.g., advice, comfort, feedback) is received:

"When we get a new product given by the [sales] reps we usually discuss it with the staff to get feedback, and we would also try to share that knowledge with the customer if it is a good product" [I-10, Roofing, Director]

Other forms of human value created, generated by participants, can be found in Appendix F. The two representations of human value illustrated above, exhibited the richest frequency of references from the data collected, and were identified as core human values through the first level of analysis with 72 percent of the overall number of references (see Table 21). The same table describes the first level of analysis in the first five columns evidencing SMEs mainly obtain two categories of human value. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing two main human values that SMEs generate from SC benefits which are *'to enhance firm's HR practices and feel supported by stakeholders.'* The second level of analysis is examined in section 5.3. Data analysis evidenced that 26 out of 41 SMEs have created the human value of enhancing firm's human resources practices whereas only 13 created a second human value: to feel supported by the organisation. Further analysis revealed that 12 out

of 41 firms were able to transform SC benefits into the two core human values, 15 SMEs were able to transform SC benefits into one core human value whereas 14 SMEs failed to transform SC benefits into any human value.

Intellectual Value

Intellectual value is described as the enhancement of organisational knowledge-based intangibles such as experience, patents, copyrights, software, rights, licenses besides systems, procedures and protocols. Participant firms illustrated four forms in which they create intellectual value, and out of those four, two had the richest level of frequency references. The first evidence of how SMEs have been able to create intellectual value, according to the richness of references, is ‘to improve firm’s intellectual practices’, defined as the ability to change, adapt, and/or enhance firm’s intellectual strategies to achieve its goals:

“I’d say we share the knowledge in a different way with either network. With the trade associations and accreditation bodies, we demonstrate compliance, and with other support networks we adjust procedures to enhance mutual outputs with other trades and exchange knowledge about new products and services from wholesalers and suppliers.” [I-18, Stonemasonry, Site Manager]

Second, ‘to increase firm’s business knowledge’, defined as the ability to increase firm’s industry knowledge to better fulfil clients/customers’ expectations:

Interviewer: Do you think the strategy of the business has been affected by your cooperation with other companies in conferences or not?

[I-3]: "Yeah, absolutely. We adjust our approaches to delivering a product that addresses customers' expectations better" [I-3, Electrical, Director]

Further forms of intellectual value created by participant firms are described in Appendix F. The two representations of intellectual value illustrated above, exhibited the richest frequency of references from the data collected, and were identified as core intellectual values through the first level of analysis with 69 percent of the overall number of references (see Table 21). The same table describes the first level of analysis in the first five columns evidencing SMEs mainly obtain two categories of intellectual value. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing two main intellectual values that SMEs generate from SC benefits which are ‘to improve firm’s intellectual practices, and to acquire business knowledge.’ The second level of analysis is examined in section 5.3. Data analysis to examine the relation between the core intellectual values, identified in Table 21, and the firms that have created the core intellectual values evidenced that 28 out of 41 SMEs have created the core intellectual value of improving its intellectual practices whereas only 15 were able to enhance firms’ business knowledge. Further analysis revealed that 15 out of 41 firms were able to transform SC benefits into the two core intellectual values, 13 firms were able to transform SC benefits into one of the core intellectual benefits, and 13 firms have failed to transform SC benefits into any type of intellectual benefits.

Manufacturing Value

Manufacturing value is described as the enhancement in the production of goods with the use of machinery and/or provision of services that a firm can offer to stakeholders. Participant firms illustrated three forms in which they create manufacturing and/or servicing value, and out of those three, two had the richest level of frequency references. The first evidence of how SMEs have been able to create manufacturing value, according to the richness of references, is ‘to enhance firm’s manufacturing practices’, defined as the ability to change, adapt, and/or improve firms’ manufacturing strategies to achieve its goals:

“I think the ECA [membership-based association] has influenced improvements in products, environmental type issues in my firm. I’m very much a fan of recycling and reusing stuff and disposing the waste properly. I mean, I’ve got children and grandchildren. So, I’ve got a lot of respect for the planet and environment.” [I-32, Electrical, Director]

Second, ‘to optimise firm’s efficiency and effectiveness in its operations’, defined as the ability to make firms’ processes use time wisely and deliver same/higher quality whilst using less resources:

“The software we have monitors times getting to jobs, how long they're [engineers] taking on jobs, recalls going back to work. We picked up the labour times, we input invoices into it. So, we can monitor what profit we're making on certain contracts.” [I-9, Central Heating, Director]

One extra form of manufacturing value that SMEs have been able to create was ‘to improve products and/or services’, defined as the ability to make firms’ products/services better than before. The two representations of manufacturing value illustrated above, exhibited the richest frequency of references from the data collected, and were identified as core manufacturing values through the first level of analysis with 84 percent of the overall number of references (see Table 21). The same table describes the first level of analysis in the first five columns evidencing SMEs mainly obtain two categories of manufacturing value. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing two main manufacturing values that SMEs generate from SC benefits which are ‘*to enhance firm’s manufacturing practices through optimising efficiency and effectiveness*’. The second level of analysis is examined in section 5.3. Data analysis identified that 27 out of 41 SMEs have created the core manufacturing value of enhancing firms’ manufacturing practices, and only 16 firms were able to optimise firms’ efficiency and effectiveness in its operations. Further analysis revealed that 15 firms out of 41 were able to transform SC benefits into the two core manufacturing values, 13 firms were able to transform SC benefits into one core manufacturing value, and 13 firms have failed to transform SC benefits into any core manufacturing value.

Natural Value

Natural value is described as the firms' enhancement of environmental processes through the use of renewable and non-renewable environmental resources that a firm can have access to in order to provide products and/or services to stakeholders. Participant firms illustrated one form in which SMEs create natural value which is 'to strengthen environmental practices', defined as the ability to increase the number of products and/or services, focused on protecting Mother Earth, offered to clients/customers:

"Buying from sustainable sources is costing us more money sacrificing profits. Some customers do ask but others don't, and we can only do our part. If we are buying anything from sustainable sources, our margins will be reduced to compete against someone who is sourcing a product that isn't sustainable" [I-23, Flooring, Partner]

The representation of natural value illustrated above, exhibited the richest frequency of references from the data collected, and was identified as the core natural value through the first level of analysis with 100 percent of the overall number of references (see Table 21). The same table describes the first level of analysis in the first five columns evidencing SMEs mainly obtain one type of natural value. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing one main natural value that SMEs generate from SC benefits which is '*to strengthen environmental practices.*' The second level of analysis is examined in section 5.3.

Furthermore, the SC-VC literature only examined VC processes in terms of financial and manufacturing value highlighting a knowledge gap in terms of identifying further categories of VC such as intellectual, human, natural, and social. Findings confirmed financial and manufacturing benefits, acknowledged in the literature, for example, financial value is defined as the economic gain derived from business activities:

"They [membership-based associations] are contractors for our sector. So, they are very influential. So, when we work with a particular professional body, we get a lot more revenues, and opportunities come through that work stream." [PI-1, Architecture, Business Dev. Director]

Also manufacturing value, described as the creation and/or improvement of a product and/or service:

"I would say there is real cooperation, we have plumbers and builders who are quite happy to work with us, to come up with some ideas and thoughts or suggestions on how to improve the product or future products we can work on." [I-1, Building, Director]

Data analysis evidenced that 21 out of 41 SMEs have created mainly one natural value: strengthening firm's environmental practices. Further analysis revealed that 21 out of 41 firms were able to transform SC benefits into the core natural value whereas 20 out of 41 firms have failed to transform SC benefits into the core natural value.

In brief, Theme Two identified and developed mainly two broad sections: number one, the actions that firms deliberately apply to transform SC benefits, gained via network engagements, into value; and number two, the six categories of values, and the values created as a result of the application of deliberate

actions. For number one, Findings produced three internal and six external core actions. Findings identified the internal core actions used by firms to create value – that also evidenced the richest frequency of references – were three: first: to evaluate constantly products and/or services offered to stakeholders – as supporting action to the manufacturing/servicing strategy, to hire temporary staff in addition to full time staff – as supporting action to the human and intellectual strategies, and to evaluate firm’s aims to adjust for the nature of the business within the construction industry – as supporting action to the manufacturing/servicing, and financial strategies. The six external core actions – identified as those with the richest frequency of references – were to be approachable, to join diverse networks (e.g., membership-based associations, accreditation bodies, chambers of commerce, other support networks), to demonstrate firm’s reliability (e.g., to keep one’s word), and to apply personal values and work ethic (e.g., honesty, transparency, timeliness, probity, etc.) – as supporting actions to the social strategy, and to deliver quality products and/or services, and to meet and/or exceed clients’ and/or customers’ expectations – as supporting actions to the manufacturing/servicing strategy.

In relation to the value created and the six categories identified, Theme Two produced a total of thirteen codes of value allocated amongst social, financial, human, intellectual, manufacturing, and natural categories of value. The social value evidenced the richest frequency of references among the six categories. The core values produced within the social category include to enhance firm’s relational practices, to increase brand awareness, to boost firm’s reputation, and to strengthen stakeholders’ trust in the firm. For financial value, to increase firm’s revenue, and to enhance firm’s financial actions (e.g., to reduce costs, to increase sources of revenue). For human value, to enhance firm’s human resources actions (e.g., to hire skilled workforce, to provide training), and to feel supported. For intellectual value, to improve firm’s intellectual action (e.g., to add knowledge about the product and/or service offered to stakeholders), and to increase firm’s business knowledge (e.g., to learn from past experiences, to increase business knowledge). For manufacturing value, to enhance firm’s manufacturing actions (e.g., to learn about manufacturing-servicing operations to produce higher quality outputs), and to optimise firm’s efficiency and effectiveness in its operations. And for the natural value, to strengthen environmental practices (e.g., to offer eco-friendly products and/or services, to purchase eco-friendly supplies). Theme Two also produced emergent themes derived from the actions to identify the set of strategies to create value and from the value created in each of its six forms through a second-level analysis which is described in section 5.3.

4.2.3. Theme Three: Strategy Enhancement from SC benefits

The analysis of the data identified that before the enhancement of firms’ BST strategy occur, SC benefits and the creation of value have to play a significant role. Findings identified that the enhancement of firms’ BST strategies depend on identifying actions that SMEs deliberately apply to generate SC benefits which then firms transform to create value; thus, enhancing their BST strategies. Consequently, Theme Three is

concerned with the identification of initial SC benefits, and those enhanced strategies resulting from the generation of SC benefits. Theme Three addresses questions such as: what SC benefits strengthen firms' possibility of survival through the enhancement of their initial strategies? And what are the resulting enhanced BST strategies?

SC benefits that enhance BST

Findings identify thirty-seven, including fourteen core benefits, across the six categories of benefits. The fourteen core benefits were identified based on the richness of the frequency of references; thus, producing, in descending order, four social, two financial, one manufacturing, three human, one natural, and three intellectual benefits focused on strengthening BST and enhancing firms' strategies. Social benefits are discussed first since they accrued the highest frequency of references.

Social Benefits

Social benefits for BST are defined as the positive outcomes from network engagements that positively influence long-term relationships within and between firms and strategic stakeholders. Findings produced sixteen social benefits influencing BST including four core benefits. First, participants mentioned the 'constant identification of sustainable relational norms and obligations', defined as the continual recognition of practices that increase the probability of developing and/or strengthening firm's SC in the long term:

"In terms of social sustainability, we have engaged with the Brighton council to modify a building setup to feed the homeless with a community kitchen. So, we did structural work for them for free. We would do some more for free if we're asked." [I-25, Structural Engineer, Partner]

Second, participants highlighted 'to adjust initial trust for future engagements', defined as the ability to recognise the need to increase or decrease the level of trust, placed during initial engagements, in future interactions:

"Obviously, when you first interact with people there is some level of trust, they take you at face value, but I don't especially instil a high level of trust in people until I really know them." [I-32, Electrical, Director]

Third, interviewees mentioned 'to accurately identify clients and/or customers' expectations', defined as the ability to correctly recognise clients'/customers' needs and wants in future engagements:

"If I had to choose who has provided the most benefits in terms of improving the firm's strategy, I'd say it is the 'other support networks, especially our long-term customers, because we provide a fee, and if we don't get the job, then we review the fee. When we work with customers on a regular basis, we then work out what their expectations are. We can then fee accordingly and provide the service. They know what to expect from us, and we know what they're willing to pay." [I-24, Structural Engineering, Director]

Fourth, participants stated ‘to have positive long-lasting relationships with tradesmen and/or contractors’, defined as the ability to produce positive outcomes from interactions with tradesmen and/or contractors in the long term:

“During projects, tradesmen see that I did my work right and properly. They ask me for my telephone number, and I do the same. With other tradesmen sometimes, we go into more personal relationships, we send messages. How are you doing? We even get to know things about our families and stuff.” [I-16, Carpentry, Director]

Further social benefits influencing BST, mentioned by participants, can be found in Appendix G. Table 22 presents the fourteen core benefits that influence BST strategies in SMEs identified through the data analysis for all the six categories. That is, the first level of analysis, presented in the first five columns (see Table 22), evidenced SMEs generate mainly fourteen core benefits, sorted in descending order, across the six categories (four social, two financial, one manufacturing and/or servicing, three human, one natural, and three intellectual) resulting from network engagements. In terms of the social benefits, four core benefits were identified after examining those with the richest frequency of references accounting for 76 percent of the references from the sixteen social benefits identified. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing the four main social benefits that SMEs generate from networking engagements which are ‘to constantly identify sustainable relational norms and obligations, adjust initial levels of trust, accurately identifying stakeholders’ expectations, and have positive long-lasting relations with tradesmen’. The second level of analysis is examined in section 5.3.

Table 22. Core social capital benefits influencing six categories for business sustainability

Type	First Level of Analysis					Second Level of Analysis
	Label	SC Benefit Code	Refs.	# of Firms	Total	Resulting Benefits of SC
Social	7S1	To constantly identify sustainable relational norms and obligations	1134	41	Core Codes: 2796 Total Refs: 3697 2796/3702 =76%	<i>To constantly identify level of trust, norms, obligations, and feedback in network engagements.</i>
	7S2	To adjust initial trust for future engagements	882	41		
	7S3	To accurately identify clients’/customers’ expectations	478	40		
	7S4	To have positive long-lasting relations with tradesmen/contractors	302	38		
	Subtotal for Social Benefits’ References (7S1-7S4)		2796	41		
Financial	7F1	To identify long-term cost-reduction practices	1134	41	Core Codes: 2268 Total Refs: 2408 2268/2408=94%	<i>To identify long-term practices to improve firm’s financial health.</i>
	7F2	To identify long-term revenue-increasing practices	1134	41		

	Subtotal for Financial Benefits' References (7F1-7F2)		2268	41		
Manuf.	7M1	To identify long-term manufacturing-servicing-improvement practices	1134	41	Core Codes: 1134 Total Refs: 1786 1134/1786=63%	<i>To identify long-term manufacturing-servicing-improvement practices</i>
	Subtotal for Manufacturing Benefits' References (7M1)		1134	41		
Human	7H1	To identify firm's human resource practices aimed at long-term improvement	827	41	Core Codes: 1418 Total Refs: 1607 1418/1607=88%	<i>To identify long-term improvement practices for the human resources' program</i>
	7H2	To identify areas for constant personal growth	299	30		
	7H3	To reaffirm personal values/work ethic	292	31		
	Subtotal for Human Benefits' References (7H1-7H3)		1418	41		
Natural	7N1	To continuously identify long-term environmentally friendly practices	1137	41	Core Codes: 1137 Total Refs: 1141 1137/1141=99%	<i>To continuously identify long-term environmentally friendly practices</i>
	Subtotal for Natural Benefits' References (7N1)		1137	41		
Intellectual	7I1	To constantly recognise firm's limitations	213	31	Core Codes: 437 Total Refs: 550 437/550= 79%	<i>To continuously identify firm's knowledge-based competitive advantage</i>
	7I2	To continuously identify firm's unique selling proposition	152	22		
	7I3	To have constant access to the newest industry benchmarks	72	17		
	Subtotal for Intellectual Benefits' References (7I1-7I3)		437	41		

Data analysis examining the relationship between the core social benefits that influence BST for SMEs, and the firm that has gained each specific core benefit revealed that 41 out of 41 SMEs gained the benefits of constantly identifying sustainable relational norms and obligations, and adjusting levels of initial trust guiding future stakeholder engagements, 40 SMEs accurately identified clients'/customers' expectations whereas 38 SMEs generated positive long-lasting relations with tradesmen/contractors. Further analysis revealed that 37 out of 41 SMEs have gained the four core social benefits for BST whereas only 4 SMEs have gained three core social benefits for BST.

Financial Benefits

Financial benefits for BST are defined as the long-term economic rents produced as a result of the provision of goods and/or services to stakeholders, debts, grants, and/or investments. The second category of benefits

for BST, based on richness of frequency of references, produced ‘financial benefits’ which evidenced three benefits including two core benefits overall (see Table 22). The financial benefit with the greatest number of references, as mentioned by participants, was ‘the identification of long-term cost-reduction practices’, defined as the ability to recognise activities to reduce or avoid costs in the long-term throughout firm’s operations:

"Through the professional association [RIBA], I learned that in order to make this [project] happen quicker, you start from the very beginning by being clear about what everybody expects, and then you bypass a lot of issues, and delays which are costly" [I-6, Architecture, Director]

Second, ‘to identify long-term revenue-increasing practices’, defined as the ability to recognise activities that can help firms continuously increase revenue:

“Belonging to professional associations and being accredited gives us an opportunity to increase revenue because of the wider range of new clients we can have access to” [I-18, Stonemasonry, Site Manager]

The third benefit identified was ‘to sign contracts’, defined as the ability to secure a new project and generate revenue for the firm. Out of the three financial benefits, the first two experienced the richest frequency of references. These became the core benefits which covered 94 percent of the financial benefits (see Table 22). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing two core financial benefits that SMEs generate from network engagements: ‘*to identify long-term cost-reduction and revenue-increasing practices.*’ The second level of analysis is examined in section 5.3. It is relevant to highlight that 41 out of 41 SMEs expressed having gained the core financial benefits of identifying long-term cost-reduction practices, and long-term revenue increasing practices.

Manufacturing Benefits

Manufacturing benefits for BST are related to the outcomes from network engagements that positively influence the long-term production of goods through the use of machinery and/or provision of services that a firm offers to stakeholders. This category came in third place, according to the richness of frequency of references mentioned by participants, acknowledging three benefits including one core benefit (see Table 22). The identification of long-term manufacturing-servicing-improvement practices` was a theme that emerged strongly from the Findings. This is defined as the ability to recognise actions that increase the probability of developing and/or strengthening firm’s manufacturing/servicing processes in the long term to enhance survival of firms:

"In terms of benefits, we can say IStructE [accreditation body] has helped us the most because they provide the certification our customers want. Customers allow us to have more profit, and to enhance our strategy. And manufacturers allow us to have access to a wide range of products, so that we can actually get back to the customers and comply with IStructE." [I-25, Structural Engineering, Partner]

Other manufacturing benefits influencing BST include ‘to identify areas for firm’s continual improvement’, defined as the ability to recognise areas in the firm for constant advancement; and ‘to constantly provide high quality products and/or services’ defined as the ability to deliver superior products and/or services as often as possible. Out of the three manufacturing benefits presented above, the first one experienced the richest frequency of references; thus, becoming the core benefit which covered 63 percent of the manufacturing benefits influencing BST (see Table 22). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing one core manufacturing benefit that SMEs generate from network engagements: *‘to identify manufacturing and/or servicing sustainability practices’*. The second level of analysis is examined in section 5.3. It is worth mentioning that 41 out of 41 SMEs have gained the core manufacturing benefit of ‘identifying long-term manufacturing/servicing improvement practices’.

Human Benefits

Human benefits for BST are related to the outcomes from network engagements that positively influence staff’s competencies, capabilities, experience, and motivation levels. This category came in fourth place according to the richness of frequency of references evidencing six benefits including two core benefits overall (see Table 22). First, interviewees mentioned ‘to enhance firm’s human resource practices aimed at long-term improvement’, defined as the ability to tweak, change, and/or enhance long term human resources’ strategies, as stated in I-18:

“Our [BST] policies are taught to the staff so that they can help the company be compliant. So, training gives us the knowledge and the expertise to carry out such [BST] policies. We’ve got a training schedule, so we identify everybody’s training needs for every project” [I-18, Stonemasonry, Site Manager]

Second, ‘to identify areas for constant personal growth’, defined as the ability to recognise areas for continual personal growth:

"I've been in the industry more than any of my employees have but I would always discuss jobs or information with them. If they come up with a problem, I never say I'm right and you're wrong. I'll discuss it and look into it. It's always good to learn more. You'll never know everything" [I-8, Electrical, Director]

Third, ‘to reaffirm personal values/work ethic’, defined as the ability and willingness to reaffirm personal values and work ethic as vital ingredients towards firm’s sustainability:

“You’ve got to have confidence and know your trade. You've got to have everything covered and be reliable, honest, trustworthy, and transparent with customers. You have to be what you say you are. We are steel erectors and welders. That's what we are. That's what we're good at. There're two things that gotta be in business: one is: be good at your job; and the other one is: be reliable. There's no good thing if you don't turn up, and no good turning up if you're no good.” [I-19, Ironwork, Director]

Further human benefits for BST found through data analysis are presented in Appendix G. Out of the six benefits identified in the first level of analysis, the first three experienced the richest frequency of references (as seen in Table 22; thus, becoming the core codes which covered 88 percent of the human benefits for BST. The first level of analysis led to the second level of analysis which produced a second-order theme evidencing two core human benefits that SMEs generate from network engagements which are *'to adjust firm's HR long-term strategies whilst identifying areas for constant personal growth.'* The second level of analysis is further examined in section 5.3. Data analysis to examine the relationship between the core human benefits that influence BST for SMEs, identified in Table 22, and the firm that has gained each specific core benefit revealed that 41 out of 41 SMEs gained the benefit of identifying firm's human resource practices aimed at long-term improvement whereas only 30 SMEs identified areas for constant personal growth. Further analysis identified that 25 out of 41 SMEs have gained the three core human benefits for BST, 11 firms have gained two core human benefits, and only 5 SMEs have gained one core human benefit.

Natural Benefits

Natural benefits are related to the outcomes from network engagements that positive influence firms' environmental processes using renewable and non-renewable environmental resources in order to provide products and/or services to stakeholders. The fifth category identified with the greatest number of references was the natural benefits for BST with two benefits including one core benefit overall. Participants mentioned *'to continuously identify sustainable environmental sustainability practices'*, defined as the ability to recognise actions that enhance firms' survival and long-term development of environmental processes:

“So, when we're on the BREEAM [Building Research Establishment – Environmental Assessment Method] conditions that takes into consideration all those things [economic, social, and environmental sustainability practices]. So, what we have to do is, then we have to talk to the suppliers to meet BREEAM conditions. I would feel we do it [comply with triple sustainability practices] through our suppliers anyway. Then it would come down to ethics and everything else with the accreditation bodies.” [I-18, Stonemasonry, Site Manager]

One additional natural benefit for BST mentioned by participants was *'to have constant access to eco-friendly products/services'*, defined as the ability to constantly purchase eco-friendly raw materials and offer services focused on minimising environmental effect. Out of the two benefits identified, the first one experienced the richest frequency of references; thus, becoming the core benefit which covered 99 percent of the natural benefits (see Table 22). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing one core natural benefit that SMEs generate from network engagements which is *'to continuously identify environmental sustainability practices'*. Also relevant during the initial analysis was that 41 out of 41 SMEs mentioned having gained the benefit of continuously identify long-term environmentally friendly practices. The second level of analysis is examined in section 5.3.

Intellectual Benefits

Intellectual benefits for BST are related to the outcomes from network engagements that positive influence organisational knowledge-based intangibles such as experience, patents, copyrights, software, rights, licenses besides systems, procedures, and protocols. The sixth and last category of benefits for BST was ‘intellectual benefits’ with seven benefits including three core benefits overall (see Table 22). First, interviewees mentioned benefits such as “to constantly recognise firm’s limitations”, defined as the continual identification of firm’s weaknesses and constraints to work on projects and/or fulfil clients/customers’ expectations:

“As much as we try, [triple] sustainability is all down to the customer. It doesn't matter what subcontractors you use. I will not be able to make certain decisions if I don't have the flexibility that the customer gives me, but that all is derived from trust. The customer has to trust you and see what happened, whatever work had to be done, had to be done.” [I-16, Carpentry, Director]

Second, ‘to continuously identify firm’s unique selling propositions’, defined as the ability to constantly recognise firm’s actions that increase differentiation from its competitors:

“We have a bit of a motto: 'we do the work in our customer’s home as we would do it in our own home.' We treat the person's house as if it was our own house with the same respect that you would treat your own home. That’s the main thing, I think that separates us quite dramatically.” [I-29, Central Heating, Director]

Third, ‘to have constant access to the newest industry benchmarks’, defined as the ability to gain knowledge on most up-to-date industry regulations and standards based on systemic trust:

"The advantage of that [membership-based] network is that you can gain more knowledge about the latest information/standards on triple sustainability. They [membership-based network] have been the most beneficial in terms of the [industry] guidelines and codes of conduct such as being fair, honest and open" [I-6, Architecture, Director]

Extra intellectual benefits for BST described by SMEs can be examined in Appendix G. Out of the seven benefits identified, the first three experienced the richest frequency of references; thus, becoming the core benefits which covered 79 percent of the intellectual benefits (see Table 22). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing three core intellectual benefits that SMEs generate from network engagements which are ‘*to continuously have access to newest industry benchmarks, identify firm’s unique selling proposition, and be aware of firm’s limitations.*’ The second level of analysis is examined in section 5.3.

All in all, there were fourteen core SC benefits influencing BST identified across the six categories with the social benefits having the richest frequency of references at 3,702 over others such as the financial (2,408) and manufacturing (1,786) benefits. This could indicate the significance of relations and network engagements for firms’ development towards BST. The resulting benefits from the first-level analysis

produced six emerging themes across the six categories, for example, for social benefits, ‘*to constantly identify relational sustainability practices, adjust initial levels of trust, accurately identifying stakeholders’ expectations, and have positive long-lasting relations with tradesmen*’; for financial benefits, ‘*to identify long-term cost-reduction and revenue-increasing practices*’; for manufacturing benefits, ‘*to identify manufacturing and/or servicing sustainability practices*’, for human benefits, ‘*to adjust firm’s HR long-term strategies whilst identifying areas for constant personal growth*’, for natural benefits, ‘*to continuously identify environmental sustainability practices*’; and for intellectual benefits, ‘*to continuously be aware of firm’s limitations, identify firm’s unique selling proposition, and have access to newest industry benchmarks.*’ These emergent themes are discussed in section 5.3.

Data analysis helped to understand the relationship between core intellectual benefits that influence BST for SMEs (see Table 22), and the firm that has gained each specific core benefit. Such analysis revealed that 31 out of 41 SMEs gained the benefits of constantly recognising firms’ limitations, 22 SMEs continuously identified firms’ unique selling proposition, and only 17 gained constant access to up-to-date industry benchmarks. Further analysis identified that 7 out of 41 firms, have gained the three core intellectual benefits, 19 firms have gained two core intellectual benefits, 11 firms have gained one core intellectual benefit, and 4 firms have failed to gain any core intellectual benefit.

Enhanced Strategies Aimed at BST

Having identified benefits strengthening the BST of SMEs in the first section of Theme Three, the next step is to explore how those benefits have influenced firms’ BST strategies. Considering this study applies the BST 2.0 version – defined as “a process by which firms manage their financial, social and environmental risks, obligations and opportunities” (Network for BST, 2012, cited by Dyllick and Muff, 2016, p. 9) – the strategies were identified on three fronts: economic, social, and environmental, following the TBL concept. Accordingly, this second section within Theme Three is focused on identifying those BST strategies that have been enhanced to nurture the survival of firms. Data analysis revealed a total of thirty-one actions, across the three categories (eighteen for social, nine for economic, and four for environmental), that SMEs have applied to enhance their BST strategies. The three categories are listed in descending order beginning with economic sustainability which accrued the richest frequency of references.

Economic Sustainability Strategy

Economic sustainability strategy is defined as the group of deliberate actions applied by firms to increase their probability of maintaining and/or increasing revenue from their operations. Data analysis identified nine economic sustainability actions including three core actions that SMEs have generated from SC

benefits. First, ‘to develop and/or update the firm’s business plan’, defined as the deliberate action to build and/or adjust financial goals pursued by the firm:

"The board of directors sets the three-year business plan with objectives of what they want the company to achieve, but they amend them as necessary, obviously, last year, and this year with the unknown uncertainty in the marketplace [through Brexit], we are having to adapt and change things slightly as we go along to ensure our success for the future as well, and to maintain our productivity levels." [I-2, Glazing, Head of Marketing]

Second, ‘to have a financially healthy organisation’, defined as the deliberate intention to put actions in place to build a financially stable firm in the long run:

“Actually, there are small things really important to us. For example, we don't have any debts as a company, we've never taken loans out to start the company or everything that we've done. For example, we've got four vans on the road, we own all of those vans. So, Phil, is very much of the mindset that if you have to borrow the money for it, then you can't afford it” [I-34, Tiling, Director]

Third, ‘to engage with stakeholders that help increase firm’s revenue’, defined as the intention to interact with stakeholders that support the securing of new contracts and/or repeat business:

“With customers, you don't tend to get new business, you tend to get repeat business whereas with the tradesmen, you tend to get new business [new referrals], which obviously a new business becomes repeat business. So, I would say tradesmen are probably slightly more influential with regard to actually increasing profit.” [I-29, Central Heating, Director]

Additional actions enhancing BST strategies described by participants are listed in Appendix H. The first level of analysis, described in the first four columns (see Table 23), evidenced SMEs have enhanced and applied mainly two economic actions to exploit SC benefits, and use them towards strengthening their BST. This was concluded after three core actions exhibited the richest frequency of references accounting for 88 percent of the economic references (see Table 23).

The first level of analysis led to the second level of analysis which produced a second-order theme evidencing the main economic strategies SMEs have enhanced resulting from SC benefits are ‘*to have a financially healthy organisation through developing (updating) business plan*’. The second level of analysis and emergent subthemes are discussed in section 5.3. Data analysis to understand the link between the core economic actions for BST, identified in Table 23, and each firm that has applied them identified that 39 out of 41 SMEs have developed (updated) their business plans, and have established a financially healthy organisation whereas only 32 SMEs have engaged with stakeholders that have helped them increase firm’s revenue. Further analysis evidenced that 32 out of 41 SMEs have carried out the three core economic actions for BST whereas 7 firms have applied two core economic actions, and two firms have failed to apply any economic action for BST.

Table 23 Enhanced Business Sustainability Actions

Type	First Level of Analysis					Second Level of Analysis
	Label	Action Code	Refs.	# of Firms	Total	Resulting BST Actions
Economic	8E1	To develop (update) business plan	384	39	Core Codes: 659 Total Refs: 881 775/881= 88%	<i>To adjust firm's business plan based on financial viability.</i>
	8E2	To have a financially healthy organisation	275	39		
	8E3	To engage with stakeholders that help increase firm's revenue	116	32		
	Subtotal for Economic Actions for BST' References (8E1-8E3)			775		
Social	8S1	To build positive long-lasting work relationships with staff	171	36	Core Codes: 425 Total Refs: 625 425/625 = 68%	<i>To develop positive long-lasting relations with stakeholders adopting business probity.</i> <i>To beware of potential flaws (malpractices) in network engagements.</i>
	8S2	To beware of flaws (malpractices)	116	28		
	8S3	To engage with stakeholders that improve firm's reputation	43	19		
	8S4	To provide positive experiences to clients/customers	35	14		
	8S5	To belong to membership-based networks	33	13		
	8S6	To form (reaffirm) habits within the firm that strengthen its reputation	27	12		
	Subtotal for Social Actions for BST' References (8S1-8S6)			425		
Environmental	8N1	To promote eco-friendly products/services	24	14	Core Codes: 45 Total Refs: 65 45/65= 69%	<i>To implement long-term environmentally friendly policies in the firm.</i>
	8N2	To implement environmental sustainability policies	21	15		
	Subtotal for Environmental Actions for BST' References (8N1-8N2)			45		

Social Sustainability Strategy

Social sustainability strategy is defined as the group of deliberate actions that firms apply to improve their relationships with their strategic stakeholders, and the wider community including the improvement of the life of their employees (e.g., training, working conditions, work-life balance). Data analysis identified eighteen social sustainability actions, including six core actions, that SMEs have derived from SC benefits.

The first core action was ‘to build positive long-lasting work relationships with staff’, defined as the significance of developing long-lasting relationships with employees to fulfil the business’ and employees’ goals:

“We've got a really good team. They're skilled but it's important for us to keep holding those guys. Which is difficult. So, we don't just treat them as subcontractors, we provide them with uniforms, they're forever using our tools, even though they're supposed to have all their own tools. We make sure they feel part of the team, we review pay quite a lot. So, we will happily pay a bit more for the right fitters” [I-34, Tiling, Director]

The second core action was ‘to beware of flaws and malpractices’, defined as the need for being cautious of flaws and potential malpractices negatively affecting the firm:

“Sometimes we find that the more we use a certain supplier, the prices they're selling you their products, they will creep up. They know you're going to them all the time without really looking around, they'll start creeping your prices up, trying to make a bit more money out of you.” [I-8, Electrical, Director]

The third core action was ‘to engage with stakeholders that improve firm’s reputation’, defined as the significance of interacting with stakeholders that increase and/or build firm’s status and name:

“We belong to certain professional associations because of their good standing and because when you get tenders, their first words are, are you EIC/NIC? Are you Gas Safe certified?” [I-9, Central Heating, Director]

The fourth core action was ‘to provide positive experiences to clients/customers: to produce positive outcomes throughout clients’/customers’ engagements:

“Customers are happy to pay higher prices because they know they're getting a good product and we're lucky the suppliers we use are very reliable, we don't have issues with manufacturers. We spent a lot of time with customers. It's about building a relationship quickly with a customer just being, not pushy but more helpful” [I-28, Interior Design, Manager]

The fifth core action was ‘to belong to membership-based networks’, defined as the significance of belonging to trade and/or professional associations, chambers of commerce, and business assemblies grounded on systemic trust:

“So, RIBA [Royal Institute of British Architects] members who I get on with would benefit me on talking to other RIBA members who don't know me, because they will know that I have worked with other RIBA members and that relationship will work well. There have been occasions where I've deliberately gone out to do work with the RIBA to do CPDs for them with the intention of winning work. So, the professional network allows access to new jobs and the informal network helps me get the job done.” [PI-2, Interior Design, Director]

The sixth core action was ‘to form (reaffirm) habits within the firm that strengthen its reputation’, defined as the significance of developing and/or reaffirming practices, in the firm and staff, that increase firm’s reputation:

“I suppose you learn from having your own business, if you're not reliable, you don't get the work, you lose. Presenting yourself in the right way, maybe at meetings or on site. For example, if you see that companies are wearing their logos on their T-shirts, or hard hats, it looks good, and it comes across in a good manner. So that's something that you end up doing yourself.” [I-7, Ironwork, Director]

Complementary actions strengthening social sustainability expressed by participants are described in Appendix H. The first level of analysis, described in the first four columns of Table 23, evidenced SMEs have enhanced and applied mainly six social actions to exploit SC benefits and use them towards strengthening their BST. This was concluded after considering those six core actions exhibited the richest frequency of references accounting for 68 percent of the social references, (see Table 23). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing the main social actions SMEs have enhanced due to SC benefits are *‘to develop positive long-lasting relationships with stakeholders, increase firm’s reputation, and avoid network flaws and malpractices.’* The second level of analysis is examined in section 5.3.

Data analysis helped to understand the link between the core social actions for BST, identified in Table 23, and each firm that has applied them. Such analysis identified that 36 out of 41 SMEs have built positive long-lasting work relationships with their staff, 28 out of 41 have been able to be aware of flaws and/or malpractices in networks, 19 out of 41 have engaged with stakeholders that have improved firm’s reputation, 14 out of 41 have provided positive experiences to clients and/or customers, 13 out of 41 have joined membership-based associations, and 12 out of 41 have formed (reaffirmed) habits within the firm that strengthen its reputation. Further analysis revealed that 3 out of 41 firms have pursued all six core social actions for BST, 4 firms have pursued five core social actions, 8 firms have pursued four core social actions, another 8 firms have pursued three core social actions, 10 firms have pursued two core social actions, and 8 firms have pursued one core social action.

Environmental Sustainability Strategy

Environmental sustainability strategy is defined as the group of deliberate actions that firms apply to protect natural resources, their natural environment, and promote continuation of life on earth. Data analysis identified four environmental sustainability strategies including two core strategies that SMEs have enhanced resulting from SC benefits. First, *‘to promote eco-friendly products/services’*, defined as the adjustment of firms’ practices to offer eco-friendly product/services as supporting actions for its business plan:

"Customers just see prices and do not see what companies like ours offer in terms of service and maintenance, so they end up going for the cheapest option that will eventually become more expensive in the long run; but if customers have chosen the [environmentally] sustainable option we’ve presented, I think they're building up some trust with us, and they will come back to us, and also, they will pass that information that they've got a good job, although it was a little bit more

costly, they found it to be done correctly, they've got a nice boiler, and they will pass that information on to their friends" [I-9, Central Heating, Director]

Second, 'to implement environmental sustainability policies', defined as the adoption of policies within the firm that are focused on environmental compliance:

"Buying from sustainable sources is costing us more money sacrificing profits. Some customers do ask but others don't, and we can only do our part. If we are buying sustainable resources, where our margins will be reduced to compete against someone who is sourcing a product that isn't sustainable, so, it's about the customer's choice, and also you can blame them for not supporting you in this cause." [I-23, Flooring, Partner]

Additional environmental actions illustrated by participants are presented in Appendix H. The first level of analysis, described in the first four columns (see Table 23), evidenced SMEs have enhanced and applied mainly two environmental actions to exploit SC benefits and use them towards strengthening their BST. This was concluded after considering those two core actions exhibited the richest frequency of references accounting for 69 percent of the environmental references (see Table 23). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing the main environmental actions SMEs have enhanced resulting from SC benefits are '*to implement environmental sustainability policies whilst promoting eco-friendly products and/or services.*' The second level of analysis is examined in section 5.3.

Data analysis helped to understand the link between the core environmental actions for BST, (see Table 23) and each firm that has applied them. Such analysis identified that only 14 out of 41 SMEs have promoted eco-friendly products and/or services, and only 13 out of 41 have implemented environmental sustainability practices. Further analysis revealed that only 8 out of 41 firms have applied the two core environmental actions, 13 firms have applied one core environmental action, and 20 firms have failed to apply a core environmental action.

To sum up, Theme Three identified those SC benefits that enhance the possibility of firm's survival, and the resulting enhanced BST strategies. For the former, data analysis identified thirty-seven benefits and thirteen core benefits across six categories – social, financial, manufacturing, human, intellectual, and natural. Core benefits across the six categories include, for the social category, the constant identification of sustainable relational practices, to adjust level of initial trust for future engagements, to accurately identify clients' and/or customer's expectations, and to have positive long-lasting relationships with tradesmen/contractors. For the financial category, to identify long-term cost reduction and revenue-increasing practices. For the manufacturing category, to identify manufacturing and/or servicing sustainable practices. For the human category, to adjust firms' long-term human resources' practices, and identify areas for constant personal growth. For the natural category, to constantly identify sustainable environmental practices. And for the intellectual category, to constantly recognise firm's limitations, identify firm's unique selling proposition, and have constant access to the latest industry benchmarks.

In terms of BST strategies, Findings suggest mainly ten core enhanced BST actions across the economic (2), social (6), and environmental (2) strategies. For the financial, to develop and/or update the firm's business plan, and to have a financially healthy organisation (e.g., no outstanding debts beyond firm's capacity). For the social, to build positive long-lasting relationship with staff, to beware of flaws and malpractices during network engagements, to engage with stakeholders that improve firm's reputation, to provide positive experiences to clients and/or customers, to belong to membership-based associations, and to form and/or reaffirm habits within firms that strengthen its reputation. And for the environmental, to promote eco-friendly products and/or services, and to implement environmental sustainability practices (e.g., minimise waste, reduce carbon footprint). Theme Three also produced emergent themes derived from the SC benefits in each of its six categories, and the BST strategies in each of its three categories through a second-level analysis described next.

Acknowledging influence of SC benefits on BST strategies

This section examines the influence of SC benefits on BST strategies as described by participants and how they have experienced and internalised them. Examples include an increase in financial revenue, and a more cautious approach having lower levels of initial trust when first engaging with certain networks. These categories of influence have been categorised into financial, social, and environmental sustainability. Data analysis identified fourteen forms in which SC benefits have enhanced BST strategies, including nine core forms. The categories are listed in descending order starting with financial sustainability which presented the richest frequency of references. Findings in each category are listed in a descending order according to the number of references found.

Economic Sustainability

Economic sustainability is defined as the long-term access to financial assets of a firm for the manufacture of goods and/or provision of services to stakeholders through continuous business operations and survival of the firm. Data analysis identified four forms in which SC benefits influence economic sustainability, including two core forms: first, 'an enhanced business plan', defined as a modified and/or adjusted financial plan to better meet firm's goals:

"The strategy of the firm improves via professional associations because of the knowledge we receive and then apply whereas with the suppliers and customers is because of the feedback and the knowledge we exchange" [I-24, Structural Engineering, Director]

Second, 'to have a higher revenue', defined as increased revenue from new contracts and repeated business:

"We joined them [accreditation bodies] to comply with industry leading since they are at the forefront of quality standards. Through them [membership-based associations and accreditation bodies] customers know who we are, and trust what we do. If we didn't belong to that network, they

wouldn't have given us their trust. So, we trade on a lot of repeat business and if we can get the customer service right then obviously it naturally leads to additional work and income. Customer service gets us the most business which begins via the initial trust from belonging to membership-based networks and having the accreditations.” [PI-1, Architecture, Business Dev. Director]

Table 24. Effects of SC benefits on business sustainability strategies

Type	First Level of Analysis					Second Level of Analysis
	Label	Influence Code	Refs.	# of Firms	Total	Resulting Influence on BST
Economic	9E1	An enhanced business plan	446	40	Core Codes: 805 Total Refs: 1056 805/1056= 76%	<i>Enhanced business plan, and higher revenue.</i>
	9E2	A higher revenue	359	40		
	Subtotal for Economic Influence's References (9E1-9E2)		805	41		
	9E3	Reduced Expenses	154	34		
	9E4	Increased Firm's (owner's) financial experience	97	25		
	Total for Economic Influence's References (9E1-9E4)		1056	41		
Social	9S1	A positive work environment	209	37	Core Codes: 609 Total Refs: 699 609/699 = 87%	<i>To nurture positive relations with stakeholders avoiding toxic networks.</i>
	9S2	A strengthened reputation	168	31		
	9S3	Increased distancing from toxic networks	116	28		
	9S4	To develop long-lasting relationships with stakeholders	116	27		
	Subtotal for Social Influence's References (9S1-9S4)		609	41		
	9S5	To work on feasible projects	70	21		
	9S6	A strengthened social fabric	20	12		
	Total for Social Influence's References (9S1-9S6)		699	41		
Environmental	9N1	Enhanced environmental sustainability practices	30	20	Core Codes: 83 Total Refs: 100 83/100= 83%	<i>Enhanced firm's environmental sustainability practices through knowledge of eco-friendly products and/or services.</i>
	9N2	Ability to offer (more) environmentally sustainable products/services	27	16		
	9N3	An increased knowledge of eco-friendly products/services	26	17		
	Subtotal for Environmental Influence's References (9N1-9N3)		83	41		

	9N4	An increased knowledge on environmental sustainability policies	17	11		
	Total for Environmental Influence's References (9N1-9N4)		100	41		

The remaining two forms in which SC benefits enhance economic sustainability are ‘to have reduced expenses’, defined as having lower financial, operational, and marketing costs for the firm; and ‘to have increased firm’s (and owner’s) financial experience, defined as the benefit of acquiring (improving) a higher level of financial and business skills and knowledge. The first level of analysis, described in the first four columns (see Table 24), evidenced SMEs have perceived mainly two economic sustainability improvements from SC benefits. This was concluded after considering those two core forms exhibited the richest frequency of references accounting for 76 percent of the economic references (see Table 24).

The first level of analysis set the foundations for the second level of analysis where a second-order theme was produced, evidencing the main economic forms in which SMEs have taken advantage of SC benefits, namely, ‘to have an enhanced business plan and higher revenue’. The second level of analysis is examined in section 5.3. It is relevant to highlight that the first level of analysis also identified that 40 out of 41 SMEs experienced the core financial effects of enhancing their business plan, and a higher revenue towards strengthening their BST, as a result of network engagements. Further analysis revealed that 39 out of 41 firms experienced the two core economic effects, whereas two firms experienced one economic effect.

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Social Sustainability

Social sustainability is defined as social development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Data analysis identified six forms in which social sustainability has been influenced from SC benefits including three core forms. The first form is ‘a positive work environment, defined as a supportive, motivating, and reliable working atmosphere:

“We’ve got a WhatsApp chat group. The amount of abuse we give each other on that tells me that there's a high level of respect for everyone in the company, and everyone gets it. Probably, if we don't have the banter, it would have been more like a job less like a family. And it's that sort of community we've got here and I love it. I've never looked anywhere. Having that banter is what I

look forward to. I get up in the morning, I'm looking forward to coming to work now. The way I see banter, it's a sense of belonging. It's having some value and feeling important. It's just camaraderie. And it's just phenomenal." [I-30, Carpentry, Head of Carpentry]

The second form is 'a strengthened reputation', defined as having higher levels of reputation for the firm among stakeholders which could be based on systemic trust:

"Engaging with membership-based networks helps with the growth of our customer base because we speak to architects that know who we are, what our product is, so as soon as they start working on a listed building, if they need secondary glazing, we are trying to position ourselves in front of any and every architect that we can, especially those with a lot of work in history and heritage building. So, it does definitely affect the strategy positively. We're known for quality and for our longevity in the glazing industry, and we've also got a Royal Warrant of Appointment" [I-2, Glazing, Head of Marketing]

The third form is 'increased distancing from toxic networks', defined as the ability to recognise, beware and stay away from networks that negatively influence firm's activities in the long term as much as possible:

"It's happened to me more than once. We've used suppliers a lot in the past, then one day I'll stop with a big job coming up, and then I'll go to another supplier, give it the price of this material, and they'll be a lot cheaper. Then, when I have gone back to my regular supplier they say 'We'll see what we can do', and then knock their price down and you're like, 'Well, if you could have done it cheaper in the first place, you shouldn't be putting my prices up higher'. It's just things that happen the more you use somebody, the more your costs." [I-8, Electrical, Director]

The fourth form is 'to develop long-lasting relationships with stakeholders', defined as developing positive relationships with stakeholders in the long term:

"Definitely something different is what we do. I personally also want to try and show the customer something they haven't seen, something unique. I want to give them an experience, they have to enjoy it. It shouldn't feel like a chore. It should be something fun, and definitely, the kind of suppliers we've got have allowed me to deliver a unique product that recreates a unique experience" [I-22, Interior Design, Showroom Manager]

Additional forms in which SC benefits have enhanced social sustainability include 'to work on feasible projects', defined as the ability to work on projects that suit firm's scope and ability without overextending its resources, and 'to have a strengthened social fabric', defined as the ability to have an improved community's environment and more cohesive social fabric. The first level of analysis, described in the first four columns (see Table 24), identified SMEs have evidenced mainly four forms in which SC benefits have influenced their social sustainability. This was concluded after considering those three core strategies exhibited the richest frequency of references accounting for 87 percent of the social references (see Table 24). The first level of analysis led to the second level of analysis which produced a second-order theme evidencing the main social forms in which SMEs have enhanced their social sustainability due to SC benefits which is 'to nurture positive relations with stakeholders and avoid toxic networks'. The second level of analysis is examined in section 5.3.

Data analysis helped to understand the link between the core social effects for BST from network engagements, identified in Table 24, and each firm that has gained them. Such analysis identified that 37 out of 41 SMEs have seen the social effects of having a positive work environment, 32 out of 41 firms, a strengthened reputation, and only 28 SMEs have increased their distancing from toxic networks. Further analysis revealed 18 out of 41 firms have experienced the four core social effects, 11 firms have experienced three, six firms have experienced two, and further six firms have experienced one core social effect(s).

Environmental Sustainability

Environmental sustainability is defined as the conscious interaction with nature to minimise exhaustion of renewable and non-renewable resources focused on long-term preservation of life on earth. Data analysis identified four forms in which SC benefits influence environmental sustainability including three core forms. The first form is through ‘enhanced environmental sustainability practices’, defined as a reinforced plan that firms apply to adopt (renew) long-term environmental practices:

“As a firm, we strongly push the environmental sustainability policies, but I wouldn't say they [membership-based networks] really have any significant contribution. The board of directors sets the three-year business plan with objectives of what they want the company to achieve, but, they amend them as necessary, last year, and this year with the unknown uncertainty in the marketplace [through Brexit], we are having to adapt and change things slightly as we go along to ensure our success for the future as well, and to maintain our productivity levels.” [I-2, Glazing, Head of Marketing]

The second form is through ‘the ability to offer (more) environmentally sustainable products/services’, defined as the advantage of presenting a new (wider) range of eco-friendly products/services to stakeholders:

“From the manufacturers, we get shown better products that have low emissions, or are more energy efficient, and we also get advice on environmentally friendly products that we then buy and offer to our clients” [I-21, Plumbing, Director]

The third form is through ‘an increased knowledge of eco-friendly products/services’, defined as having a higher level of knowledge on eco-friendly products/services:

"The [membership-based] network has provided more knowledge in terms of [environmental] sustainability. There's a lot of material in their website. The knowledge of materials does [strengthen arguments] in terms of environmental [sustainability] when I am in front of clients." [I-5, Architecture, Director]

An additional form in which SC benefits influence environmental sustainability is by an increased knowledge of environmental sustainability policies’, defined as having higher level of knowledge to adopt and audit firm’s policies for environmental compliance. The first level of analysis, described in the first four columns (see Table 24), evidenced SMEs have perceived mainly three environmental sustainability improvements from SC benefits. This was concluded after considering those three core forms exhibited the richest frequency of references accounting for 83 percent of the environmental references (see Table 24).

The first level of analysis led to the second level of analysis which produced a second-order theme, evidencing the main environmental forms in which SMEs have taken advantage of SC benefits, namely *'enhanced firm's environmental sustainability practices through knowledge of eco-friendly products and/or services'*. The second level of analysis is examined in the following section.

Data analysis helped to understand the link between the core environmental effects for BST from network engagements, identified in Table 24, and each firm that has experienced them. Such analysis identified that 20 out of 41 SMEs have evidenced enhanced environmental sustainability practices, 16 out of 41, the ability to offer (more) environmentally sustainable products and/or services, and 17 out of 41, an increased knowledge of eco-friendly products and/or services. Further analysis revealed that 12 out of 41 firms have experienced the three core environmental effects, 7 firms have experienced two core environmental effects, 4 firms have experienced one core environmental effect, and 18 firms have failed to experience any environmental effect through engagements.

4.3. Development of Overarching Process

As a result of the examination of the three themes, an overarching process interlinking each of these themes was recognised to answer the three research questions. Such main process was identified to have three subprocesses, addressing each of the three research questions supported by the three themes (see Sections 5.2.1., 5.2.2., 5.2.3.). The first subprocess sets the foundations for the second and third subprocesses. Each of these three subprocesses encompasses stages. To begin with, the first subprocess, aimed at examining how SMEs generate SC benefits from initial strategies deployed by each firm, addresses the first research question: *what strategies do individual SMEs in the UK's construction industry apply to generate SC benefits through network engagements?*

The approach taken to answer the first research question was to split it in four questions: what actions do SMEs apply to engage with stakeholders? Who are those stakeholders SMEs engage with? What actions from those initially deployed actually produce SC benefits? And what are the SC benefits that SMEs obtain from network engagements? These questions then evolved into four stages providing the building blocks for the first subprocess: stage one, 'Identify actions to generate SC'; stage two, 'Identify strategic stakeholders'; stage three, 'Identify actions that produce SC benefits'; and stage four, 'Identify SC benefits generated.'

The second subprocess, aimed to understand how the different categories of value are created once SMEs have generated SC benefits, addressed the second research question: *how do SMEs, in the construction industry in the UK, create value from the SC benefits generated?* Once again, this question was split into two questions: what actions are applied by SMEs to transform SC benefits into value? and What categories of value SMEs create resulting from SC benefits? Such questions became stages five and

six, ‘Identify actions for converting SC benefits into value’, and ‘Examine value created by SC exploiting conversion actions’, respectively.

The third subprocess, aimed to understand how BST strategies are enhanced as a result of SC benefits, addressed the third research question: *how do SC benefits enhance the BST strategies of individual SMEs in the UK’s construction industry?* Once again, this question was split into the following three questions: what SC benefits modify BST practices in SMEs? What are the resulting strategies that SMEs apply to strengthen their BST? and what is the influence of SC benefits on BST strategies going forward? These three questions were named ‘Identify SC benefits that modify BST strategies’, ‘Examine resulting BST strategies’, and ‘Acknowledge outcomes of SC benefits on BST strategies’ becoming stages seven, eight, and nine respectively. Consequently, the three subprocesses are illustrated next.

4.3.1. First Subprocess: Generating SC benefits from initial actions deployed by the firm

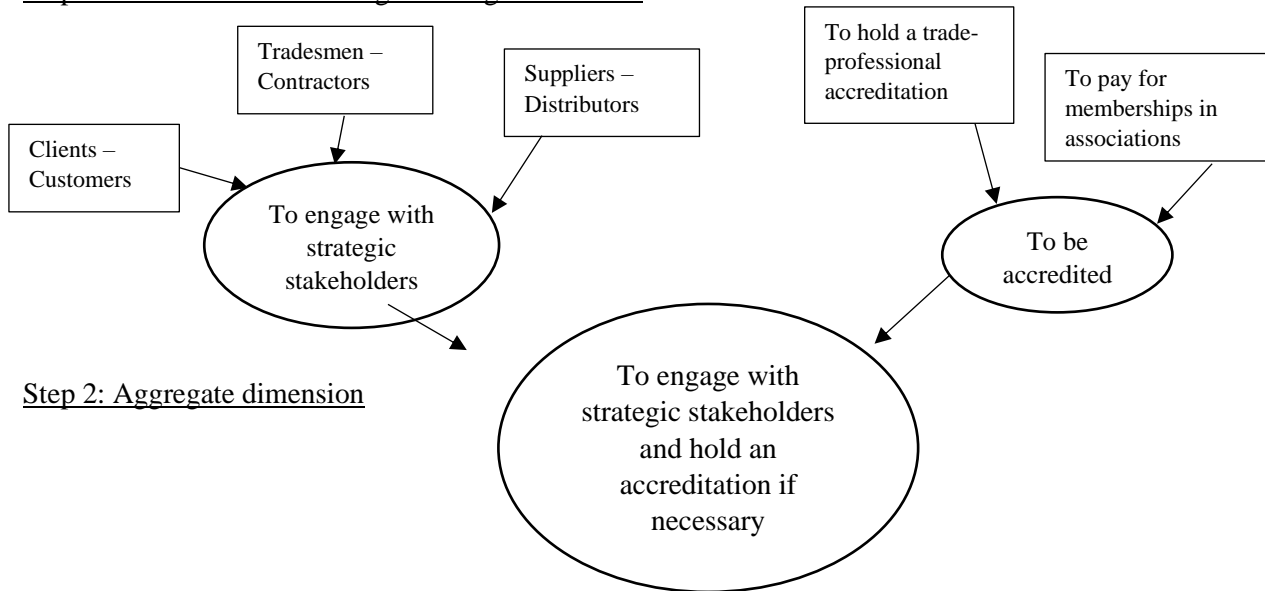
The first subprocess identifies initial actions SMEs carry out to generate SC benefits. The SC literature did not address the concept of ‘strategy’ – described as the actions an organisation deliberately applies to achieve its aims, goals, ensure BST, and overall growth – as a prerequisite and/or trigger for the creation of SC benefits or any type of value in either of the SC models (Figures 4-9), also described in Chapter Two. This study claims the generation of SC benefits is guided, nurtured, and/or constrained by (a) desired and/or premeditated action(s), supporting synergistic strategies, that SMEs carry out to engage with stakeholders and possibly obtain benefits, this has been examined in Theme One (see Section 5.2.1.) and summarised in Stage One of the first subprocess. Once those initial actions have been identified, individual firms select strategic stakeholders to engage with (see Section 5.2.1.). Stage Three describes those actions that SMEs have confirmed to produce SC benefits (whilst recognising that not all initial actions have produced SC benefits), and Stage Four describes the SC benefits that were generated through network engagements.

The second level of analysis considered Findings from the first level of analysis and developed aggregate dimensions or subthemes for all three subprocesses examined in this section. Stage One in the first subprocess produced four core actions that SMEs in the construction industry in the UK apply to generate SC benefits, as shown on the diagram below and supported by the flowchart on Figure 18, to engage with clients/customers, work with tradesmen/contractors, engage with suppliers/distributors, and hold (renew) a trade/professional accreditation. The development of subthemes, beginning with these four core actions, follows suggestions from ‘Phase 4 – reviewing themes’ proposed by Braun and Clarke (2006), and are aggregated based on the dual criteria judging categories of internal homogeneity and external heterogeneity (Patton, 1990).

Stage One – Identify Actions to Generate SC benefits

This stage identified actions that SMEs have deliberately applied to generate SC, as shown below;

Step 1: Core actions aimed at generating SC benefits



Step 2: Aggregate dimension

however, firms acknowledged not all the initially applied actions have generated SC benefits. Stage One includes all actions mentioned by participants, including those that participants believed did/have not generate(d) SC benefits.

The second level of analysis produced two subthemes: to engage with strategic stakeholders, and to be accredited. The development of these subthemes follows Patton’s (1990) criteria to build the aggregate dimensions. To illustrate, despite the differences amongst the two subthemes, these two subthemes complement each other, and for some trades, being accredited is a requirement to sign new contracts and engage with certain stakeholders; thus, the aggregate dimension produced was: ‘to engage with strategic stakeholders and hold an accreditation if necessary’ which addresses to the social, financial, and manufacturing/servicing, and intellectual strategies, as the core actions SMEs take with the aim to generate SC benefits.

Stage Two – Identify Strategic Stakeholders

The aim of Stage Two – Identify strategic stakeholders – was to pinpoint those stakeholders that firms found to be essential, relevant, reliable, and useful for the development and achievement of their aims and objectives.



For Stage Two, the second level of analysis identified key stakeholders that SMEs interact with the most and/or carry a high level of relevance for their operations, producing the subtheme: ‘to identify strategic stakeholders’ which is a supporting action for the social strategy. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

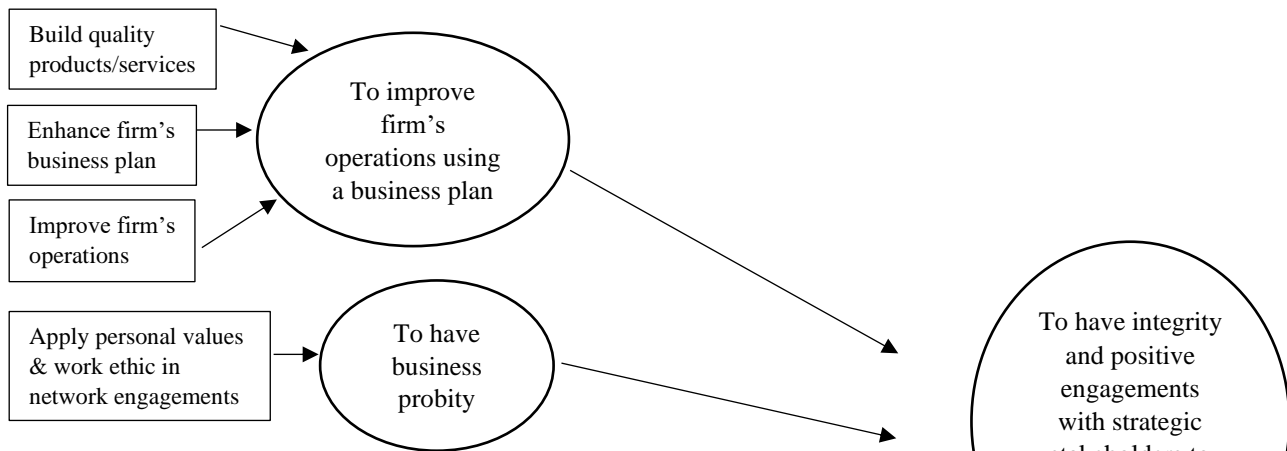
Stage Three – Identify Strategic Actions Producing SC benefits

The aim of Stage Three – Identify strategic actions that produce SC benefits – was to recognise those actions that have helped firms producing SC benefits. This stage is defined as those deliberate actions that firms have applied and produced SC benefits (This stage includes only those actions that have produced benefits).

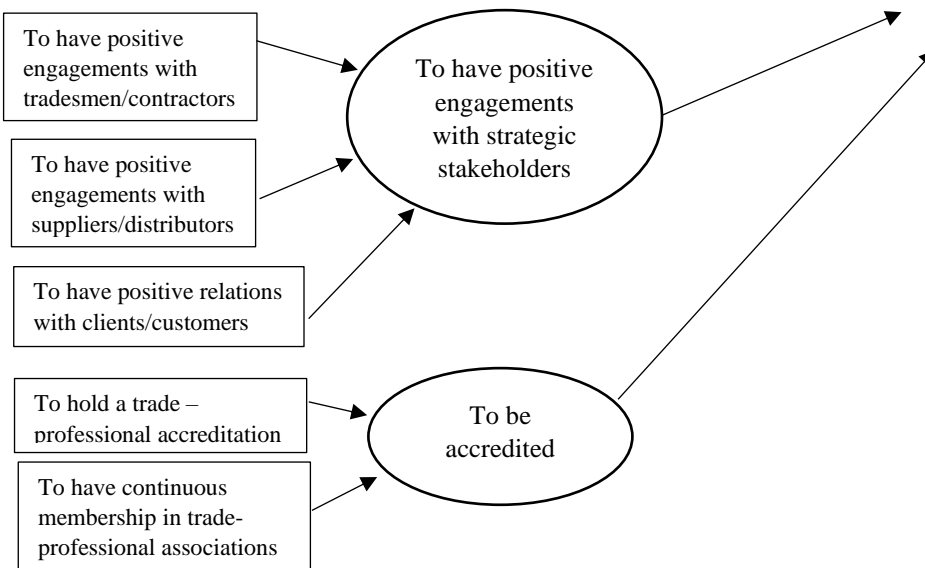
Step 1: Internal and external actions producing SC benefits

Step 2: Aggregate Dimension

Internal:



External:



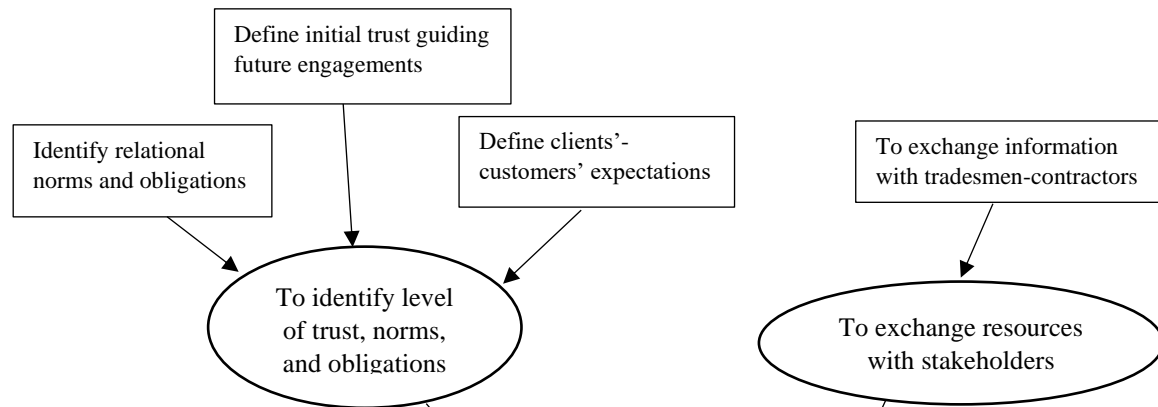
In Stage Three, the second level of analysis identified four subthemes, two for the internal and two for the external actions that have produced SC benefits for SMEs. Accordingly, these four subthemes were integrated into an aggregate dimension that could comprehend elements highlighted by participants such as integrity, positive engagements, strategic stakeholders, and firms' operations. To illustrate, despite two subthemes focused on internal and two on external actions, they complement one another considering past experiences enhance firms' business knowledge and prepare it for future network engagements; thus, the aggregate dimension produced was: 'to have integrity and positive engagements with strategic stakeholders to improve firms' operations' which is a supporting action for social, financial, manufacturing/servicing, and intellectual strategies, as the core action that SMEs have identified to generate SC benefits.

Stage Four – Identify SC benefits

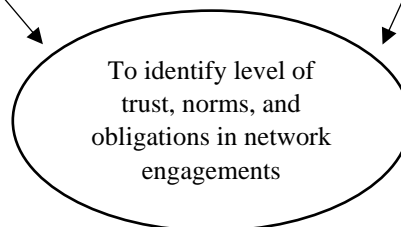
The aim of this fourth stage was to investigate what benefits would firms gain as a result of applying actions found in Stage Three during network engagements. Stage Four – Identify benefits of SC – defined as the examination of benefits resulting from the application of deliberate actions applied by firms during and after network engagements. Social benefits received the richest frequency of references illustrated next.

Social:

Step 1: Core Social Benefits



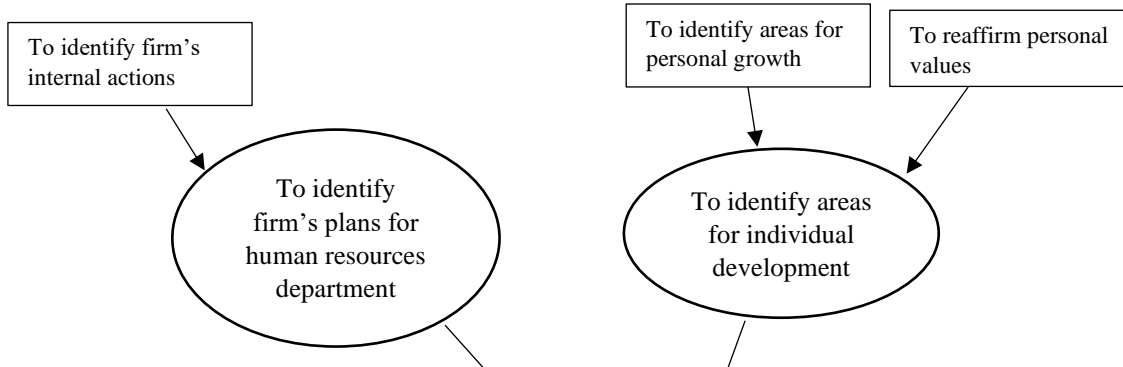
Step 2: Aggregate Dimension



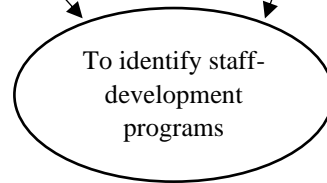
In Stage Four, SC benefits were organised in six categories, the ‘social benefits’ category produced two subthemes: ‘to identify level of trust, norms, and obligations’, and ‘to exchange information with tradesmen and/or contractors’. The development of these subthemes supported the integration into the aggregate dimension: ‘to identify level of trust, norms, and obligations in network engagements’, as the core social benefit generated through network interactions.

Human:

Step 1: Core Human Benefits

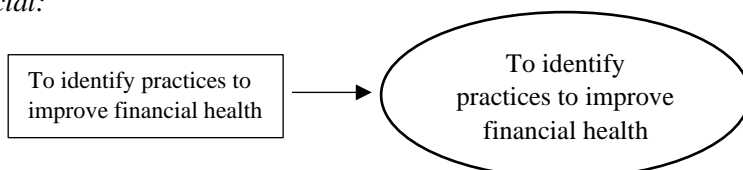


Step 2: Aggregate Dimension



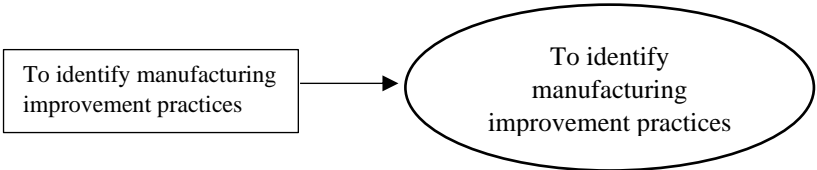
The ‘human benefits’ category also produced two subthemes: to identify firms’ plans for its human resources, and to identify areas for individual development. The development of these subthemes followed Patton’s (1990) criteria and set the path towards producing an aggregate dimension. To illustrate, those SMEs in the construction industry in the UK that participated in this study, were run by its owner(s) at the time of interviewing. Interviewees also recognised they were employees, managers, and investors all at the same time; thus, identifying learning experiences and opportunities as a result of network engagements. Consequently, the aggregate dimension produced was: ‘to identify staff-development programs, that help the firm set up training programs and/or develop connections to get access to CPDs and/or other sources of information’.

Financial:



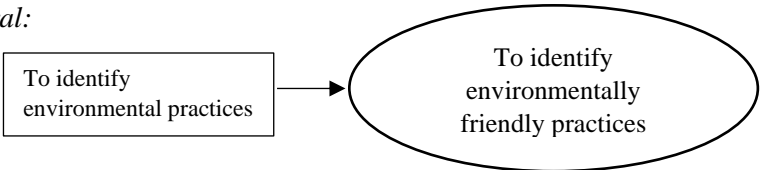
For the ‘financial benefits’ category, the second level of analysis identified only one core concept, producing the subtheme: ‘to identify practices to improve financial health’. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Manufacturing:



For the ‘manufacturing benefits’ category, the second level of analysis identified only one core concept, producing the subtheme: ‘to identify manufacturing improvement practices’. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

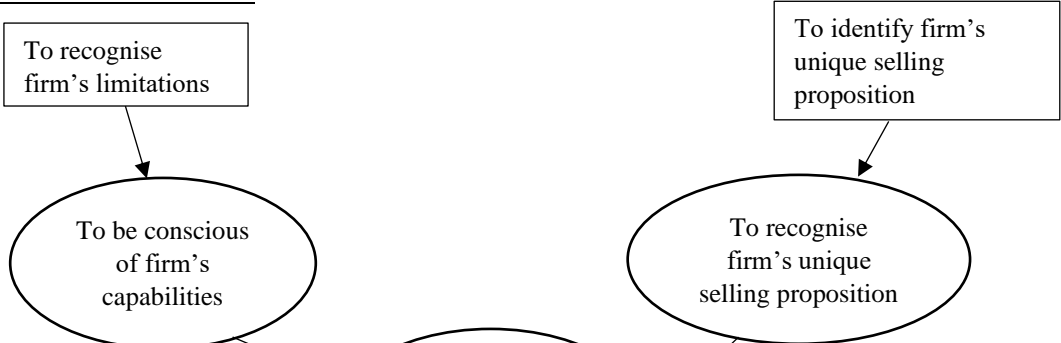
Natural:



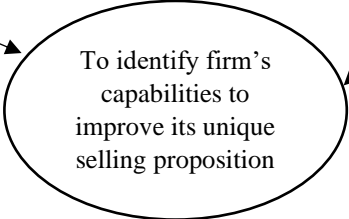
For the ‘natural benefits’ category, the second level of analysis identified only one core concept, producing the subtheme: ‘to identify environmentally friendly practices’. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Intellectual:

Step 1: Core Intellectual Benefits

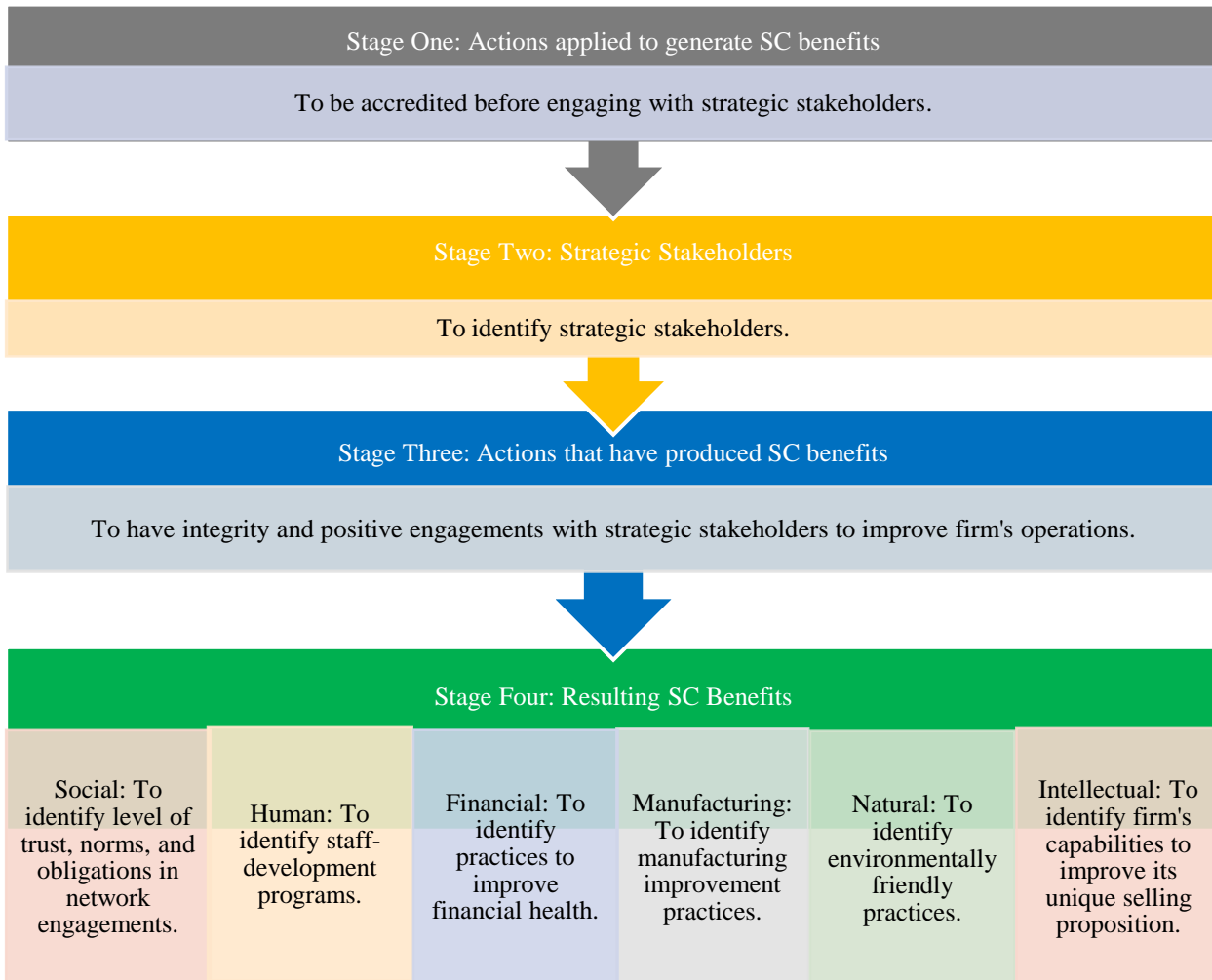


Step 2: Aggregate Dimension



The ‘intellectual benefits’ category also produced two subthemes: to be conscious of firm’s capabilities, and to recognise firm’s unique selling proposition. The development of these subthemes followed Patton’s (1990) criteria and set the path towards producing an aggregate dimension. To illustrate, participants acknowledged the significance of identifying firm’s limitations and potential risks to not jeopardise survival of firms whilst other firms recognised their ability to deliver above-average quality service has supported the continuity of their operations. Consequently, the aggregate dimension produced was: ‘to identify firm’s capabilities to improve its unique selling proposition’. The aggregate dimensions are added to the flowchart in Figure 18.

Figure 18. Flowchart of Emerging Themes for First Subprocess



4.3.2. Second Subprocess: Creating value from the SC benefits (found in Subprocess one)

The second subprocess encompasses two stages: first, those actions that SMEs deliberately choose to carry out to transform SC benefits into value, and second, the resulting value – allocated amongst the six categories described earlier. The SC literature did not address the actions supporting synergistic strategies that organisations apply to create value from SC benefits, as highlighted earlier and examined in detail in Chapter Two. Further to the contribution identified in the first subprocess, this study claims that the creation of value is pursued by firms through the application of deliberate actions and strategies that each individual firm applies to transform previously obtained SC benefits into a form of value, allocated across the six categories already described. Such premeditated actions are described as synergistic strategies SMEs executed to modify outcomes of network engagements and become intermediaries to transform such SC benefits into positive outcomes, as examined in Theme Two (see Section 5.2.2.) and summarised in Stage Five below. Stage Six represents the identification and allocation of value across the six categories of value to expand current SC-VC literature elucidating four additional categories of values not previously identified.

The second-level analysis for the second subprocess consists of Stages Five and Six. For Stage Five, the strategies applied by firms to transform SC benefits into value were categorised among internal and external, to identify two main subthemes for each category and produce an aggregate dimension, as shown below. Stage Six identified subthemes among categories of value including social, financial, manufacturing, human, natural, and intellectual, which became aggregate dimensions.

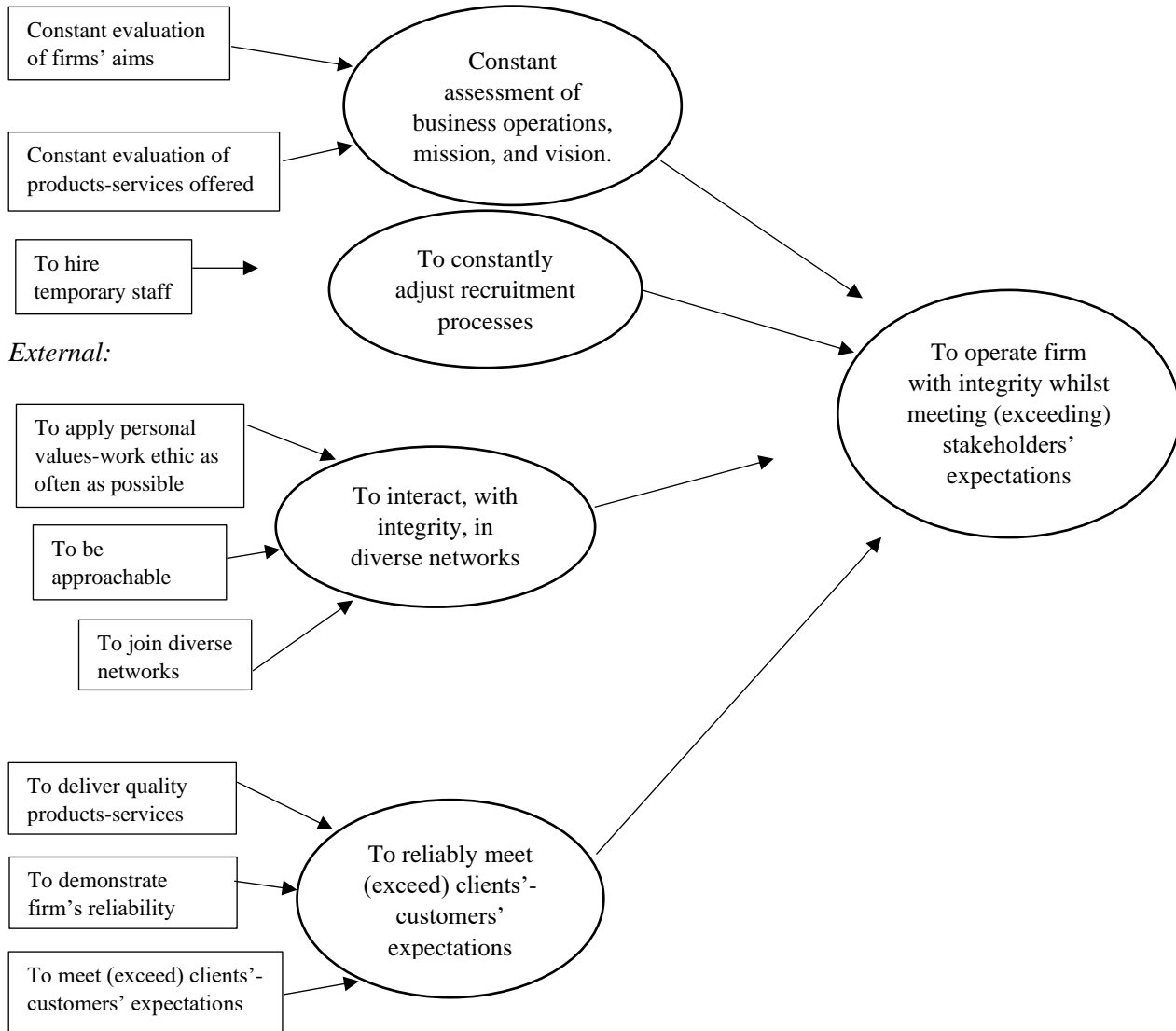
Stage Five – Identify actions for converting SC benefits into value

This stage identified actions firms have deliberately planned and carried out to transform SC benefits into value. Consequently, this stage focuses on examining, from the data collected, what deliberate activities and processes were pursued by firms to transform SC benefits, identified in Stage Four, into value. The categories of value in which SC benefits could be transformed and created are supported by the International Integrated Reporting Framework (IIRC, 2013) which include financial, human, intellectual, manufacturing, natural, and social. In Stage Five, the second level of analysis identified four subthemes, two for the internal and two for the external actions that SMEs have applied to transform SC benefits into value. Accordingly, these four subthemes were integrated into an aggregate dimension that could reflect, integrate, and consider elements highlighted by participants such as integrity, and meeting (exceeding) stakeholders' expectations. To illustrate, despite two subthemes focused on internal and two on external actions, they complement one another considering network engagements are dynamic, and as a result, they are always influencing firms' internal and external actions; thus, the aggregate dimension produced was: 'to operate business with integrity whilst meeting (exceeding) stakeholders' expectations'.

Step 1: Core strategies for converting SC benefits into value

Step 2: Aggregate Dimension

Internal:

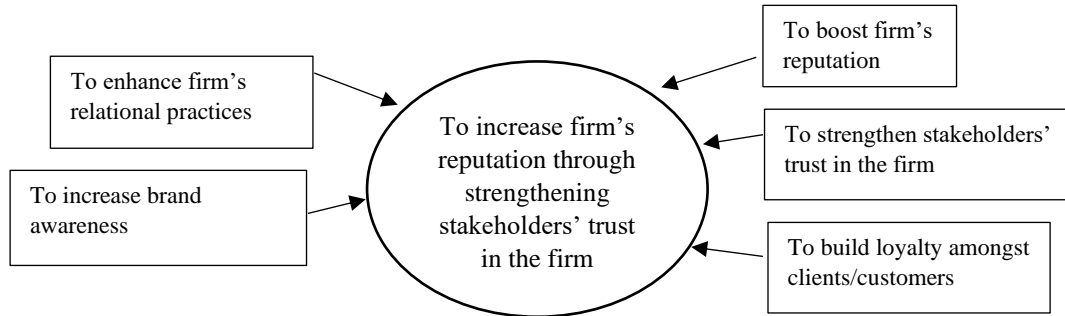


Stage Six – Examine value created by SC exploiting conversion actions

The second stage in the second subprocess, and sixth overall, examines the different categories of value that firms have created. Stage Six – Examine value created by SC exploiting conversion strategies – is defined as the representations of value categorised in the six forms of value the firm has created from the membership-based, accreditation bodies, and/or other support network engagements through planned and deliberate activities. Value can be represented mainly in six different categories derived from six forms of capital, as shown in Chapter Two and Stage Four above. Literature linking SC and VC (Tsai and Ghoshal,

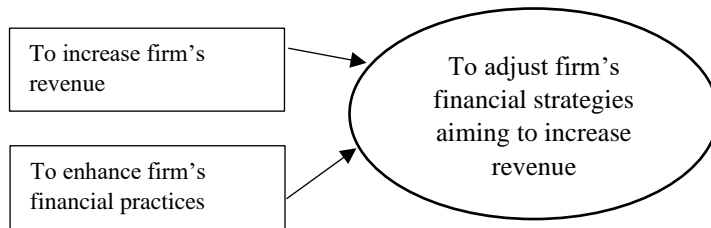
1998) has failed to identify additional categories of value beyond the financial and manufacturing categories; thus, this study expands the current body of knowledge not only recognising four additional value categories but populating all six value categories with previously unrecognised value created from SC benefits. Core emergent subthemes have been included in Figure 19 describing the second subprocess.

Social:



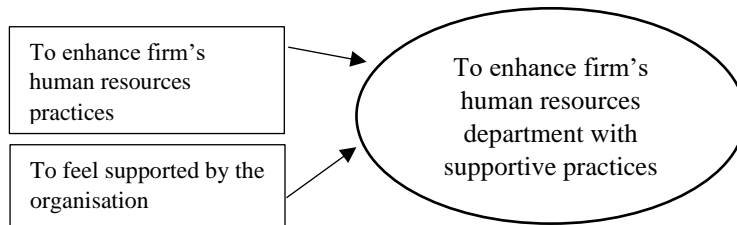
In Stage Six, for the 'social value' category, the second level of analysis identified four core concepts, producing the subtheme: 'to increase firm's reputation through strengthening stakeholders' trust in the firm'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Financial:



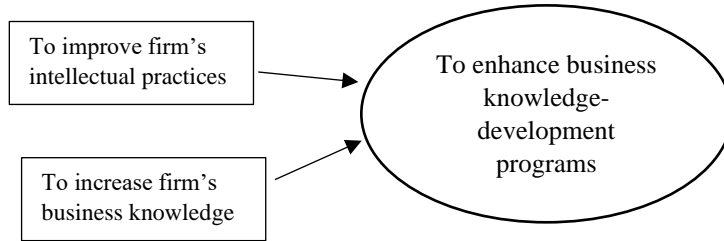
For the 'financial value' category, the second level of analysis identified two core concepts, producing the subtheme: 'to adjust firm's financial strategies aiming to increase revenue'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Human:



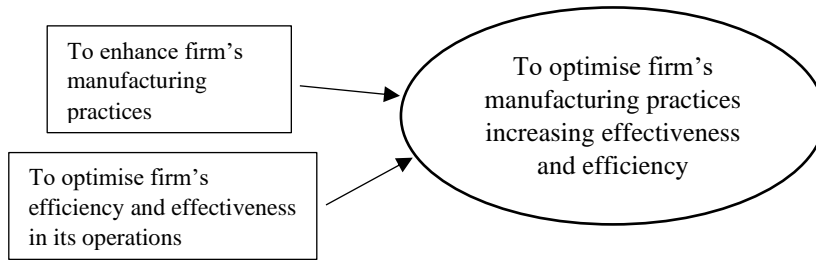
For the 'human value' category, the second level of analysis identified two core concepts, producing the subtheme: 'to enhance firm's human resources department with supportive practices'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Intellectual:



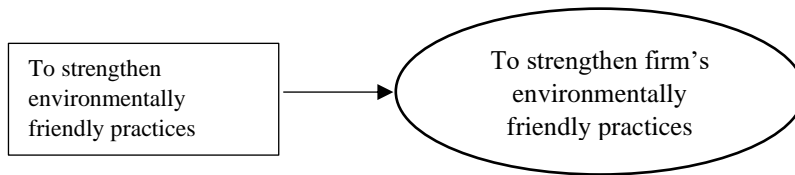
For the 'intellectual value' category, the second level of analysis identified two core concepts, producing the subtheme: 'to enhance business knowledge-development programs'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Manufacturing:



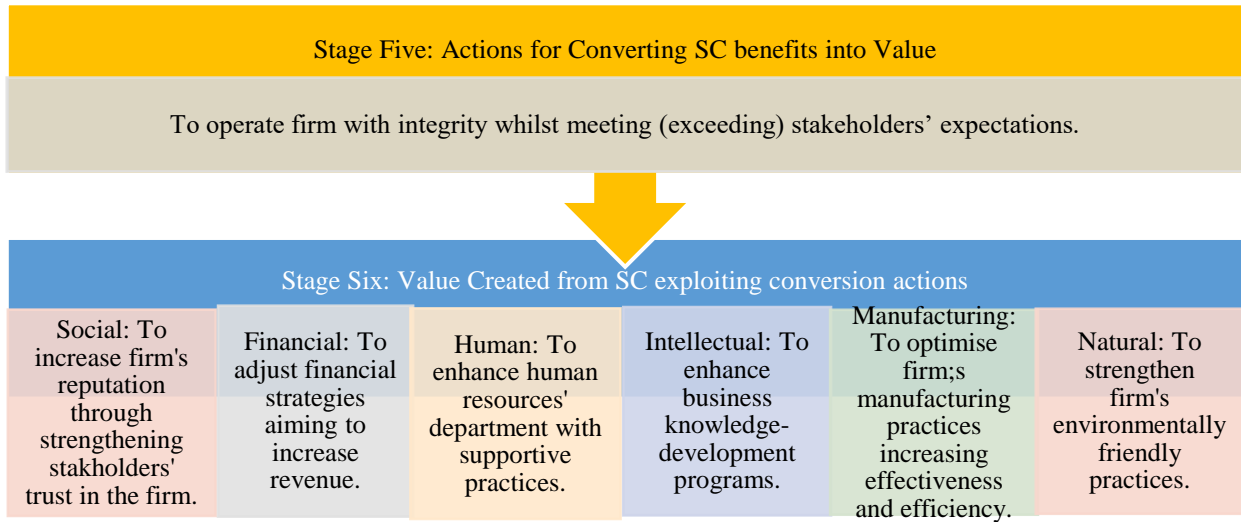
For the 'manufacturing value' category, the second level of analysis identified two core concepts, producing the subtheme: 'to optimise firm's manufacturing practices increasing effectiveness and efficiency'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Natural:



For the 'natural value' category, the second level of analysis identified only one core concept, producing the subtheme: 'to strengthen firm's environmentally friendly practices'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Figure 19. Flowchart of Emerging Themes for Second Subprocess



4.3.3. Third Subprocess: Strengthening BST practices from SC benefits (found in Subprocess One)

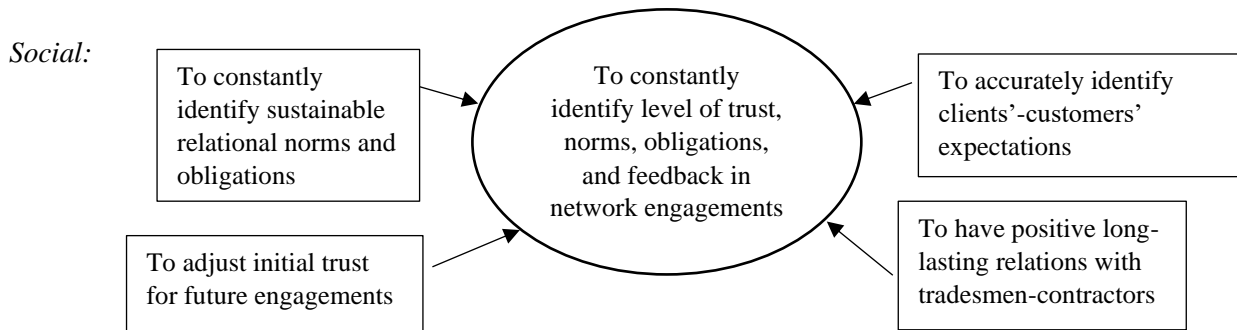
The third subprocess encompasses mainly three stages: first, the identification of those SC benefits that positively influence survival strategies, as mentioned by participant firms; second, the examination of the resulting strategies for survival of such firms; and third, the acknowledgement of outcomes of SC benefits on BST strategies for interviewed firms. The SC literature did not examine the link between SC benefits and firms' strategies for survival. Consequently, complementing the contributions highlighted in the first and second subprocesses, this study claims that SC benefits and value creation enhances firms' BST strategy to better prepare SMEs for survival. Such identification of SC benefits that have positively influenced the possibility of survival for firms is represented in Stage Seven and has been illustrated in Theme Three (see Section 5.2.3.). Resulting strategies for survival of firms are described in Stage Eight and illustrated in Theme Three. The acknowledgement of the outcomes of SC benefits on BST of firms has been described in Stage Nine and Theme Three.

The second-level analysis for the third subprocess consists of Stages Seven, Eight, and Nine. For Stage Seven, six subthemes were derived from thirteen core concepts for each of the six value categories. For Stage Eight, four subthemes were derived from ten core enhanced actions to produce three aggregate dimensions; and for Stage Nine, four subthemes were produced from eight core influences to generate three aggregate dimensions, (see Figure 20).

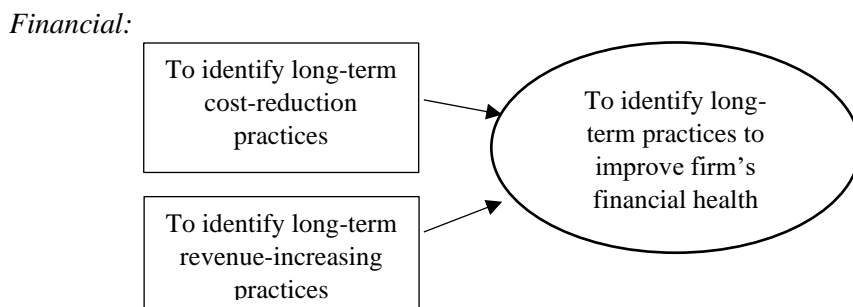
Stage Seven – Identify SC benefits that modify BST strategies

This stage examined SC benefits that have positively influenced BST strategies. Stage Seven - Identify SC benefits that modify BST strategies – is concerned with examining those SC benefits that influence the

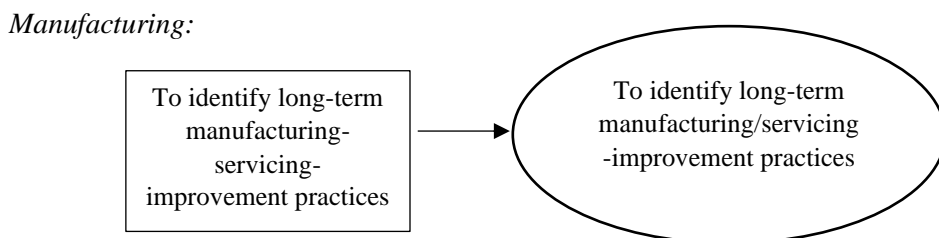
survival, resilience, and development of firms on three fronts: economic, social, and environmental. This stage is sorted according to the six categories of value and grounded on SC benefits presented in Stage Four.



In Stage Seven, for the ‘social benefits’ category, the second level of analysis identified four core concepts, producing the subtheme: ‘to constantly identify level of trust, norms, obligations, and feedback in network engagements’. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

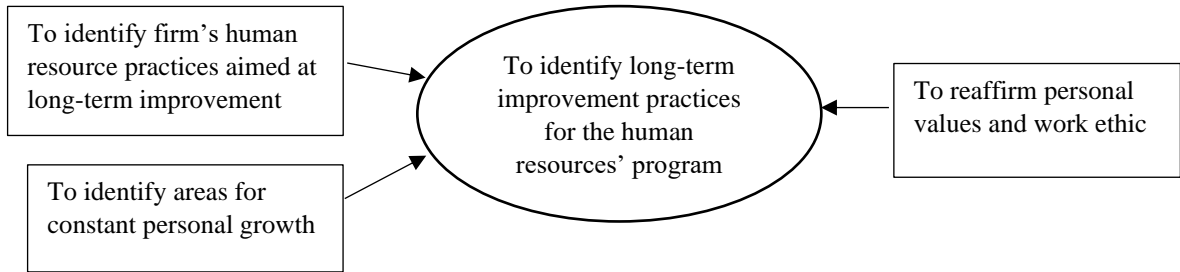


For the ‘financial benefits’ category, the second level of analysis identified two core concepts, producing the subtheme: ‘to identify long-term practices to enhance financial health’. This subtheme also became the aggregate dimension since there were no second-order themes to merge.



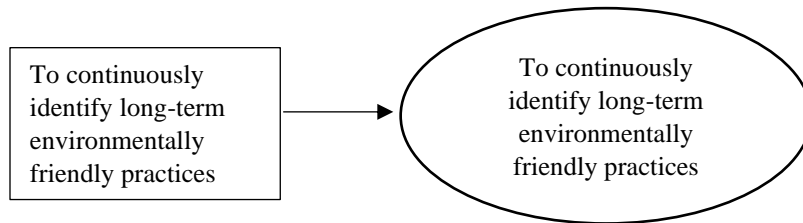
For the ‘manufacturing benefits’ category, the second level of analysis identified one core concept, producing the subtheme: ‘to identify long-term manufacturing/servicing-improvement practices’. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Human:



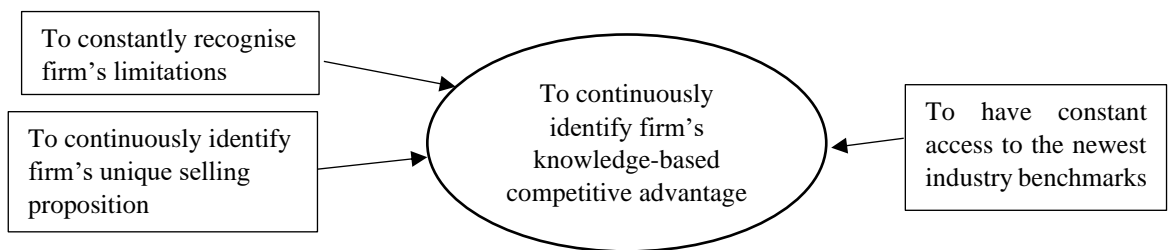
For the 'human benefits' category, the second level of analysis identified two core concepts, producing the subtheme: 'to identify long-term human resources' program-improvement practices'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Natural:



For the 'natural benefits' category, the second level of analysis identified only one core concept, producing the subtheme: 'to continuously identify long-term environmentally friendly practices'. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Intellectual:



For the 'intellectual benefits' category, the second level of analysis identified three core concepts, producing the subtheme: 'to continuously identify firm's knowledge-based competitive advantage. This subtheme also became the aggregate dimension since there were no second-order themes to merge.

Stage Eight – Examine resulting BST strategies

The second stage in the third subprocess (eight overall), examines sustainability strategies to increase survival of firms related to economic, social, and environmental sustainability practices.

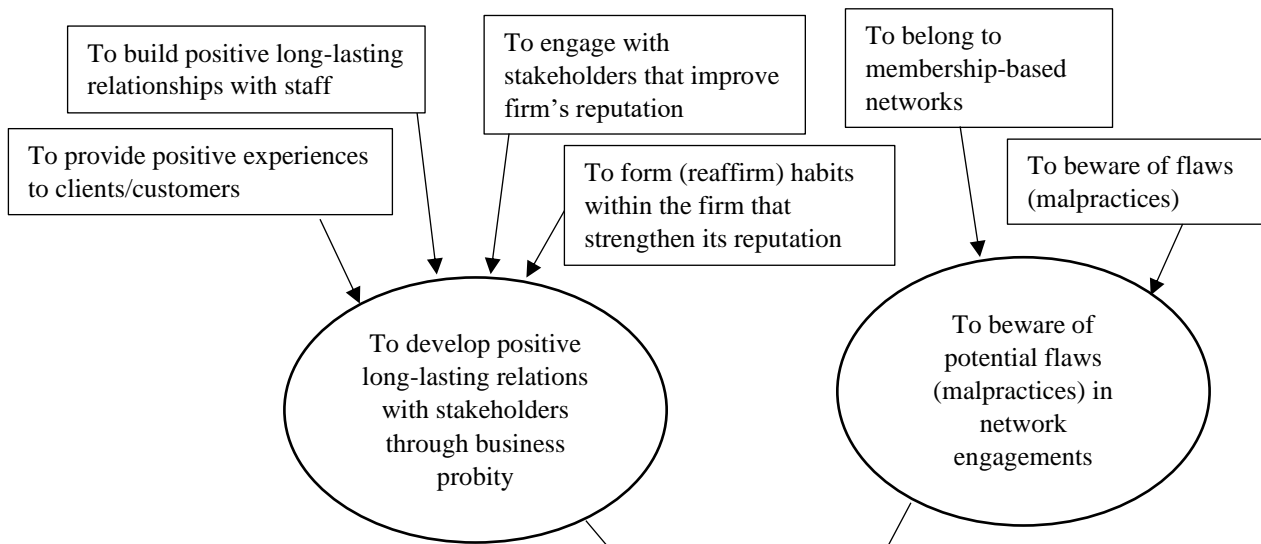
Economic:



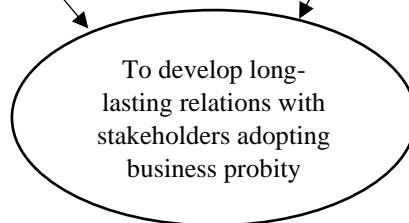
In Stage Eight, for the 'economic sustainability actions' category, the second level of analysis identified two core concepts, producing the subtheme: 'to adjust firm's business plan based on financial viability'. This subtheme also became the aggregate dimension since there were no second-order themes to merge. It is worth highlighting that this subtheme enhances the manufacturing/servicing, financial, social, and intellectual strategies.

Social:

Step 1: Social sustainability actions



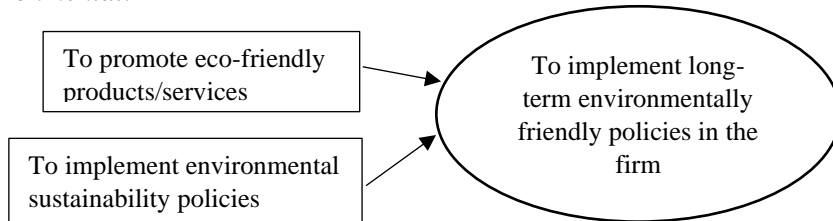
Step 2: Aggregate Dimension



The 'social sustainability actions' category produced two subthemes: 'to develop positive long-lasting relations with stakeholders by adopting business probity', and 'to beware of potential flaws (malpractices) in network engagements'. The development of these subthemes followed Patton's (1990) criteria and set the path towards producing an aggregate dimension. To illustrate, participants acknowledged the

significance of having positive interactions with clients and/or customers besides other strategic stakeholders guided by principles such as honesty, transparency, accountability, and tidiness; nonetheless, interviewees recognised that the pursuing of such actions does not avoid flaws and/or malpractices throughout network engagements. Consequently, the aggregate dimension produced was: ‘to develop long-lasting relations with stakeholders adopting business probity’. The aggregate dimension is focused enhancing the social, human, intellectual, and manufacturing/servicing strategies.

Environmental:

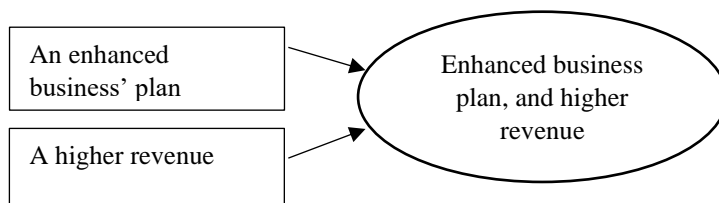


Last but not least important, was the ‘environmental sustainability actions’ category. The second level of analysis identified two core concepts, producing the subtheme: ‘to implement long-term environmentally friendly policies in the firm’. This subtheme also became the aggregate dimension since there were no second-order themes to merge. This subtheme enhances the natural and social strategies. The next section examines the second level of analysis for outcomes of SC benefits on BST strategies.

Stage Nine – Acknowledge outcomes of SC benefits on BST strategies

The last stage in the third subprocess, and in the main process overall, examines the outcome and influence on the firm once the modified BST actions have been internalised. Examples include an increase in financial revenue, enhancing the financial strategy, and a more cautious stance with lower levels of initial trust when first engaging with certain networks, enhancing the social strategy. These outcomes have been categorised into economic, social, or environmental sustainability.

Economic:

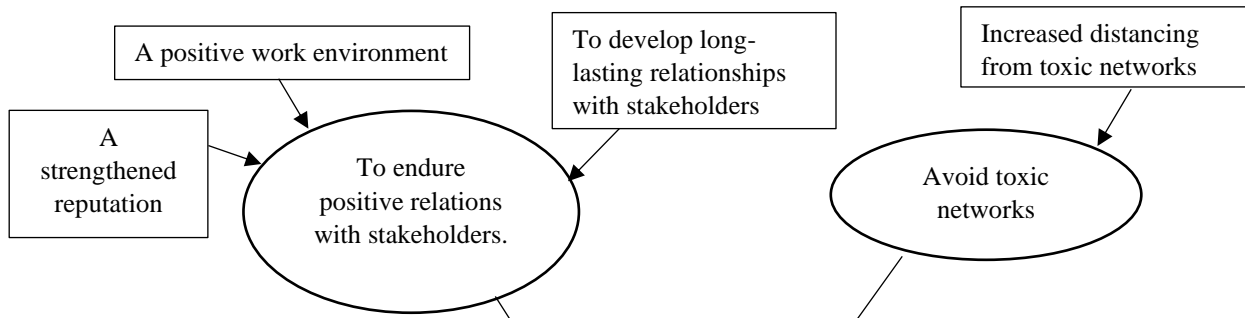


In Stage Nine, for the ‘economic sustainability’ category, the second level of analysis identified two core concepts related to the influence of SC benefits on BST strategies, producing the subtheme: ‘Enhanced

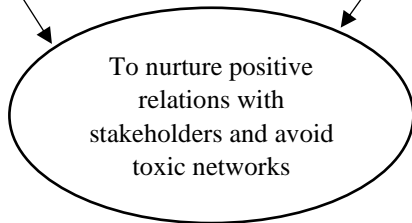
business plan, and higher revenue’. This subtheme also became the aggregate dimension. This subtheme enhances the manufacturing/servicing and financial strategies.

Social:

Step 1: Influence of strategies on social sustainability

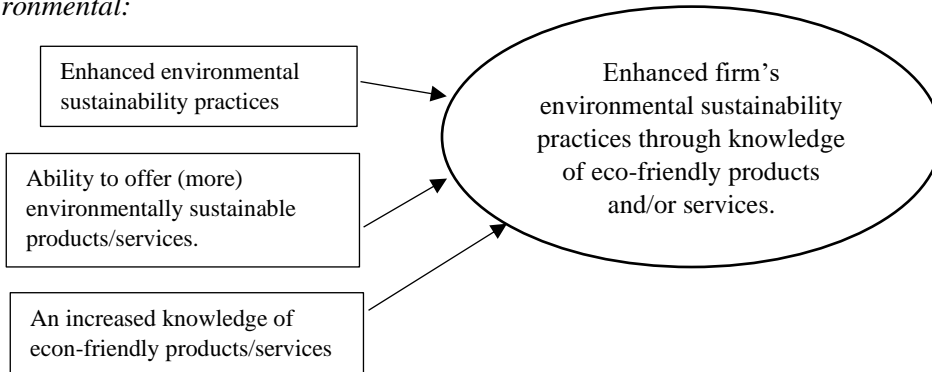


Step 2: Aggregate Dimension



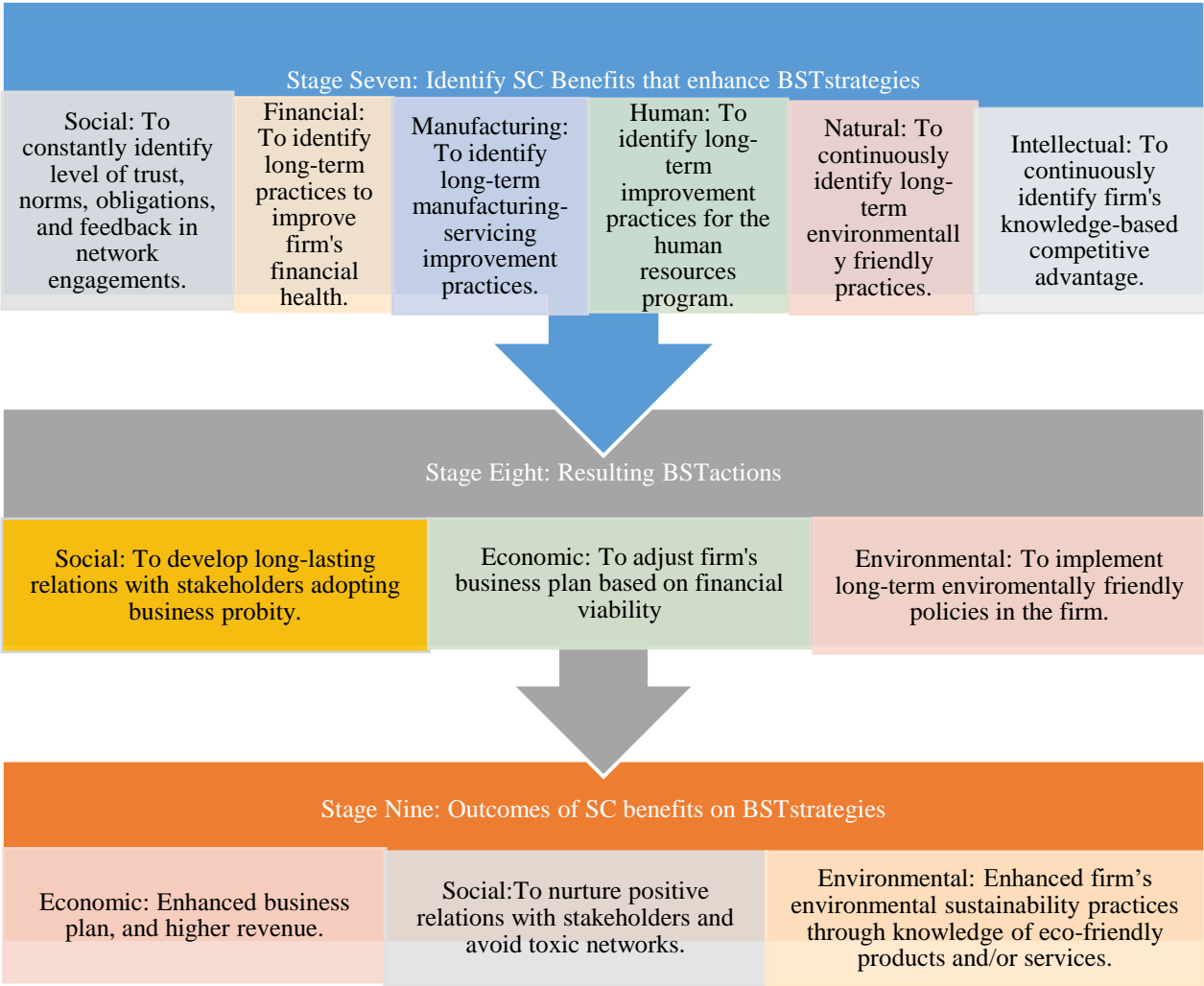
The ‘social sustainability’ category produced two subthemes: ‘to endure positive long-lasting relations with stakeholders’, and ‘to avoid toxic networks` which both enhance the social strategy. The development of these subthemes followed Patton’s (1990) criteria and set the path towards producing an aggregate dimension. To illustrate, participants acknowledged the significance of nurturing and strengthening positive interactions with clients and/or customers besides other strategic stakeholders such as employees; nonetheless, interviewees also recognised that such actions do not avoid flaws and malpractices found in network engagements. Consequently, the aggregate dimension produced was: ‘To nurture positive relations with stakeholders avoiding toxic networks`.

Environmental:



Lastly, the ‘environmental sustainability’ category. The second level of analysis identified four forms in which SC benefits influence environmental BST strategies including three core concepts, producing the subtheme: ‘enhanced firm’s environmental sustainability practices through knowledge of eco-friendly products and/or services` which enhances the natural strategy. This subtheme also became the aggregate dimension since there were no second-order themes to merge. Figure 20 is a representation of the aggregate dimensions for each of the last stages in the overall process.

Figure 20. Flowchart of Emerging Themes for Third Subprocess



The next section examines how SC, VC, and firms’ BST strategy enhancement are interconnected.

4.4. Linkages among SC, VC, and BST Strategy Enhancement

The development of Themes One, Two, and Three provided the path for the identification of Findings, understanding of elements involved, initial codes and core concepts, and emergent themes which address

the three research questions. However, the linkages amongst the core themes – SC, VC, and firms’ BST strategy enhancement – have not been stated; thus, this section clarifies the relationships among the three core themes beginning with the link between firms’ strategy and SC benefits.

4.4.1. How are firms’ strategies linked to generation of SC benefits?

The data analysis helped to identify that the generation of SC benefits begins by firms deliberately carrying out actions (see Section 5.2.1.), supporting a set of BST strategies such as financial, relational, marketing, manufacturing/servicing, intellectual, human, and natural, to generate SC benefits (*Stage One to Four in Figure 18*). For example, a consulting firm in the electrical business (I-4) initially performs desk office research using internet resources to find business directories and other potential clients to see what projects they are working on and find the right person to contact within the organisation (*Stage One*). Once that initial desk research is completed, then phone calls and emails are used to contact pre-selected parties to schedule a meeting to discuss whether the firm can add value to their projects; thus, identifying key stakeholders before allocating any resources pursuing such engagements. Once key stakeholders have been identified and interviewed, those initial interactions could lead to further meetings, then a quotation, and interactions with suppliers and tradesmen to support potential clients’ demands; thus, evidencing prioritisation contributing to stakeholder theory (see Sections 6.1.3. and 6.2.1.). Figure 21 illustrates how SC theory is linked to Stakeholder’s (*Stages One and Two*), VC’s (*Stages Four to Six*) and BST Strategy’s (*Stages Four to Nine*) theories. This initial example exhibits deliberate deployment of actions to interact with key stakeholders and possibly generate different types and representations of SC benefits such as higher revenue (financial benefit), strong client-company relationship (social benefit), and business expertise and ‘know-how’ (intellectual benefit).

Another example of carrying out deliberate actions for network engagements aimed at SC benefits is the engagement with local trade associations. One participant (PI-5) explained how he advertised in the local monthly magazine, and through social media (*Stage One*). The same participant also deliberately visited schools, colleges, hotels, and other businesses that could be interested on using their products. Even though the end result is similar to the previous example (e.g., higher revenues, strong relationships, business expertise, etc.). The initial interaction occurred in a very distinct way which was to cast their net wide through official channels such as the local trade association and monthly magazines (*Stage Two*) which are widely accessed by potential clients/customers and develop that initial level of trust. Dissemination of publicity through social media channels appeals to younger potential clients/customers evidencing the acknowledgement by the firm to update its marketing strategy bridge the gap between older and younger generations, suggesting this is not only marketing but also financial and social strategies. Only a handful of interviewees mentioned the relevance of deliberately attending business exhibitions, trade shows, and

conferences where they have presented their products and using email services which further complements this example.

Furthermore, Findings identified on one hand, initial strategies that firms have applied that have not generated the expected SC benefits such as to have a physical store, attend business meetings, and advertising through digital communication channels. On the other hand, Findings suggest firms apply internal and external actions, supporting strategies to generate SC benefits (*Stage Three*). More specifically, four internal actions were acknowledged by SMEs to produce SC benefits (*Stage Three*), as examined in section 5.2.1. The main action, influencing the manufacturing/servicing and financial strategies, was to improve operations within the firm (e.g., produce higher quality products, increase efficiency and effectiveness when providing services). A glazing company (I-2), for example, recognised their deliberate focus on effectiveness to make sure they were meeting customers' demands to the highest quality possible. This suggests the firm purposely operates beyond expectations possibly supported on investments they have made in terms of machinery whilst adjusting their marketing strategies based on market trends.

The second internal action with the richest frequency of references was the application of personal values and work ethic, influencing the relational strategy, which supports engagements with key stakeholders (*Stage Two*) plus provided additional SC benefits for the firm such as understanding its limitations and efficient use of resources. For example, an architectural firm (I-6), described how initial interactions have helped to identify if there is a connection at the professional level where both the client and the firm are on the 'same page' and there is an understanding of the expectations of both parties (*Stage Three*). Initial interactions helped the interviewee understand the level of trust moving forward and on the contrary, if there were negative feelings the resolution was not to continue with the project.

The third internal action focused on the manufacturing/servicing, social, and financial strategies was the enhancement of firms' business plan. A firm in the electrical business (I-13) illustrated the significance of finding and keeping the right customers, gaining prestige contracts and business exposure supported by their marketing plan which was subject to modification based on periodic outcomes. This interviewee identified that some customers are more difficult to deal with in terms of being slow to pay and waste valuable time the firm can use to engage with and complete alternative projects. Other firms relied on their quality of work and let that become their 'recommendation letter' to generate SC benefits, for example, a scaffolding firm (PI-4), highlighted the significance of delivering quality work since they depend on recommendations from other builders whilst deliberately putting their best effort in every project because their best marketing plan is based on word-of-mouth recommendations.

The fourth internal action identified was building high quality products and services, through training (*Stage Three*), which has helped firms deliver a differentiated customer service (*Stage Four*). More specifically, an architectural firm (PI-1) clarified that they provide free training to their employees because they know that way their firm can fulfil customers' expectations with higher quality standards whilst

identifying efficiencies in terms of cost and overheads. The same firm acknowledged that an internal action to enhance the manufacturing/servicing and financial strategies was to identify and provide scope to firms' aims. This firm recognised and prioritised the goals and objectives of the firm considering profit, number one, then reducing costs and increasing product quality in the long term, as number two and three respectively. However, this firm also recognised its dependency on repeat business which is supported on quality customer service.

In terms of the external actions enhancing financial and social strategies (*Stage Three*), firms deliberately decided to engage with different networks to generate benefits (*Stage Four*), such as an increase in revenue (financial benefit), meet industry standards (intellectual benefit), and take advantage of reputational/systemic trust (social benefit). For example, a building firm (I-1) described that being a member in a trade association has allowed the firm to have more exposure through the influence of the association and as a consequence sign new contracts that increase their revenue and access to further opportunities for new projects. Belonging to the trade association has also allowed the firm to meet other members who have also added them on their website for marketing purposes. Additionally, this firm has joined another trade association to benefit from the up-to-date knowledge such as industry standards which they have included in their recent projects which have helped increase their revenue and trust from new clients.

Other firms have joined professional associations (*Stage Three*) because they offer training and hold a level of professionalism that it is perceived to build systemic trust (*Stage Four*). So, that organisational stakeholders know if they belong to professional associations, not only customers are going to trust them more than those firms which are not members, but they are going to be associated with reliability. This opens the possibility of signing new contracts, increasing revenue, and gained further recommendations which enhance firms' social and financial strategies. Further SC benefits generated through network engagements (*Stage Four*) include the identification of branding as a representation of professionalism through interacting with other support networks (intellectual, human, social benefits). For example, the interviewee in I-7 described how the way in which clients perceive them has an impact on generating new business and provided details such as having a uniform, having business logos on their hard hats, and conveying the sense of professionalism right from initial interactions. Further benefits of engaging with membership-based networks include exchanging business knowledge (intellectual benefit) and receiving technical training (human benefit) for the firm as a whole. For example, a participant in a building firm (I-1) described having access to CPDs, seminars, and the ability to present technical papers to be relevant to their operations plus having access to technical training that their staff has learned from which has enhanced skills and overall customer satisfaction for the firm. When organisational leaders deliberately pursue a business sustainability strategy, they might be required to meet economic, social and environmental sustainability standards before contracts are awarded – in the construction industry in the UK the economic, social, and environmental practices are called BREEAM conditions. For example, a manager in a

stonemasonry firm (I-18) acknowledged SC benefits obtained through BREEAM compliance such as access to suppliers providing eco-friendly products have allowed them to meet compliance standards.

In summary, to understand how SC benefits are generated by SMEs in the UK's construction industry, it was necessary to investigate what actions SMEs apply prior to pursuing network engagements – where SC is produced. Consequently, Findings identified that SMEs apply several actions such as engaging with manufacturers, attend seminars and/or conferences, advertise products and/or services; nonetheless, there were four core actions that firms deliberately apply to generate SC benefits: first, to engage with clients and/or customers to identify their expectations; second, to work on projects with tradesmen and/or contractors; third, to engage with suppliers and/or distributors; and fourth, to hold a trade and/or professional accreditation. Findings also helped recognising those stakeholders SMEs interact with to generate SC benefits including accreditation bodies, qualified workers, manufacturers, and competitors; however, there were mainly four stakeholders, called strategic stakeholders, who SMEs interact with the most: firstly, clients and/or customers, then tradesmen and/or contractors, then suppliers and/or distributors, and fourthly, membership-based associations. In addition to identifying prior actions and strategic stakeholders, Findings clarified and confirmed, through a deductive approach, that network engagements, forming the structural dimension of SC, are supported by the cognitive and relational dimensions of SC. The former, through systems of meaning between strategic stakeholders such as shared language, codes and narratives; and the latter through developing initial trust, acknowledging mutual obligations, following communal norms, and developing a sense of identification, represented in personal values and work ethic. Findings also identified that not all actions that were initially carried out by firms, prior to network engagements, actually produced SC benefits or were hard to track down, attending business meetings, using digital communication channels, and having a physical store. Consequently, even if there are strategies deployed there is not guarantee for the creation of SC or any SC benefits as it was the case of an interviewee in the interior design business (I-26) that acknowledged having a brick-and-mortar store has not produced the level of income expected and/or desired and that it was more used as an office rather than the initial point of contact for their clients.

4.4.2. How are SC benefits linked to value creation?

After having identified how SC benefits are generated (*Stage Four in Figure 18*), this study examined how those resulting SC benefits were transformed into value. Findings identified that SMEs apply internal and external actions (*Stage Five in Figure 19*) to transform SC benefits into value (*Stage Six in Figure 19*).

On one hand, internal actions include the investment into hiring quality staff and continuous market research whilst data analysis recognised three core actions that have helped SMEs transform SC benefits into value (see section 5.2.2.) including the constant evaluation of products/services offered, the hiring of temporary staff to account for seasonal and business cycle fluctuations, and the constant evaluation of firms'

aims. Firms highlighted the significance of involving employees into their transformative process for improving their operations and generate (financial and manufacturing) value. For example, a firm in the energy business (I-3) recognised that an integral part of their business was to identify the individual needs of each of their customers, and so those more able to closely assess their needs and how close they need to stay with their clients were those sales representatives in close contact with them; therefore, having close relationships with their sales representatives, supported by a CRM system, has allowed the firm to track and keep close relationships with customers to be able to keep their orders up-to-date and work less on reengaging with their customers. Furthermore, the analysis of Findings suggests value could be represented by recognising limitations and avoiding situations where the resources of the firm could be compromised (social, human, intellectual, financial value). For example, a plastering firm recognised that over 80 percent were local clients who have motivated them to continue serving the local community rather than expanding to other cities where they could have more clients, but their resources may not suffice the expectations of a larger number of clients. So, the value that they have created has been through the understanding of their limitations as a firm and being able to turn down jobs that were either too big for them or may use up all their resources leaving local clients unsatisfied undermining their reputation and future recommendations; thus, enhancing their financial, social, servicing and intellectual strategies.

On the other hand, external actions include the promotion of environmental sustainability practices and the cooperation with other firms to improve products and/or services whilst data analysis recognised six core actions that have helped SMEs transform SC benefits into value (see section 5.2.2.). This included being approachable, joining diverse networks, deliver quality products/services, demonstrate reliability, apply personal values/work ethic as often as possible, and to meet (exceed) clients'/customers' expectations. For example, a participant involved in central heating engineering (I-9) mentioned the significance of belonging to certain membership-based associations and accreditation bodies to gain benefits that they, as a firm, have used to create value for their clients and for them as a firm; thus, supporting the relevance of systemic trust. Five benefits that were transformed into value (*Stage Six*) by this firm include: one, to get contracts which helped them increase their revenue; two, to obtain technical information they could use on site which they have used to improve on their operations and adjust their approaches to the project; three, memberships and accreditations helped them gained coverage on insurances which they have used as a way to guarantee their work and increase clients' confidence when carrying out projects; four, to get technical support which they have used when they have encountered unexpected issues or they have little experience with certain projects which then builds on their knowledge and expertise for future projects; and fifth, associations have also provided support to the firm's clients which have also increased firm's reputation which together have enhanced the financial, intellectual, and servicing strategies.

Another example of how SC benefits, gained from membership-based associations, have helped firms create value (*Stage Six*) was mentioned by a manager in an architectural firm (PI-1) since they have been

able to offer a wider array and more comprehensive services as a result of knowledge gained through belonging to trade/professional associations, based on nurtured systemic trust, plus being able to obtain insights on market trends that the firm has used to adjust their actions and amend their BST strategy to better meet their customers' needs and expectations which also has improved their customer service perception enhancing their social, financial, intellectual, social, and servicing strategies.

Firms also identified the engagement with clients and customers have supported their operations through the understanding and fulfilment of their expectations to increase their reputation and goodwill – producing social value – (*Stage Six*). For example, a roofing firm (I-10) mentioned that the more interaction with clients and/or customers the more knowledge and understanding of their expectations which has helped them remain in business after 19 years. By interacting and fulfilling expectations with their clients, they have gained higher number of recommendations through word-of-mouth and level of trust to guarantee new clients that the firm can fulfil their demands. The interviewee made emphasis on core values that have helped them transform SC benefits into value such as honesty, transparency, accountability, and tidiness; thus, enhancing the human, social, financial, and servicing strategies.

Alternatively, some firms also recognised how relationships with customers could become partnerships and produce joint (financial, social, intellectual, human) value (*Stage Six*). For example, a building firm narrated how one of its customers became a support structure as a branding expert. The customer, now advisor, was able to modify the banners, the business' logo, and the narrative on the firm's website to project the idea of a beautiful, finished product. The firm was able to portray a feeling of friendliness, openness, and approachability that produced revenue growth whilst internalising more efficient marketing strategies as a firm and as a business director. Moreover, Findings identified the creation of value could be represented in the avoidance of flaws and/or malpractices found through network engagements (*Stage Six*). For example, an electrician (I-8) recognised that the more he used a supplier the prices that he was getting were higher compared to other suppliers. He was able to identify this malpractice after getting cheaper quotes from another distributor. The interviewee believed it was because they knew he would always go to them without looking at quotes from other distributors. As a consequence of this experience, the interviewee and the firm generated human, intellectual, and social capital whilst enhancing the firm's financial and social strategies.

In summary, to understand the process of how SMEs in the construction industry in the UK create value from SC benefits it was necessary to investigate what actions were applied by SMEs after SC benefits were produced and prior to creating value. Findings identified that SMEs deliberately apply several actions once SC benefits are obtained to transform them and create value. These actions were categorised among internal and external actions. For the former, data analysis clarified five actions including continual market research, and to invest resources into hiring qualified staff; however, three core actions received the richest frequency of references: first, to have constant evaluation of products and/or services offered to stakeholders; second,

to hire temporary staff to support fluctuations in demand and influence from external political, economic, social, factors in the construction industry; third, to engage in constant evaluation of firm's aims. In the context of external actions, data analysis identified seventeen deliberate actions to transform SC benefits into value including to promote environmental sustainability practices, to deliver positive outcomes in projects with tradesmen and/or contractors; nonetheless, six core actions received the richest frequency of references: first, to be approachable, to join diverse networks, to deliver quality products and/or services, to demonstrate firm's reliability, to apply personal values and work ethic, and to meet (exceed) clients' and/or customers' expectations.

4.4.3. How are SC benefits linked to firms' BST strategy enhancement?

The analysis of Findings provided evidence to support the link between the generation of SC benefits and the enhancement of strategies towards business (economic, social, and environmental) sustainability of firms (*Stages Four, and Seven to Nine in Figure 20*). Participant firms acknowledged adjusting their strategies to optimise network engagements and increase efficiency and effectiveness in their operations (*Stage Seven*). For example, in terms of optimising operational strategies for financial sustainability, a director of an architectural firm (I-5) reflected back on when he started his business to describe how by interacting with colleagues and other tradesmen, he became aware of how his approach at the time was undermining his net profit since he used to carry extra work devoting additional time without invoicing clients for it. Hence, he recognised the need to make changes to his actions, supporting financial, social, and operational strategies, and now he invoices for that extra work and time whilst engaging in transparent communication with clients. He recognises an evolution of his business approach and enhancement of previous social and operational strategies.

To understand how SC benefits have been transformed into intellectual, social, and financial value whilst at the same time enhancing intellectual, human, and social sustainability of the firm (*Stages Six and Nine*), an ironwork firm (I-7) identified that even though expanding his business was always his goal to achieve financial sustainability, once he had accomplished it, he realised that it had also caused high levels of stress due to dealing with more workers and losing more money ultimately weakening his mental health. Thus, he learned that BST, more specifically financial and social sustainability, was not about having many projects but about having less stress and more control of the business. Data analysis also revealed SMEs' connection and dependency on engaging with strategic stakeholders to achieve financial and social sustainability. For example, firms recognised that profit, revenue, and ultimately financial stability should be the result of stable relations built on trust, integrity, loyalty, work efficiency, and accountability. A director, for an interior design firm that has been in business for over 40 years (PI-2), explained that chasing profit is not his idea of business but rather offering good quality customer service based on values such as integrity and desire to deliver a quality project through transparent communication. He has learned that once

the communication is clear and the values are applied throughout the life of the project it will strengthen the revenue stream and as a consequence produce long-term financial stability through recommendations.

Considering SC benefits such as knowledge and information supporting planning, a director for a scaffolding firm recognised that understanding his firm's limitations (*Stage Seven*) has allowed him to focus on properly completing projects before moving onto other projects rather than going backwards and forwards between projects depleting resources faster; thus, he learned that his firm has benefitted from careful planning and effective logistics that has allowed him to generate a steady income and achieve financial sustainability. Additionally, other firms described how social sustainability can be strengthened via financial stability and internal (human) and external (marketing) strategies (*Stages Eight and Nine*). For example, a director for an ironwork firm (PI-5) recognised firm's goals have evolved from being focused on profit to being focused on improving what they, as a firm, are doing in terms in encouraging higher quality customer service and higher level of product knowledge through staff training. He also recognised that having a sound marketing strategy could greatly support those two actions by presenting firm values and presenting the correct message out to customers.

Social sustainability and firms' BST strategy enhancement

In terms of social sustainability and its influence on strategy enhancement, participants interviewed recognised the relevance of strengthening systemic trust through engaging with networks (membership-based associations, accreditation bodies, and other support networks) to support their staff with continuous employment and increase their chances for survival (*Stages Eight and Nine*). For example, an interviewee in the glazing business (I-2) acknowledged that belonging to membership-based associations has allowed her firm to grow its customer base through speaking to other network members, keeping their word, and fulfilling expectations not only from customers but also from other members within the association who have been happy to recommended them time and time again whilst acknowledging that this approach has to be dynamic and constantly adjusted since customers' expectations keep changing. Additionally, a central heating engineer (I-9) observed that if their firm did not belong to the membership-based associations or accreditation bodies they would be negatively affected as they would not be able to do certain types of work, it would considerably diminish their workload, reduce the places and people they work for. Another interviewee mentioned that despite not belonging to a membership-based association, an effective and loyal relationship with other tradesmen, in his case with plumbers, has allowed his firm to work smoother and more efficiently ultimately speeding up projects and increasing profits.

Other firms have identified the significance of cooperating with networks to understand the needs of the local community and improve not only their long-term relations but also firms' operations moving forward (*Stages Eight and Nine*). For example, an electrical firm (I-8) mentioned that interacting with diverse

networks has allowed them to cooperate and collaborate with knowledgeable people that have provided useful suggestions for them to improve on their customer service because such individuals had a great level of experience from interactions with customers and mostly local communities where his firm is looking to operate in; thus, enhancing the relational, operational, and marketing strategies of his firm.

Firms also have acknowledged gains in their social, manufacturing/servicing, and financial strategies, such as widening sustainability perspectives, due to holding an accreditation, joining membership-based associations, and/or quality assurance organisations (*Stages Eight and Nine*). For example, a roofing firm (I-10) mentioned that by belonging to membership-based associations and holding accreditations, they have not only fulfilled a requirement to sign contracts but have also learned industry standards that have helped streamlined their operations to be compliant with regulations and provide focus on the environment and the local community. Nonetheless, some participants revealed that social sustainability is not a priority in their business agenda, but efforts have been made, and due to engaging with communities they have allowed firms to understand their purpose goes beyond a financial one. For example, a structural engineer (I-25) described that his firm has only engaged with the local community once by providing structural assessment and surveying for a building that offers housing for homeless communities at no cost to the city council, but he mentioned that they would do more of that work for free if they were asked.

As business goals and priorities have shifted towards a more environmentally and community friendly practices in the last decade, some firms have recognised the significance of social sustainability, but this has not been the case in some firms where it has decreased due to intensifications in operational costs and access to contracts (*Stages Eight and Nine*). For example, an air conditioning firm (I-14) mentioned that the focus on providing social value to the local community has decreased over the last few years because the firm he works for provides services to the city council which only accepts projects that go through a vetting process and most of the time the projects are chosen based on total cost; thus, the activities that were used to provide social value (e.g., clear litter, build community halls and public parks) have been taken off contracts to reduce the final cost and increase their chances of being awarded the contract. Consequently, the financial, social, and servicing strategies of this firm have been modified due to changes in the business environment.

Environmental sustainability and firms' strategy enhancement

Data analysis supported the identification of deliberate actions that firms have applied to improve environmental sustainability practices within their organisations but not because of the engagements with or influence of [membership-based, accreditation bodies, and other support] networks (*Stages Eight and Nine*). For example, a glazing company (I-2) described that despite the construction industry promoting environmental sustainability there were no set regulations in the glazing industry to comply with environmental regulations; however, the firm she works for has willingly decided to purchase eco-friendly

raw materials and supplies from accredited suppliers who are also environmentally friendly. This modification in their operational strategy has also caused their costs and selling prices to go up, but interviewee expects customers to understand and see the environmental value in that approach. In addition, some managers/directors have highlighted their willingness to adhere and comply with the UK's construction industry standards for economic, social, and environmental sustainability, known as BREEAM. For example, a stonemasonry firm (I-18) described that when they want to pursue certain projects, they are required to follow BREEAM conditions, and the main action they follow is contacting suppliers that also meet BREEAM conditions whilst applying values and work ethic.

Moreover, interviewees recognised that the implementation and continuous application of environmentally friendly practices can only be accomplished through the relationship with suppliers who also apply environmentally friendly practices (*Stages Eight and Nine*). For example, an interior designer (I-22) acknowledged that when they interact with new suppliers, they verify whether they are a 'responsible manufacturer', and that they have an accreditation which requires suppliers to be held accountable for where their products come from and provide traceable information that the firm then uses to explain to customers how they follow environmentally friendly practices through responsibly-sourced materials.

Furthermore, data analysis helped identify that even though environmental sustainability policies should be prioritised across all stakeholders, interviewees described clients and customers do not have a strong urgency to adopt such policies and instead continue to purchase goods and services based on cost differentiation driving firms to evaluate their environmental strategy and possibly avoid it completely (*Stages Eight and Nine*). For example, a flooring firm (I-23) described that when they purchase products from environmentally sustainable sources they have to pay extra compared to those that come from non-sustainable sources increasing their expenses and decreasing their profits, and the bottom line, according to the participant, is that on one hand, some customers ask and some do not, and on the other hand, they are also competing with other firms that sell products that come from non-sustainable sources. Furthermore, interviewees recognised that there are organisations in the construction industry in the UK that still have not honestly committed towards environmental sustainability but rather use it to cover up financial interests. For example, an interior designer (PI-2) acknowledged that membership-based associations only mention environmental sustainability and energy efficiency with the aim to minimise operational costs rather than to minimise climate change or carbon footprint. He has concluded, after a decade of advocating in favour of environmental sustainability practices through seminars and conferences, that financial sustainability is disguised as environmental sustainability.

4.5. Chapter Summary

To sum up, the value of the Findings is grounded on the thematic analysis which helped develop three main themes to answer the three research questions (as presented in Chapter 6). First of all, for Theme One –

‘Generation of SC benefits’ – Findings suggest SMEs deliberately deploy four initial actions to generate SC benefits. Once initial actions were deliberately planned SMEs began their network engagements mainly supported through the interaction of three SC dimensions: first, the structural dimension, evidenced through types of network ties with strategic stakeholders such as clients and/or customers, tradesmen and/or contractors, suppliers and/or distributors, and membership-based organisations; second, the cognitive dimension, through identification of shared languages and codes, and shared narratives; third, the relational dimension, through the support of four relationship factors: (systemic) trust, obligations, norms, and a sense of identification. The deployment of initial actions through the interrelation of the three SC dimensions generated eleven core benefits across the six categories (four social, two human, one financial, one manufacturing, one natural, and two intellectual) resulting from network engagements. Second, for Theme Two – Creation of Value from SC benefits – Findings suggest SMEs mainly apply nine core actions, among twenty-two identified, to transform SC benefits into value. Once the actions were applied by SMEs, interviewees acknowledged the creation of twenty-nine forms of value including thirteen core forms of value organised among six categories of VC: four for social value, two for financial value, two for human value, two for intellectual value, two for manufacturing value, and one for natural value as a result of SC benefits, described in Theme One. Third, for Theme Three – Strategy enhancement from SC benefits – Findings suggest there are mainly thirteen SC benefits SMEs have transformed into value and have also enhanced their BST strategies. Such thirteen benefits have enhanced mainly ten actions for SMEs in the economic, social and environmental fronts.

Additionally, Findings helped to identify nine different stages spawning from the deliberate planning of actions to create SC – through its three dimensions – towards the generation of SC benefits, deliberate transformation of SC benefits into different categories of value, and subsequent enhancement of BST strategies. To complement the identification of nine stages, not acknowledged in the SC-VC-BST literature, Findings helped to recognise the path between the first and second level of analysis to produce aggregate dimensions which helped to summarise and grasp the essence of each of the nine stages initially identified. All in all, the thematic data analysis, through the development of three main themes, helped understand that the generation of SC benefits is driven by premeditated and deliberately executed actions supporting synergistic strategies initially thought to be only related to financial and operational matters but after deeper examination, the social, human, intellectual and environmental strategies were found to play an essential role for the development and potential survival of SMEs in the UK’s construction industry.

Chapter 5. Discussion

SMEs are at the centre of development and growth of any community (OECD, 2013) representing over 99 percent of total firms in Europe and the U.K. (Department for Business, Energy & Industrial Strategy, 2016), yet they have continuously faced several challenges that undermine their survival and continuation of their operations compared to large firms (Cowling et al., 2015). Liao and Welsch (2003) argue SMEs endure limitations of resources, and acknowledge the vital role of networks to reduce such limitations. Studies have recognised the lack of understanding of and availability of tools and mechanisms that preserve and improve SC in SMEs (Johnson and Schaltegger, 2016; Perrini, 2006). Additional studies have recognised that the performance and success of SMEs depend on the quality of its networks (Adler and Kwon, 2002; Anderson and Jack, 2002; Luo et al., 2004; Sheth and Parvatiyar, 2002; Yli-Renko et al., 2001) and their competitiveness through inter-firm cooperation (Rosenfeld, 1996). However, studies have recognised low empirical research to understand how firm-level outcomes, particularly the creation of value, are enhanced via network engagements (Du et al., 2015; Kemper et al., 2013; Rai, 2016), how engagement with specific stakeholders (e.g., membership-based associations, other support networks) influence cooperation, sharing of knowledge, and development of trust to generate new knowledge and transfer of information (Inkpen and Tsang, 2005; 2016; Kwon and Adler, 2002; 2014), how SC benefits influence the creation of value (Payne et al., 2011), and how firms intermediate the transformation of SC benefits into value (Rai, 2016).

Current SC, VC, and firms' BST strategy literatures have a disconnect amongst each other and how SC, influences VC and enhances firms' BST strategy. Few studies (Basuil and Datta, 2017; Tsai and Ghoshal, 1998) have recognised the influence of SC on VC but have failed to provide details about the mechanism applied by the firms to transform SC benefits into value or how firms' BST strategy has been improved by SC benefits. Consequently, such shortcomings in the literature provided foundations to draft the three research questions guiding this investigation. To answer the research questions, an interview questionnaire was developed to understand how the three SC dimensions were experienced by SMEs, how SC benefits were generated by SMEs through network engagements, how SMEs transformed SC benefits into value, and how SMEs' strategy was affected by SC benefits. Forty-one SMEs belonging to the construction industry in the UK participated in the data collection process through semi-structured interviews exploring the SC-VC phenomenon later analysed through a qualitative deductive-inductive approach using thematic analysis focused mainly on three issues: first, the understanding of the process that SMEs apply to generate SC benefits; second, the identification of the process that SMEs follow to transform such SC benefits into value; and third, the recognition of the process that SMEs carry out to enhance their organisational strategies from the produced SC benefits. Considering the examination and analysis of data above, Findings provided evidence to answer the research questions, as illustrated next.

5.1. Answering the research questions

5.1.1. Research Question One

What strategies do individual SMEs in the UK's construction industry apply to generate SC benefits through network engagements?

Findings registered under both, the SC and firms' strategy, themes respond to Research Question One in the following way: first, by identifying a process with four stages, not previously recognised in the SC or strategy literatures, that SMEs have followed to generate SC benefits. Stage One examined actions, supporting synergistic strategies, that SMEs have applied to generate benefits, Stage Two identified key stakeholders, Stage Three recognised actions that have generated SC benefits, and Stage Four examined SC benefits that SMEs have gained through network engagements. Second, by providing a classification for SC benefits – social, financial, manufacturing/servicing, human, intellectual, and natural – which provides a new emphasis from types of capital in general to types of SC benefits, not present in the SC literature. Third, Findings contain thirteen initial actions, supporting synergistic strategies, that SMEs deliberately apply with the aim to generate SC benefits (see section 5.2.1.). And fourth, this study finds that not all initial thirteen actions actually generate SC benefits. The four stages that answer Research Question One are examined in detail in section 5.2.1. and summarised below.

Findings for *Stage One* identified five core actions that SMEs deliberately follow prior to gaining any SC benefit: first, to engage with clients/customers; second, to work on projects with tradesmen/contractors; third, to engage with suppliers/distributors; fourth, to hold a trade/professional accreditation; and fifth, to pay for membership in trade associations. Within the context of SC, such core actions require firms to deliberately nurture relationships with key stakeholders and achieve trade-professional accreditations. This can be translated to other contexts by leaders of SMEs and in large firms to identify stakeholders that hold the highest salience for their firms to develop strong relationships with plus attaining professional certifications (e.g., Chartered Management Institute – CMI, Project Management Institute – PMI) that could build (systemic) trust in initial interactions (Fiedler et al., 2017) when SMEs attempt to build relationships in foreign markets. This could particularly be useful before launching any interaction with stakeholders, entering new markets, and allocating a set amount of resources which could be wasted otherwise. The first three core actions mentioned above support four categories of strategies: social – by interacting with clients/customers, financial – by signing new contracts which increases revenue, human – by passing knowledge on to staff from interactions with tradesmen/contractors, and manufacturing/servicing – by optimising operational activities such as product/service improvements. These strategies can be further enhanced through generating more contacts with potential clients/customers besides finding more skilled tradesmen that help the firm fulfil clients'/customers' expectations, and more effective suppliers/distributors helping firms find appropriate supplies. Such Findings contribute to studies focused

on buyer-supplier relations and the generation of SC benefits (Kim and Choi, 2018), the impact of SC on entrepreneurial ideas by tradesmen (McKeever et al., 2014), the evolution of SC with international customers (Presutti et al., 2016), and the impact of SC on the interaction with customers influencing their purchase intentions (Ghahtarani et al., 2020). The fourth and fifth support intellectual and human strategies since they help firms' certification process and provision of staff training expanding studies related to the role of SC on the acquisition of professional knowledge (Forbes, 2009), and provision of staff training and quality management (Matthews and Marzec, 2012).

Firms need to carry out deliberate actions (see Section 5.2.) to engage with key stakeholders (*Stage Two*), more specifically with clients and/or customers, tradesmen/contractors, suppliers/distributors, and membership-based associations in order to reap out benefits including information and not just social interactions with organisational actors, as previous studies have revealed (Lane and Lubatkin, 1998; Yli-Renko et al., 2001). Within the context of SC and stakeholder engagement, this Finding suggests SMEs, and large firms, can deliberately target such actions towards a handful of stakeholders whom firms have identified as holding a high level of salience to them which could be useful when planning marketing and procurement strategies. Contrary to Inkpen and Tsang (2016, 2005) who argued that entering in a partnership and/or alliance was a pre-requisite for the generation of SC benefits, Findings recognised interacting with strategic stakeholders (see Section 5.2.1.) sets the path towards generating SC benefits, without the need for entering into a partnership or alliance, or gaining access to the skills and competencies that a partner can bring to the alliance, expanding similar studies (Baum et al., 2000; Kogut, 1988).

Nonetheless, the Findings from this study align with those of Tsai and Ghoshal's (1998) study in which they identified trust as one of the key ingredients in network engagements to generate resource exchange amongst two or more actors. However, Findings expand on Tsai and Ghoshal's (1998) work, first, by confirming the need for the element of trust to exist when exchanging resources, and second, by evidencing that trust must be present before, during, and after an engagement and not only after the initial engagement, as suggested by them. Findings in this study also expand on the four-stage model, proposed by Boersma et al. (2003), which understands that trust is cyclical where outputs of initial trust become inputs into the next stage; however, it must be highlighted that their study failed to acknowledge trust as a pre-requisite for any and all initial engagements as well as the relevance of systemic trust.

The data analysis clarified that even though firms carry out certain actions, supporting synergistic strategies, described in Stage One, those actions may not produce the expected SC benefits. However, Findings also helped identify sixteen, including seven core, actions that have generated SC benefits for SMEs (see Section 5.2.1.) providing evidence for *Stage Three*. In descending order, beginning with the action with the richest frequency of references: to improve firm's operations (as supporting action for financial and manufacturing/servicing strategies such as an enhanced accounting system or marketing campaign), to apply personal values and work ethic (as supporting action for social, financial, and

manufacturing-servicing strategies such as having transparent communication, and being honest and professional), to enhance firm's business plan (as supporting action for financial, manufacturing/servicing, and intellectual strategies such as identifying effective marketing channels, key resources and stakeholders, value proposition, and break-even point analysis), to have positive relationships with clients and/or customers, tradesmen/contractors, and suppliers/distributors (as supporting actions for social, manufacturing/servicing, financial strategies such as identifying worthy vs. unworthy clients, honest vs. dishonest tradesmen, and reliable vs. unreliable suppliers) and to hold a trade and/or professional accreditation (as supporting action for the intellectual strategy such as RIBA [optional] vs. ARB [mandatory]). Contributing to Nahapiet and Ghoshal's (1998) work, Findings suggest certain actions, supporting synergistic strategies, help firms create different categories of benefits, not only in terms of intellectual capital or manufacturing capital (Tsai and Ghoshal, 1998). Nahapiet and Ghoshal, proposers of SC theory, recognised the influence of financial strategies for the creation of financial value, as a consequence of the generation of SC but failed to recognise other types of value (e.g., social, human, manufacturing/servicing, natural). As a result of the sixteen, including the seven core, actions that have helped SMEs generate benefits, presented in Stage Three, *Stage Four* acknowledged thirty-five different SC benefits across six categories (financial, manufacturing/servicing, social, human, intellectual, and natural). The data analysis identified eleven core benefits with the richest frequency of references across the six categories.

To sum up, the process of data collection, analysis, and interpretation provided evidence to answer Research Question One by identifying six categories of strategies, and diverse combinations of such categories, supported by specific actions, that SMEs, in the UK's construction industry, have applied to generate SC benefits.

5.1.2. Research Question Two

How do SMEs, in the construction industry in the UK, create value from the SC benefits generated through network engagements?

Findings under the SC and VC themes respond to Research Question Two by identifying that SMEs in the UK's construction industry create value by transforming SC benefits, revealed through Research Question One, via a number of actions, supporting synergistic strategies, and by identifying the types and representations of value resulting from those SC benefits initially generated. These are unprecedented Findings advancing the SC and VC literatures considering the deliberate application of actions, supporting synergistic strategies, by SMEs has not been acknowledged in the management literature.

Moreover, Findings answer Research Question Two in the following way: first, by identifying actions SMEs have applied to transform SC benefits into value; second, by examining different

representations of value; and third, by examining categories of value where value representations can be classified. Accordingly, Findings distinguished five internal and seventeen external actions (see Section 5.2.2.), as supporting elements for the transformation of SC benefits into one or more categories of value unacknowledged in the SC and VC literatures. Data analysis recognised three core internal actions that SMEs have applied: first, to constantly evaluate products and/or services offered – as supporting action to the financial, manufacturing/servicing, and social strategies (future studies can look into similar actions related to assessment mechanisms); second, to hire temporary staff to fulfil firm’s operational demands – as supporting action to the human, financial, and manufacturing/servicing strategies (future studies can look into similar actions related to optimisation mechanisms); and third, to constantly evaluate firm’s aims – as supporting action to all six categories of strategies expanding SC–VC literature through specific actions, supporting synergistic strategies, SMEs can apply to transform SC benefits into value.

In terms of external actions, data analysis revealed six core actions SMEs have applied to transform SC benefits into value, for example, to be approachable, to join diverse networks, to apply personal values and/or work ethic as often as possible, and to demonstrate firm’s reliability – as supporting actions to the social strategy (future studies can look into similar actions related to customer service and networking mechanisms); to deliver quality products and/or services, and to meet (exceed) clients’ and/or customer’s expectations – as supporting actions to the manufacturing/servicing, financial and social strategies also not identified in the SC and VC literatures (future studies can look into similar actions related to customer satisfaction and feedback mechanisms).

Expanding on Basuil and Datta’s (2017) study, Findings helped recognise twenty-two actions (five internal and seventeen external), including the nine core actions described in the paragraph above, that SMEs have applied to transform SC benefits into value. Basuil and Datta’s study argued that having long board tenures, pursuing external directorships, and holding regional cross-border acquisition experience have not only increased firm’s growth – as supporting actions for financial strategy towards the creation of financial value – but have also created social, human, and intellectual value through “relationships with other directors and managers, enhancing their effectiveness as counsellors to firm management” (p. 40), by gathering tacit knowledge and facilitating “a more objective evaluation of potential targets and reducing the overpayment that leads to shareholder value destruction” (p. 42). Consequently, Findings extend their work by arguing that the deployment of mainly three internal and six external actions help SMEs generate value besides the three main actions claimed in their study. Actions described in Section 5.2.2. not only are applied in the UK’s construction industry but can be applied across industries aimed at creating value from SC benefits.

Likewise, the twenty-two actions, described in Section 5.2.2., contribute to Tsai and Ghoshal’s (1998) by identifying social, financial, manufacturing/servicing, intellectual, human and natural strategies considering their study only focused on actions supporting the financial and manufacturing strategies concluding that the combination and exchange of resources “create value for the firm through a significant,

positive effect on product innovations” (p. 472). Nonetheless, the authors failed to clarify the value they were referring to was financial and manufacturing evidencing a clear gap which this study has contributed to through the recognition of actions for the creation of six different categories of value.

Furthermore, Findings answer Research Question Two by identifying value categories and value created by SMEs since the SC and VC literatures have not recognised it. Studies examining the influence of SC benefits on VC (Basuil and Datta, 2017; Tsai and Ghoshal, 1998) only identified three categories of value (financial, intellectual and manufacturing) resulting from SC benefits. Nevertheless, Findings identified *six categories* of value creation: social, financial, manufacturing, intellectual, human, and natural. Findings also revealed thirty different representations of value created, including fourteen core value representations, across the six categories of value highlighting social value as the type of value with the richest frequency of references (415) and the greatest number of specific representations of value with ten. Expanding a study on the creation of social value (Caldwell et al., 2017), Findings identified core representations of *social value* such as the enhancement of firms’ relational practices, increase of brand awareness, boost of firms’ reputation, strengthening of stakeholders’ trust in the firm, and building of loyalty amongst clients/customers. Contributing to studies on financial benefits through access to resources from network engagements (Deephouse and Carter, 2005; Uzzi, 1999), Findings identified *financial* value as the second value type with the richest frequency of references with two core values identified: to increase firm’s revenue, and to enhance firm’s financial practices (e.g., cost reduction, procurement procedures) complementing studies on stakeholders’ benefits.

Expanding studies on the ability to employ high-quality workers and its relationship with financial success (Pfarrer et al., 2010; Rindova et al., 2005), Findings identified *human value* represented by the enhancement of firm’s human resources’ practices, and the feeling of support by the organisation (e.g., employee rewards program). Contributing to publications on the use of intellectual capital as a strategy to innovate in SMEs (Bueno et al., 2016), Findings recognised *intellectual value* through the improvement of firms’ intellectual practices, and the increase in firm’s business knowledge. Adding a new perspective to Kim and Choi’s (2018) study on the strength of network engagements and VC in the buyer-supplier context, Findings identified *manufacturing-servicing value* through the enhancement of firm’s manufacturing/servicing practices, and the optimisation of firm’s efficiency and effectiveness in its operations. Lastly, expanding studies on the creation of competitive strategies through sustainable business models (Morioka et al., 2017) and addressing calls for research on the impact of network engagements on the environment (Kim and Choi, 2018), Findings identified *natural value* through strengthening environmental practices in SMEs.

In summary, the process of data collection, analysis, and interpretation provided evidence to answer Research Question Two by recognising specific actions that SMEs in the UK’s construction industry have carried out to transform SC benefits, supported by Findings from Research Question One, into one or more

of the six categories and representations of value. Answers for this question have provided a new perspective to the VC process and usefulness of SC benefits; therefore, the view on SC, VC, and the SC-VC relationship has been expanded and explored with more depth to highlight specific actions, supporting synergistic strategies, that SMEs can apply when engaging with stakeholders in the future.

5.1.3. Research Question Three

How do SC benefits enhance the BST strategies of individual SMEs in the UK's construction industry?

Findings registered under the themes of SC and BST strategies respond to Research Question Three by identifying which SC benefits, strengthening BST, were obtained by SMEs through network engagements. BST considers the TBL concept, described in section 2.6., which is focused on economic, social, and environmental aspects, and for this study, it considers the SC benefits that support the long-term perspective of TBL through influence on firms' BST strategy. That said, Findings answer Research Question Three by following *three phases* (see section 5.3.3.): first, to identify the SC benefits that modify BST strategies; second, to examine the resulting BST strategies that SMEs have modified; and third, to acknowledge the effects of SC benefits on BST strategies, as experienced by participant firms.

Expanding current SC literature and understanding of the influence of SC benefits (Dato-On et al., 2018; Galunic et al., 2012) on BST for firms (Dyllick and Muff, 2016), especially for sustainable development of SMEs (Matinaro et al., 2019), Findings for the *first phase* identified thirty-seven, including fourteen core, SC benefits that have modified BST strategies across the six categories of benefits – sixteen for social, seven for intellectual, six for human, three for financial, three for manufacturing/servicing, and two for natural. Further analysis evidenced social benefits as the category with the richest frequency of references (2796), and intellectual benefits with the least (550) across all participant firms. Data analysis identified four core *social benefits* supporting BST, defined in section 5.2.3., first, narrowing the knowledge gap on the inquiry related to norms and sustainability (Akhtar et al., 2018), *the constant identification of sustainable relational norms and obligations*; second, expanding studies discussing the role of (systemic) trust in high-risk versus low-risk cooperative exchanges (Besser and Miller, 2010), *to adjust initial trust for future engagements*; third, confirming the increase in the quantity and quality of benefits derived from network engagements (Stoyanov et al., 2018), *to accurately identify clients'/customers' expectations*; and fourth, recognising the advantage of bearing new benefits through network engagements (Chung et al., 2000), *to have positive long-lasting relations with tradesmen/contractors*.

Next, in terms of the core *financial benefits*, Findings identified the long-term cost-reduction and revenue increasing practices which can become a competitive advantage (Cantele and Zardini, 2018). Next, the core *manufacturing/servicing benefit* found was to identify long-term manufacturing/servicing

improvement practices which has been known to enhance the VC process and business models in organisations (Wirtz et al., 2016). Next, the core *human benefits* recognised include to identify firms' human resource practices aimed at long-term improvement, to identify areas for constant personal growth, and to reaffirm personal values and work ethic which have been known to be intangible triggers of value proposition in small, medium, and large organisations in the UK and Brazil (Morioka et al., 2017). Next, the core *natural benefit* found was to continuously identify long-term environmentally friendly practices which contributes to SC literature linking green relational capital, through shared dialogue with their stakeholders, and environmental sustainability (Yusoff et al., 2019). Lastly, the core *intellectual benefits* found were to constantly recognise firm's limitations, to continuously identify firm's unique selling proposition, and to have constant access to the newest industry benchmarks contributing to studies on sustainable development of SMEs (Hsu et al., 2017; Matinaro et al., 2019).

The *second phase* carried out to answer Research Question Three examined the economic, social, and environmental strategies that have been enhanced by the SC benefits identified in the previous stage. Expanding studies on BST strategies (Porter and Kramer, 2011) and development of sustainable business models (Wirtz et al., 2016), Findings identified that SMEs have applied thirty-one (including eleven core) actions: eighteen for social, nine for economic, and four for environmental which. Despite the social category receiving the greatest number of actions (18), it was the economic which received the richest frequency of responses (881). These actions have not been recognised in studies linking SC and BST strategies.

Findings add new perspectives to the strengthening of sustainable development of SMEs (Matinaro et al., 2019) and contribute to studies (Biondi et al., 2002; Iturrioz et al., 2015) which have mainly adopted an internal perspective by only focusing on the improvement of products, services, and processes and undermining the value of relations with stakeholders. An example of such contributions is the identification of three core *economic actions* that SMEs have carried out towards BST: first, to develop (update) firm's business plan; second, to have a financially healthy organisation, and third, to engage with stakeholders that help increase firm's revenue. These three core economic actions identify new opportunities for SMEs to develop plans that address internal and external actions, supporting a set of economic strategies, that consider firms' strengths to engage with pre-selected stakeholders.

Analysis of the findings from this study provide a 'purpose' to the Stakeholder theory (Freeman, 1984) by evidencing relevance, reliability, and usefulness whilst complementing studies on social sustainability (Galpin et al., 2015), the role of intermediaries (Iturrioz et al., 2015), evolution of firm networks (Hite and Hesterly, 2001), and social value creation (Caldwell et al., 2017) through the identification of six core *social actions*. Such actions are to build positive long-lasting work relationships with staff, to beware of flaws (malpractices), to engage with stakeholders that improve firms' reputation, to provide positive experiences to clients/customers, to belong to membership-based networks, and to form

(reaffirm) habits within the firm that strengthen its reputation. These core social actions provide an insight into the importance of fostering positive relationships between stakeholders in the development of BST strategies.

Contradicting a study (Matinaro et al., 2019) which concluded that “customers are increasingly aware of the sustainability of buildings, production methods that are sustainable and are ready to pay more to ensure the sustainable life cycle of properties.” (p. 1160) whilst expanding studies on the significance of networks for environmental sustainability (Akhtar et al., 2018) and sustainable development of SMEs (Hsu et al., 2017), Findings identified two core *environmental actions* such as to promote eco-friendly products and/or services, and to implement environmental sustainability policies. These actions confirm the move towards ‘full sustainability compliance’ is in its infancy. Based on data gathered, despite the intentions of interviewees to be more environmentally friendly, SMEs acknowledged clients/customers have mostly been inquiring about cheaper products/services rather than products from sustainable sources which undoubtedly increase firms’ costs and retail price; thus, further delaying the adoption of compliance with sustainability practices in SMEs in the UK’s construction industry.

The *third stage* examined the influence of actions, identified in the previous stage, on the economic, social, and environmental sustainability of SMEs. Contributing to studies on the role of SC towards BST of SMEs (Matinaro et al., 2019; Russo and Perrini, 2010; Westerlund and Svahn, 2008; Yusoff et al., 2019), Findings identified that despite the social sustainability receiving the greatest number of representations with six, compared to four for the economic and environmental, it was the economic which received the richest frequency of responses with 1056 compared to 699 for social, and 100 for environmental. Data analysis revealed fourteen, including nine core, representations of forms, from the recognised actions in the previous stage, across the three sustainability categories. For the economic sustainability, the two core forms in which SMEs’ strategy has been improved are through an enhanced business plan, and higher revenue. In terms of the social sustainability, SMEs have seen an enhanced strategy through a positive work environment, strengthened reputation, increased distancing from toxic networks, and development of long-lasting relationships with stakeholders. These Findings have not been fully acknowledged in the SC-BST literature, especially the need for distancing from toxic networks. Lastly, in terms of the environmental sustainability, SMEs have been able to improve their business strategy through enhanced environmental sustainability practices, the ability to offer (more) environmentally sustainable products and/or services, and an increased knowledge of eco-friendly products and/or services. Contributing to studies on critical success factors for SMEs (Awwad et al., 2020) and sustainable development (Hsu et al., 2017; Matinaro et al., 2019), Findings helped understand the need for greater implementation of environmentally sustainable practices in SMEs in the UK’s construction industry.

In summary, the process of data collection, analysis, and interpretation provided evidence to answer Research Question Three by recognising specific SC benefits that SMEs in the UK’s construction industry

have gained, through network engagements, which have helped SMEs enhance their economic, social, and/or environmental sustainability strategies, and have produced positive effects across such categories.

5.2. Fundamental Findings

The data analysis and examination of Findings identified several contributions to the extant SC and VC theories. For the former, fundamental Findings are related to the rethinking of the process of how SC is created, driven by organisational strategies, and how its dimensions, proposed by Nahapiet and Ghoshal (1998), are interrelated. Fundamental Findings also include additional benefits not recognised in the SC literature, but covered in detail in section 5.2.1, and summarised here. Further fundamental Findings include the identification of actions, supporting synergistic strategies that SMEs have carried out, to generate SC benefits, not covered in the literature. For the latter, fundamental Findings recognise a subsequent process, that follows the generation of SC benefits, to identify actions that SMEs have applied to transform such SC benefits into value. The resulting SC benefits, value created, and effect on BST strategies have been poorly examined according to the literature review in Chapter 2. Consequently, fundamental Findings recognised the strong relationship between the development of initial strategies and the SC dimensions to generate SC benefits, subsequently create value and enhance BST strategies; in other words, the examination of fundamental Findings for each concept is not an isolated discovery but one presented with the purpose of clarity and recognition of contribution to theory and practice. Fundamental Findings for SC are presented next followed by those for VC and BST strategies.

5.2.1. Social Capital

Fundamental Findings, related to the SC literature, include *eight* key points: first, they confirm the presence of and interrelationship amongst the three dimensions (*structural, relational, and cognitive*) proposed by Nahapiet and Ghoshal (1998) and widely accepted in the management literature (Blatt, 2009; Bolino et al., 2002; Inkpen and Tsang, 2005; McFadyen and Cannella Jr., 2004). Findings related to *the process* of how *SC dimensions* interact with one another to generate SC benefits, identified a set of actions that have guided and triggered the deliberate engagement of SMEs with stakeholders, referred to as ‘firms’ strategy’. Such identification is a fundamental finding because the model proposed by Nahapiet and Ghoshal (1998), and widely accepted in the SC literature, has failed to address this essential part of the process for the creation of SC and subsequent generation of SC benefits. In other words, questions such as ‘what is causing firms to interact with stakeholders?’ and ‘how are they interacting with stakeholders?’ have not been deeply investigated within the context of the SC literature (Payne et al., 2011). This study has been able to answer these questions to claim that before any of the three SC dimensions interact with one another, a firm has a

deliberate purpose in mind, represented by a set of actions, before engaging with any stakeholder plus have a sufficient level of trust to be willing to develop initial engagements with stakeholders.

Four core *initial actions* were recorded: to participate in social events, to attend business meetings, to use digital communication channels, and to engage with manufacturers. Findings identified thirteen actions, supporting synergistic strategies, that SMEs carry out when pursuing network engagements whilst identifying five core actions: to engage with clients and/or customers, to work on projects with tradesmen and/or contractors, to engage with suppliers and/or distributors, to hold a trade and/or professional accreditation, and to pay for memberships in associations; the last two expanding studies related to systemic trust (Fiedler et al., 2017; Grimshaw et al., 2002; Lane and Bachmann, 1997; Ring, 2005; Sako, 1992; Zaheer et al., 1998) and memberships in social structures (Portes, 1998). Interviewees referred to such five actions with different objectives in mind, for example, to generate revenue – part of the financial strategy, to expand their market reach and to increase their market share – part of their social strategy, to provide training for their employees – part of their human strategy, to offer eco-friendly products/services – part of their natural strategy, or to increase their business knowledge – part of their intellectual strategy; therefore, the first fundamental finding is that the process for the creation of SC is guided by the deliberate application of actions, supporting synergistic strategies, that guide how and who the firm interacts with. Such specific actions point towards the application of different strategies when engaging with stakeholders (see section 5.3.1.). This is considered an essential finding since firms may pursue diverse engagements with different stakeholders where the level of trust, set of norms, number of obligations, and sense of identification – elements of the relational dimension – besides the shared language/codes/narratives – elements of the cognitive dimension – can be completely altered depending on the set of strategies applied. Such dependency on a particular set of strategies can change depending on different stakeholders which ultimately influence the creation of SC and its potential benefits and/or drawbacks.

Second, the identification of *key stakeholders* that SMEs have decided to pursue network engagements with and the level of significance that those stakeholders have to each individual firm was another fundamental finding. Studies have evidenced the relevance of developing positive relations with clients and/or customers (Muske et al., 2007), business partners (Gaur et al., 2011), employees (Hale Jr. et al., 2016), and suppliers (Burt, 2007). However, hitherto SC literature in management studies has failed to acknowledge two key perspectives, one, the vital role that tradesmen and/or contractors play in the operations and sustainability of SMEs in the UK's construction industry, and two, the examination of the level of salience of different stakeholders for SMEs. In the same vein, this fundamental finding highlights the importance of stakeholder theory – which must “take into account all of those groups and individuals that can affect, or are affected by, the accomplishment of the business enterprise” (Freeman, 1984, p. 25). Nonetheless, stakeholder theory research has not clarified the priority that stakeholders must be given, particularly on project-based industries such as construction, evidencing a knowledge gap in terms of the

normative question of What stakeholders must be prioritised by managers? As well as a more empirical dilemma, what stakeholders do managers actually pay attention to? Previous studies addressing the normative question have emphasised stakeholder salience must be based on the power they yield over firms (Frooman, 1999; Pajunen, 2006) or level of risk and material interests (Clarkson, 1995; Cragg and Greenbaum, 2002) whereas in relation to empirical dilemma, researchers have suggested firms pay attention to those stakeholders that have valuable resources, demonstrate trustworthiness, and have time-sensitive or critical claims (Mitchell et al., 1997).

Accordingly, Findings addressed those two points made above identifying those managers/directors engage with stakeholders based on their relevance, reliability, and usefulness to the project or specific need evidencing a link to the cognitive and relational dimension of SC. Moreover, this study identified, first, the role that tradesmen and/or contractors play in the operations and sustainability of SMEs in the UK's construction industry by examining stakeholders that SMEs pursue network engagements with (see section 5.2.1.). And second, by identifying four core stakeholders vital for the normal development of business operations for SMEs, listed according to the level of salience: first, clients and/or customers, then tradesmen and/or contractors, then suppliers and/or distributors, and in fourth place, membership-based associations. This is a fundamental finding since tradesmen and/or contractors are the second most important stakeholders, after clients and/or customers, and have not received the recognition they deserve considering the support they provide for the development towards BST of SMEs in the construction industry.

Third, pertaining to the *cognitive dimension*, there was no major breakthrough identified through the data analysis apart from confirming the existence of shared language, codes, and narratives, as described in the SC literature (Adler and Kwon, 2002; Inkpen and Tsang, 2005), which followed a deductive approach; however, it is relevant to point out that one of the shared language and codes among SMEs in the construction industry takes the form of banter which, according to interviewees, helps them understand the level of respect within a group of tradesmen and develop a sense of belonging to a 'family'. It was also possible to identify through the semi-structured interviews that having banter has increased the level of motivation for tradesmen to come into work and feel important within the organisation.

Fourth, in terms of the *relational dimension* and its place within the process for the creation of SC, a fundamental finding was that the element of trust must have been acknowledged by the SC literature as a pre-existing condition guiding initial engagements, and not only as a result and benefit of initial interactions (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998) or as an isolated factor (Lioukas and Reuer, 2015). This is a fundamental finding, not acknowledged in SC models (Adler and Kwon, 2002, 2000; Muthuri et al., 2009; Nahapiet and Ghoshal, 1998; Pearson et al., 2008; Tsai and Ghoshal, 1998) based on the rationale that if there is not even a minimum level of trust in initial engagements, then there would be no interactions with others, and all network engagements will be avoided due to distrust; therefore, the process for the creation of SC must be updated to include the element of trust guiding initial interactions and throughout

evolution of network engagements. This fundamental finding is complemented by experiences communicated by interviewees who have acknowledged that the more interaction they have with other tradesmen, the higher levels of trust; nonetheless, some interviewees expressed diminishing levels of trust as the number of interactions increased. This is the result of identifying behaviours that have undermined the reliance and belief on the performance of the other party requiring continuous close supervision; thus, undermining levels of trust perceived in initial interactions.

Fifth, that *SC theory must be updated* based on the following rationales: first, the element of trust is not only present as a result of network engagements, as claimed (Adler and Kwon, 2002; Kwon and Adler, 2014; Nahapiet and Ghoshal, 1998), but as Findings suggest, the element of trust is present before there are any network engagements; thus, constraining and/or facilitating initial and future interactions with stakeholders. This contribution advances SC theory since it represents a more realistic scenario and understanding of the dynamics of relations; thus, the element of trust must be added to the initial stages of the process for the creation of SC proposed by Nahapiet and Ghoshal (1998) which more recent SC models (Adler and Kwon, 2002; Muthuri et al., 2009; Pearson et al., 2008) have also failed to incorporate. Moreover, Findings suggest systemic trust is vital for the genesis of many firms in the construction industry through memberships in diverse trade and professional associations [I-9], to have access to quality information in the form of specialist codes of practice and industry reports [PI-1] as well as to obtain (increase) status of the firm [PI-4]. This fundamental finding contributes to calls for deeper investigation into the relationship amongst structural and relational dimensions of SC and their influence of firm performance (Kim and Choi, 2018) by arguing that structural and relational dimensions need one another whilst being guided by specific actions, supporting synergistic strategies (see section 5.2.1.), to improve not only firm performance but other aspects of the firm related to the six categories of value, which are examined in sections 5.2.2. and 5.3.2. However, this study has also found drawbacks for firms from the structural and relational dimensions such as flaws and malpractices also expanding Kim and Choi (ibid).

Sixth, the identification of *specific actions*, supporting synergistic strategies, that SMEs have acknowledged to have helped them generate SC benefits was another fundamental finding expanding the four actions proposed by Leana and Van Buren (1999). Therefore, the concept of strategy must be included as the guiding concept triggering the process for the creation of SC, proposed by Nahapiet and Ghoshal (1998), which more recent SC studies (Basuil and Datta, 2017; Parker et al., 2016; Yang et al., 2018) have failed to acknowledge. Data analysis helped identify sixteen actions SMEs have applied and helped them gain SC benefits. These actions address *internal and external perspectives*, following the definition of strategy (Hofer and Schendel, 1978), confirming the intrafirm-interfirm improvement resulting from SC benefits (Walter et al., 2007) and further extending studies on the effectiveness of strategy-making processes beyond ventures (Garg and Eisenhardt, 2017). The *internal* recognised four core actions: the improvement of firms' operations and building quality products and/or services – support the manufacturing/servicing

and financial strategies, the application of personal values and work ethic – support the social strategy, and the enhancing of firms’ business plan – support the six strategies identified earlier. These internal actions can be applied by SMEs in other industries besides construction, for example, the software (Westerlund and Svahn, 2008) and biotechnology (Maurer and Ebers, 2006) industries and in different contexts, for example, Asia (Gao et al., 2013; Matinaro et al., 2019) and Latin America (Nicholls-Nixon et al., 2011).

The *external perspective* recognised five core actions: the first three, focused on having positive relations with clients/customers, with tradesmen/contractors, and with suppliers/distributors, support the social and financial strategies whereas the fourth and fifth, focused on holding a trade/professional accreditation and gaining continuous membership in trade/professional associations, support the financial, intellectual, and human strategies. This is a fundamental finding that contributes to the study of SC-VC relationship (Tsai and Ghoshal, 1998) which concluded that “social relations and tacit social arrangements encourage productive resource exchange and combination and thereby promote product innovations” (p. 473); however, it failed to examine the actions applied to generate those resource exchanges besides sharing a vision and having trust through social interactions. This fundamental finding also expands Basuil and Datta (2017) who recognise three main actions that firms apply to generate SC benefits: first, through outside director’s membership on multiple boards which allows them to access and disseminate strategic information (Carpenter and Westphal, 2001), and obtaining access to tacit and hard-to-imitate knowledge and capabilities (Galunic et al., 2012); second, industry-specific managerial experience which allows outside directors “to assist firms in the accessing key industry resources and building performance-enhancing strategic industry partnerships following an acquisition” (Basuil and Datta, 2017, p. 37); and third, firm-specific founding experience “allows outside directors to accumulate greater firm-specific knowledge and develop an improved understanding of firm needs and capabilities” (ibid, p. 37). Accordingly, this fundamental finding contributes to organisational strategy formulation, development, and application for SMEs also for larger firms (Galli and Müller-Stewens, 2012) whilst suggesting the inclusion of internal and external actions, acknowledging financial-social-manufacturing/servicing-intellectual-human-natural strategies, in business models (Wirtz et al., 2016) towards sustainable development (Dyllick and Muff, 2016; Matinaro et al., 2019).

Seventh, pertaining to the *cognitive dimension* – encompassing shared language, codes and narratives (Nahapiet and Ghoshal, 1998) – Findings further contribute to the study by Inkpen and Tsang (2005) – who described industrial districts as neither sharing nor having any compatible goals – by arguing that in the construction industry, firms have compatible and shared goals among those working in the same project as they complement one another (e.g., plumbers, electricians, carpenters, painters). Additionally, Findings expand Inkpen and Tsang’s (2005) work by acknowledging the concept of cooperation in the construction industry (see Appendix E) where SMEs have cooperated with competitors to generate product and/or service improvements.

Eight, besides Findings confirming SC benefits found in the SC literature such as information (Burt, 1997a), knowledge (Cohen and Levinthal, 1990), influence (Coleman, 1988), and solidarity (Putnam, 1993), Findings identified *SC benefits* not accounted for in the SC literature and contribute to a study by Leana and Van Buren (1999). In such study only four examples were identified as SC benefits: “It (1) justifies individual commitment to the collective good, (2) facilitates a more flexible work organization, (3) serves as a mechanism for managing collective action, and (4) facilitates the development of intellectual capital in the firm.” (p. 547). Benefits highlighted by interviewees, contributing to SC literature, were organised into six categories (see section 5.2.1.) and produced a total of thirty-seven benefits, including twelve core benefits (four social, three human, one financial, one manufacturing and/or servicing, one natural, and two intellectual). In terms of the social benefits – influencing the social strategy – the four core benefits found are to identify essential relational practices, to define initial trust guiding future engagements, to define clients and/or customers’ expectations, and to exchange information with tradesmen and/or contractors. For the human benefits – influencing the human strategy – the three core benefits found are to successfully apply firm’s internal actions, to identify areas for personal growth, and to reaffirm personal values. Such benefits found influencing the human strategy provide a more detailed perspective of SC (Baum et al., 2000; Belliveau et al., 1996) by recognising that network engagements do produce knowledge, and more specifically, knowledge represented in firm’s self-awareness of its human resources and how they can improve the “individual’s sense of personal accomplishment and development” (Leana and Van Buren III, 1999, p. 541). For the financial benefits – influencing the financial strategy – the core benefit found is to identify practices to improve firms’ financial health, adding to financial benefits (Pennar, 1997). For the manufacturing/servicing benefits – influencing the manufacturing/servicing strategy – the core benefit found is to identify manufacturing/servicing improvement practices, increasing the number of manufacturing/servicing benefits (Human and Provan, 1997; Schiff, 1992). For the natural benefits – influencing the environmental strategy – the core benefit found was to identify environmental practices, expanding on environmental benefits (García-Villaverde et al., 2018). Last but not least important, Findings regarding the identification of intellectual benefits – influencing the intellectual strategy – the two core benefits found were to recognise firm’s limitations, and to identify firm’s unique selling proposition, adding to previously identified intellectual benefits (Nahapiet and Ghoshal, 1998).

5.2.2. Value Creation

Fundamental Findings related to the process for the creation of value as a result of SC benefits confirmed the creation of financial and manufacturing (Tsai and Ghoshal, 1998), social, and intellectual value (Basuil and Datta, 2017). However, Findings went beyond confirming these categories of value by evidencing actions that SMEs have carried out to transform the gained SC benefits into value and by identifying specific representations of value gained by SMEs allocated within the six value categories. To being with, the actions

highlighted by SMEs, that have helped them transform the SC benefits into value (see section 5.2.2.), are considered a fundamental finding since no similar study in the management SC literature has examined such transformation process. Accordingly, the data analysis identified twenty-two actions addressing the internal and external perspectives, following the definition of strategy (Hofer and Schendel, 1978) and the intrafirm-interfirm approach (Walter et al., 2007). For the internal perspective, there were five actions identified, including three core actions and for the external perspective, there were seventeen actions identified, including six core actions. For the former, the three core actions identified are to have constant evaluation of products and/or services offered – supporting the manufacturing/servicing strategy, to hire temporary staff supporting firms’ seasonal and demand cycle – supporting the human and financial strategies, and to have constant evaluation of firms’ aims – supporting all six categories of strategies. For the latter, the six core actions identified are to be approachable, to join diverse networks, to apply personal values and work ethic, and to demonstrate firms’ reliability – supporting the social strategy, to deliver quality products and/or services, and to meet (exceed) clients’ and/or customers’ expectations – supporting the manufacturing/servicing, human, intellectual, natural, and financial strategies. Such Findings expand SC studies (Basuil and Datta, 2017; Tsai and Ghoshal, 1998) by acknowledging specific actions that SMEs have carried out to transform SC benefits into value, and identifying the type of value and strategy being enhanced.

In terms of specific representations of value, data analysis identified thirty specific representations of how SMEs have transformed SC benefits into one or more representation of value, identifying fourteen core representations. The type of value with the richest frequency of responses and most representations of value is the social value with ten, including five core representations, such as to enhance firms’ relational practices, to increase brand awareness, to boost firms’ reputation, to strengthen stakeholders’ trust in the firm, and to build loyalty amongst clients and/or customers. Findings on social value were not recognised before (Basuil and Datta, 2017; Hughes and Perrons, 2011; Riano, 2019; Tsai and Ghoshal, 1998; Viswanathan et al., 2014) linking the SC and VC processes; thus, it elucidates a new perspective to the SC-VC literature where it prioritises the developing of relationships and network engagements with stakeholders when designing business plans and carrying out deliberate actions rather than focusing solely on increasing profits:

“Customer Satisfaction is number one because that leads to everything...you know? ...that leads to recommendations, and that is the most important thing full stop. There isn't anything else...because if customers are happy that leads to profits, and then growth comes from profit” [I-29, Central Heating, Director]

Findings also recognised that different types of stakeholders help firms achieve different goals, for instance, clients/customers help firms increase revenue through repeat business whereas tradesmen/contractors help firms grow by securing new businesses. Such Findings expand studies on the SC-VC relationship (Basuil and Datta, 2017; Hughes and Perrons, 2011; Riano, 2019; Tsai and Ghoshal, 1998; Viswanathan et al., 2014) and the role of stakeholders providing a ‘purpose’ to the Stakeholder theory (Freeman, 1984). The

financial value evidenced through the increase in firms' revenue and the enhancement of firms' financial practices confirm similar studies (Basuil and Datta, 2017; Tsai and Ghoshal, 1998). The human value acknowledged through the enhancement of human resources' practices in SMEs, and the feeling of support by the organisation contribute to studies on the significance of the enhancement of human resources through SC benefits (Cáceres-Carrasco et al., 2020; Schoemaker et al., 2006; Westlund and Bolton, 2003). Intellectual value recognised by the improvement of firms' intellectual practices, and the increase in firms' business knowledge contribute to studies on the effect of social and intellectual value on organisational performance (Bidokhti and Esmailpour, 2017). The manufacturing/servicing value represented by the enhancement of firms' manufacturing/servicing practices, and the optimisation of firms' efficiency and effectiveness in their operations add new perspectives to studies on industrial transformation through SC (Lall, 2002) and enhancement of servitisation practices (Zhang et al., 2017). Lastly, the natural value characterised by the strengthening of environmental practices contribute to studies on the effect of green intellectual capital on BST of SMEs (Yusoff et al., 2019). Representations of value described above unveil a new perspective for the understanding of VC, potential findings from the transformation of SC benefits, and acknowledgement that the process of creating value in organisations goes beyond financial and manufacturing value, expanding SC studies (Basuil and Datta, 2017; Galunic et al., 2012; Garg and Eisenhardt, 2017; Rass et al., 2013; Riano, 2019).

5.2.3. Business Sustainability (BST) Strategies

With respect to BST strategies, data analysis identified three fundamental Findings: first, the identification of SC benefits strengthening BST strategies; second, the actions solidifying BST strategies, and third, the influence of SC benefits on BST. First, the identification of SC benefits that improve BST differ from those examined in the SC section (see 5.2.1., and 6.2.1.) considering the ones presented in this section have been found to be focused on the long-term operation of firms, as described by interviewees; thus, omitting SC benefits focused on temporary actions (e.g., to gain access to networking events). The data analysis produced thirty-seven benefits with fourteen core benefits. The social category received the highest frequency of responses and number of benefits for BST found including to constantly identify sustainable relational norms and obligations, to adjust initial trust for future engagements, to accurately identify clients' and/or customers' expectations, and to have positive long-lasting relations with tradesmen and/or contractors. For the financial category, the core SC benefits for BST found include the identification of long-term cost-reduction and revenue increasing practices. For the manufacturing/servicing category, the core SC benefit for BST found is the identification of long-term manufacturing/servicing improvement practices. For the human category, the core SC benefits for BST found include the identification of firms' human resource practices aimed at long-term improvement, to recognise areas for constant personal growth, and to reaffirm personal values and/or work ethic. For the natural category, the core SC benefit for BST found is to

continuously identify long-term environmentally friendly practices. And for the intellectual category, the core SC benefits for BST found are to constantly recognise firms' limitations, to continuously identify firms' unique selling proposition, and to have constant access to the newest industry benchmarks. Such fundamental Findings expand studies on sustainable business models (Morioka et al., 2017) by narrowing the knowledge gaps related to questions such as "how are products and services designed and operationalized to address sustainability challenges? how people's potentials can be developed in favour of business sustainability purpose? how does business decisions affect within and outside organization's boundaries?" (p. 735) and studies focused on the relationship between intellectual and relational capitals and BST (Yusoff et al., 2019).

Second, in reference to actions solidifying BST, data analysis identified a total of thirty-one actions, across the three categories (eighteen for social, nine for economic, and four for environmental), that SMEs have applied to enhance their BST strategies. This is considered a fundamental finding because there are few investigations in management studies, examining SC, that have linked SC benefits and BST to some degree (Dyllick and Muff, 2016; Olson et al., 2003; Yusoff et al., 2019). In reference to the economic sustainability strategy, which received the richest frequency or references with 881, the three core actions for enhancing firms' economic BST are to develop (update) firms' business plan, to have a financially healthy organisation, and to engage with stakeholders that help increase firms' revenue. For the social sustainability strategy, which experienced the highest number of actions with eighteen, the six core actions for enhancing firms' social BST are to build positive long-lasting work relations with staff, to beware of flaws (malpractices) in network engagements, to engage with stakeholders that improve firms' reputation, to provide positive experiences to clients and/or customers, to belong to membership-based networks, and to form (reaffirm) habits within the firm that strengthen its reputation. For the environmental sustainability strategy, the two core actions for enhancing firms' environmental BST are to promote eco-friendly products and/or services, and to implement environmental sustainability policies. This is a fundamental finding that narrows the gap on questions related to firms' financial health such as "how does the revenue stream compensate expenses?" (Morioka et al., 2017, p. 735), and the sustainable value gained by stakeholders contributing to the question "what economic, environmental and social benefits does the organization enable to the stakeholders in a systemic sense?" (Morioka et al., 2017, p. 735).

Third, concerning the influence of SC benefits on BST, data analysis recognised fourteen forms in which SC benefits have enhanced BST strategies, including nine core forms, across the economic, social, and environmental categories. In reference to the economic category, the influence of SC benefits for BST has been an enhanced business plan, and higher revenue. For the social category, the influence of SC benefits for BST has been a positive work environment, a strengthened reputation, an increased distancing from toxic networks, and to develop long-lasting relationships with stakeholders. For the environmental category, the influence of SC benefits for BST has been represented in enhanced environmental sustainability

practices, the ability to offer (more) environmentally sustainability products and/or services, and an increased knowledge of eco-friendly products and/or services. Such fundamental Findings expand studies on sustainable business models (Morioka et al., 2017) by narrowing the knowledge gaps on the actions and influence of network engagements and subsequent generation of SC benefits.

5.3. Implications

5.3.1. Theoretical Implications

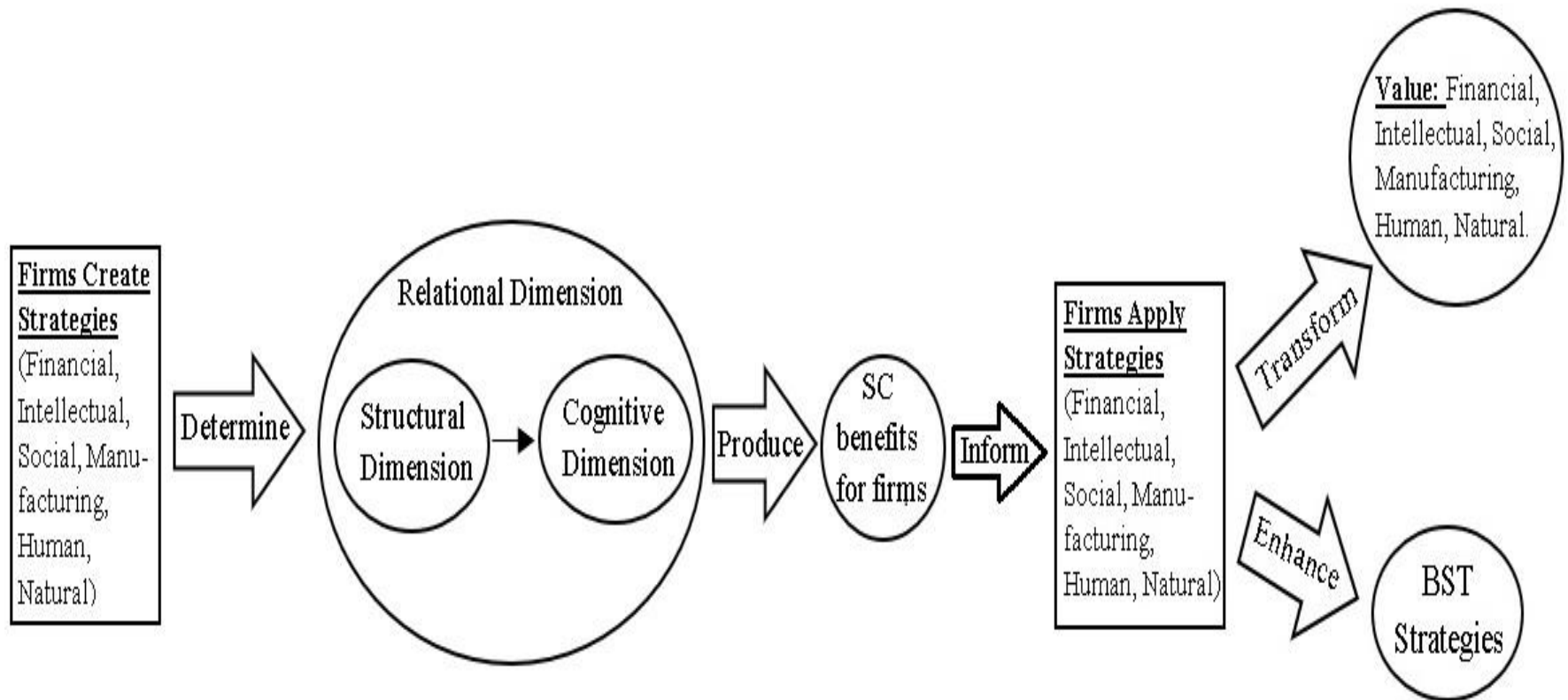
Contributions to SC theory

This study fulfilled its aims by providing a clearer understanding of the process and stages for the generation of SC, its potential benefits, its transformation into value, and effects on BST strategies for SMEs. Resulting from the literature review, this study identified a narrow and unexplored perspective with reference to the creation process of SC and its transformation into value undermining relevance of SC models (Adler and Kwon, 2002; Muthuri et al., 2009; Nahapiet and Ghoshal, 1998; Pearson et al., 2008; Tsai and Ghoshal, 1998). This study also aimed to narrow the gap on additional SC benefits as earlier studies identified a limited number of benefits (Andriani, 2013; Cummings, 2004; Wu, 2008; Yli-Renko et al., 2001) and a few categories of value (Basuil and Datta, 2017; Tsai and Ghoshal, 1998) without even considering repercussions on BST strategies. Such knowledge gaps prompted the development and proposition of a model to provide a deeper understanding of the process for the creation of SC. Therefore, this study's contribution to theory is represented in a process model for the generation of SC, its benefits, its transformation into different types of value, and enhancement of BST strategies (see Figure 21).

A proposed model for creation of SC, SC benefits, transformation into value, and enhancement of BST

Findings suggest the generation of SC begins by the deliberate CREATION of specific actions, supporting synergistic strategies, that firms aim to carry out. Once firms have deliberately created a plan, such actions could DETERMINE how firms pursue network engagements by prioritising certain stakeholders (***structural dimension***), the level of initial trust and during subsequent engagements (***relational dimension***) and the sharing of codes and narratives (***cognitive dimension***). The second section of the process model is concerned with the generation of SC benefits. Once firms have carried out initial actions, levels of trust have been determined, and norms, codes and narratives have been shared with key stakeholders, such strategies then PRODUCE SC benefits.

Figure 21. Proposed model for generation of SC benefits, their transformation into value, and enhancement of BST strategy



Source: Author's development

Consequently, those gains, represented in different types of SC benefits, INFORM subsequent deliberate actions that managers/directors, according to Findings supporting synergistic strategies, APPLY to carry out two objectives: first, to TRANSFORM such SC benefits into value; and second, to ENHANCE their BST strategies.

Furthermore, this study contributes to SC theory in three ways: first, by confirming the existence of elements and dimensions for the creation of SC, generation of SC benefits, and transformation into value. Second, by expanding studies that examine the creation of SC, the SC-VC relationship, and effects on BST strategies. And third, by contradicting studies arguing for firms' dependence on resources for the creation of SC and value (Barney, 1991). First of all, this study confirmed the existence of elements that support the development of SC such as trust (Coleman, 1988, 1990; Portes, 1998), systemic trust (Lane and Bachmann, 1997; Sako, 1992; Zaheer and Bell, 2005), stakeholder engagement (Dyer and Singh, 1998; Granovetter, 1973), norms (Adler and Kwon, 2002; Kwon and Adler, 2014), obligations (Nahapiet and Ghoshal, 1998; Putnam, 1993), sense of identification (Hogg and Terry, 2000), shared codes (Bernstein, 1971; Littlejohn, 2002) besides a shared language and narratives (Maurer and Ebers, 2006; Starkey and Tempest, 2004). Findings also confirmed that the internalisation of and training of staff for the need to adhere to norms and obligations and generate a sense of identification (*relational dimension*) when engaging with stakeholders generate SC benefits beyond revenue increase (Westphal and Zajac, 2013).

Second, Findings expand studies by Carrillo and Batra (2012) who argue organisations apply strategies to obtain knowledge with the underlying purpose of sustained survival and development, and Findings suggest firms not only gained knowledge but a significant number of additional benefits. Organisational leaders willingly interact in networks for survival and as a source of competitive advantage through inter-firm cooperation which could increase knowledge and skills (McEvily and Marcus, 2005) whilst Findings contribute to their study acknowledging firms interact in networks not only for survival and to gain a competitive advantage but also to optimise the allocation and use of resources, to grow, and to transform benefits gained through network engagements into six different categories of value. Organisations deliberately engage in networks after identifying signs of change in the business environment with the purpose to gain knowledge, further business development, and sustain growth (Yun et al., 2015). Findings expand their study in two ways: first, by acknowledging deliberate engagement in networks not only when the business environment changes but also when engaging in new projects to identify who are the key stakeholders to engage with to deliver the expected outcome. And second, by presenting additional benefits such as defining clients'/customers' expectations, identify areas for personal growth, identify practices to improve financial health of the firm. Other support networks are built, developed and nurtured consciously by SME owners/managers since they are essential for survival compared to large firms (Carson et al., 2004). Findings contribute to their study by recognising that SMEs deliberately engage in networks for firm's survival, to identify their limitations when pursuing new projects, and to avoid malpractices in networks.

Additional studies (Molina-Morales and Martínez-Fernández, 2010; Pirolo and Presutti, 2010) acknowledge other support networks play a vital role in the sharing of information amid SME owners/managers which enhance firms' competitiveness; nonetheless, Findings suggest membership-based networks also allow organisations, especially SMEs, to have access to and gain benefits; thus contributing to similar studies (Carrillo and Batra, 2012; Yun et al., 2015) whilst expanding studies on systemic trust (Lane and Bachmann, 1997; Sako, 1992; Zaheer et al., 1998).

Moreover, once firms have established specific actions, supporting synergistic strategies, they are encouraged to prioritise stakeholders ahead of engaging with them (*structural dimension*); accordingly, Findings provide a 'purpose' to the Stakeholder theory (Freeman, 1984) by identifying the predetermined order that SMEs in the UK's construction industry internalise when engaging with stakeholders, as illustrated in Section 5.2.1. and 6.2.1. Once SMEs have identified stakeholders to interact with, Findings suggest that directors/managers of SMEs must acknowledge the level of trust (*relational dimension*) they aim to project and obtain from initial network engagements; thus expanding previous studies (Gaur et al., 2011) which could help them and their staff (Fiedler et al., 2017) in future engagements to nurture SC benefits generation.

Third, this study contradict studies related to the resource-based view (Barney, 1991) since it suggests firms' survival and growth is closely linked to the resources they own; however, Findings suggest firms carry out specific actions to initiate and take advantage of network engagements for potential benefits; thus, optimising the use and minimise depletion of their resources rather than just randomly engaging with stakeholders without a purpose where the use of resources may not be optimised, necessary, or possible.

Contributions to VC theory

Within the context of SC-VC relation, there are mainly six contributions to VC theory: first, the concept of VC, focused on combining and exchanging resources to provide benefits for firms (Schumpeter, 1928), has been around for nearly a century defining VC as "the worth of some product or service to the consumer" (Husted et al., 2015, p. 150), and as any "rent-earning capacity of tangible assets or resources" (Madhok and Tallman, 1998, p. 328) whilst Lieberman et al. (2017) identify the creation of value as an 'economic gain' defined as "the change in the total economic value created by a firm from one period to the next" (p. 1194). These definitions have a strong financial perspective; however, Findings advance the VC definition by acknowledging value is not only concerned with the "worth of some product or service to the consumer" but also with the worth of the relationships (social value), the development and improvement of staff (human value), the increase in 'know-how' and business knowledge (intellectual value) and environmentally friendly practices (natural value); therefore, this study contributes to the definition of VC in management

studies by providing an updated perspective to consider other essential perspectives that also help firms create value.

Second, in terms of contributions to how the process of VC occurs, as in VC theory, Findings support work by Kostova and Roth (2003) acknowledging that the existence of SC nurtures value-creating environments to the parties involved whilst addressing their questions related to the “mechanism through which social capital is created in organisations”. That is, Findings support the process for the creation of SC through deliberate actions, supporting synergistic strategies, that each individual firm applies when interacting with preselected stakeholders. Moreover, this study also contributes to Kostova and Roth’s (ibid, p. 313) model which suggests “interactions among individuals should be meaningful, productive, and directed towards mutually beneficial work-related goals...Only then will people be able to derive value from these interactions in the future”, by arguing that not only meaningful, productive and directed towards mutually beneficial work-related goals are the aim of interactions but also to create value across the six categories (financial, manufacturing, human, intellectual, social, and natural).

Third, this study addresses calls for research into the “value creation mechanisms at a network level” (Kim and Choi, 2018, p. 1059) by describing nine stages of the process that begins with initial actions to interact with stakeholders, followed by the deliberate engagements with core stakeholders, then by the application of deliberate actions that generate SC benefits across the six categories, followed by the application of deliberate actions to transform such SC benefits into different representations of value, followed by the realisation of the actual value, and subsequent enhancement of firms’ strategies for BST, as shown in section 5.3.

Fourth, this study expands on work by Rass et al. (2013) who only recognised the relevance of VC, derived from SC, for organisations in the form of innovation (intellectual and manufacturing value) and firm performance (financial value); nonetheless, Findings support the creation of additional categories of value, derived from SC; for example, enhancement of human resources (human value) and environmental practices (natural value), nurturing of positive relations with clients, tradesmen and suppliers (social value) and deliberate actions, supporting synergistic strategies, that firms apply to create value.

Fifth, this study identifies key stakeholders for firms to realise the VC process thereby furthering findings by Hughes et al. (2007) highlighting the “resource pooling activity [defined] as the extent to which a firm is willing to pool and share its resources with others” (p. 158), and the “strategic network involvement [defined] as the extent to which a firm interacts with others to acquire knowledge” (p. 158). Hughes et al. study did not examine the core stakeholders that firms interact with or their priority level. In the construction industry, for example, it could be argued that the core stakeholders are, in order of priority for firms, first, clients/customers; second, tradesmen/contractors; third, suppliers/distributors; and fourth, trade-professional associations. That is a relevant and significant contribution because it sheds light on those stakeholders that firms should focus on and develop social strategies to initiate and nurture relationships

with. Additional contributions of this study are that they expand on the findings of Hughes et al.'s (2007) study in which they suggest the “analysis of the firm’s relational strategy is necessary to diagnose ways to improve” (p. 171) by elucidating the existence of deliberate actions, supporting a social strategy, covered in section 5.2.1. and 5.3.1. plus, the examination of “uses and benefits [of SC]” (p. 172) which have also been covered in section 5.2.1. and 5.3.1. These contributions are relevant for the advancement of VC theory since they shift the perspective of VC from a financial and manufacturing perspective (Basuil and Datta, 2017; Tsai and Ghoshal, 1998) towards a more realistic relational perspective.

Sixth, this study supports the creation of value as a result of competitive behaviour between alliance partners, known as cooperation (Rai, 2016), whilst expanding on such study which failed to acknowledge further intangible aspects of value, derived from the generation of SC, when presenting their “Final Value Creation Scale” (p. 1692), such as human and natural value. Moreover, besides the three dimensions [common benefit, private benefit – cooperation, and private benefit – competition (ibid, p. 1686)] identified, this study also found additional dimensions for their value creation model: external benefit (contributor), private benefit (as owner), private benefit (as an individual), and private benefit (as staff). These contributions are useful for the advancement of VC theory since they provide additional perspectives and dimensions not sufficiently explored.

5.3.2. Managerial Implications

Findings have implications both for managers/directors of SMEs across all industries and for entrepreneurs looking to establish a business. Findings suggest directors of SMEs and entrepreneurs should **create strategies** through the development of a detailed plan, encompassing clear actions supported on industry research, whilst identifying key stakeholders the firm is looking to engage with. Contributing to Zander and Zander (2005), potential actions that directors and/or managers could pursue include purposeful engagements with clients/customers to identify how to better meet their expectations (e.g., ask questions relevant to their interest on the business and how you, as a director/manager can address their expectations in the best possible manner). Further actions include the interaction with supporting skills/abilities, in the case of the construction industry with tradesmen/contractors, that could better provide a quality end product/service, the engagement with suppliers/distributors that can help the firm meet clients’/customers’ expectations, the possibility of being (renewing) a trade/professional accreditation besides the possibility of becoming a member in a trade/professional association. This initial preparation phase could optimise efficiency and effectiveness of network engagements plus firms’ resources, which are usually scarce for SMEs (Falle et al., 2016). During the development of a detailed plan, directors are encouraged to include strategies across the six categories (e.g., financial, social, intellectual, human, manufacturing/servicing, and natural), as proposed in Figure 21.

Moreover, directors and managers could benefit from complementing those actions described in section 5.2. through the ability to share language, codes, and narratives with all stakeholders since they could support and nurture the generation of new SC benefits. Findings also suggest directors must acknowledge and train their staff to be aware of malpractices potentially found via network engagements which could undermine the deployment of strategic actions and hinder the production of greater number and higher quality of SC benefits. Directors and managers would be keen on identifying key stakeholders based on frequency of interactions, influence on projects' outcomes, and impact on firms' strategies through the development of positive relationships that allow firms to generate benefits across the six categories mentioned above. Additionally, managers/directors would benefit from closely monitoring those actions and strategies that have been more effective in generating a greater number and higher quality of SC benefits; thus, optimising network engagements.

Findings encourage directors/managers of SMEs across all industries to first, identify those SC benefits gained from engaging with stakeholders. Second, to follow a detailed inventory of the type of benefit (e.g., financial, social, human, intellectual, manufacturing, natural) gained from such engagements. Third, once firms have pinpointed the gained SC benefits, SMEs' directors/managers must apply strategies to transform such benefits into *value*. Strategies to transform SC benefits into *value* can and should address the six categories identified in Findings: financial, manufacturing/servicing, social, intellectual, human, and natural. Such action plan could help directors and managers to mindfully acknowledge a set of activities that can create value and with practice be optimised for efficiency and effectiveness (Akhtar et al., 2018; Ritala and Tidström, 2014). Additional benefits of such action plan are to acknowledge the possibility of transforming SC benefits into a wide array of value, widening their horizon beyond financial, and manufacturing value, expanding earlier studies (Basuil and Datta, 2017; Tsai and Ghoshal, 1998). Fourth, directors can also effectively monitor and optimise the VC process in their firms by identifying the link between the SC benefits gained and the potential value that they can be transformed into across the six different categories of value. For example, social value can be created by identifying a more efficient way of interacting with new stakeholders and potential clients/customers. Financial value can be represented in procedures that reduce costs and increase revenues. Human value can be created through the enhancement of training programs plus recruitment procedures. Intellectual value can be created via understanding and internalisation of new business knowledge and field experience. Manufacturing value can be represented by the increase in efficiency and or effectiveness of operations. And natural value can be created through the adoption of environmentally friendly practices in the firm.

Concurrently, once firms have gained SC benefits, managers and directors should recognise those benefits that can directly enhance *BST strategies* in the firm across the three main categories. For example, in terms of the economic sustainability strategy, directors/managers are encouraged to develop (update) a business plan and to engage with those stakeholders that help increase firms' revenue. For the social

sustainability strategy, directors/managers could promote a positive work environment within the firm, to strengthen firms' reputation, and to develop long-lasting relationships with stakeholders whilst avoiding (reducing contact with) toxic networks. For the environmental sustainability strategy, directors/managers could learn (more) about environmental sustainability practices plus learn about and offer (more) environmentally friendly products/services.

Finally, managers/directors are encouraged to take advantage of the value of this study, derived from the analysis of the data gathered from semi-structured interviews with SMEs in the UK's construction industry, to help them understand mainly four phenomena. First, the deliberate strategies available prior to engaging in professional and support networks; second, the resulting benefits through the three SC dimensions (structural, cognitive, and relational); third, the value that can be created through the deliberate transformation of these benefits; and fourth, identify the effects and the manner in which SC benefits influence BST strategies.

Chapter 6. Conclusions

In essence, this study provides evidence to answer the three research questions, resulting from the knowledge gaps (see section 2.10.), expanding literatures related to the generation of SC, the creation of value, and the developing of the SC-VC relationship whilst casting light onto new research avenues currently unexplored. There are mainly six key takeaways from this study: first, the generation of SC is guided by predetermined and deliberately applied actions, supporting synergistic strategies, that firms carry out to generate SC benefits.

Second, this initial process, guided by strategies, is followed by the interaction with the three SC dimensions (Nahapiet and Ghoshal, 1998) which beings by being trustworthy to stakeholders (e.g., industry and trade associations, other support networks) and following context-related norms prior to initial engagements, demonstrating the relational dimension; then by engaging with key stakeholders, characterising the structural dimension; and by sharing narratives, language, and codes, representing the cognitive dimension.

Third, Findings expand SC literature (Dato-On et al., 2018; Galunic et al., 2012; OECD, 2013) not only by acknowledging additional SC benefits but also by classifying such benefits into six categories – financial, manufacturing/servicing, social, human, intellectual, and natural – which has not been previously accomplished.

Fourth, once the SC benefits are generated, it was found SMEs, deliberately carry out actions, supporting synergistic strategies, to transform such SC benefits into value, again classified into six categories of value (IIRC, 2013). Such strategies were also identified to serve firms' internal and external purposes, for example, for the former, participant firms recognised that to provide higher quality training for their staff they needed to engage with membership-based associations through workshops and seminars whereas for the latter, firms admitted that engaging with other tradesmen and developing a synergistic relationship have allowed them to finish projects faster and with higher quality of craftsmanship.

Fifth, Findings went beyond confirming representations of financial, intellectual, and manufacturing value (Basuil and Datta, 2017; Tsai and Ghoshal, 1998) by elucidating additional categories of, and representations of value not recognised in the literature such as the increase in reputation perception through belonging to membership-based associations – characteristic of the social value – and staff's feeling of support by the organisation – representative of the human value.

And sixth, participant firms identified the influence of SC benefits, and their subsequent transformation into value, as enhancers of BST strategies not only modifying initial set of strategies guiding the generation of SC benefits, but also improving the possibility of firms' survival, for example, being able to identify and clarify stakeholders' expectations during initial engagements – characteristic of social benefits – has helped

firms be more efficient and effective when delivering their products and/or services to new clients/customers.

Regarding limitations and future research, this study's focus was on identifying SC benefits such as knowledge and information gained through network engagements; however, this study did not explore previous experience or level of 'know-how' from participants and/or their employees as a factor influencing development of initial strategies or gain of potential SC benefits considering the number and quality of the benefits mentioned in this study could vary depending on the experience of the stakeholder as it has influenced solving 'wicked problems' (Sweet et al., 2014) and optimised fine art auction businesses (Hjorth-Röntynen, 2013); thus, in order for this study to have a greater contribution, future research can investigate past experiences from founders, managers, and their staff, and compare them using performance metrics with SC benefits gained.

This study inquired about network memberships and stakeholder interaction; however, it did not investigate the position that firms help in networks they belong to which, according to earlier studies (Ashmore et al., 2004; Yang et al., 2018), can have a positive and/or negative effect on the type and strength of stakeholder engagements, enhancing and/or undermining the generation of SC benefits (Stoyanov et al., 2018). Thus, future research can examine the networks that firms' founders and directors interact with, identify their position, and compare it with the strength of stakeholder relationships plus examine benefits gained by firms in different positions in the network.

In spite of this study examining the types and representations of SC benefits gained through network engagements, a clear path tracking back what SC benefits were gained by what specific actions, and linking it forward to the specific value created was not specifically investigated; hence, future research could complement this study using in-depth interviews to examine specific actions, illustrated in section 5.2.1., applying the proposed model on Figure 21, and arrange Findings by type of strategy (e.g., social, financial, manufacturing, human, intellectual, natural) to pinpoint what actions could be deployed by firms to obtain more specific SC benefits.

Even though Findings identified the hiring of temporary staff as a key action for the transformation of SC benefits into value, this study did not address calls for in-depth exploration (Dutton et al., 2010; Subramony et al., 2018) for the generation of SC benefits, and subsequent creation of value (Bartel and Dutton, 2001). As a consequence, future studies could examine divergent contexts and industries where temporary staff is common (e.g., hospitality and clothing industries), compare it with the construction industry to complement findings in this study and assess whether the generation of SC, transformation into value, and subsequent enhancement of BST strategies is benefited and/or undermined by having more or less temporary staff, or whether having less but skilled temporary staff is more beneficial than more but less qualified staff (BIS, 2013; Yusoff et al., 2019).

Despite advancements in SME research and the appropriation of BST strategies into their management plan, additional research is needed to identify the organisational aspects that facilitate or hinder organisational implementation of sustainable development practices in SMEs (Baumann-Pauly et al., 2013), research the implementation of sustainable development and its influence on business operations in SMEs (Matinaro et al., 2019) and the role of sustainable practices in the SMEs-stakeholder relationship (Sen and Cowley, 2013). Future studies addressing these issues could follow Jenkins' (2006) four step-process for SMEs to champion BST beginning with the understanding and embedding of BST into the business principles, then focusing BST activities on the right target through influence on local communities for example, next overcoming challenges, and finally acknowledging all added business benefits to the organisation and its stakeholders.

Furthermore, this study adopted an optimistic stance by focusing on SC benefits but management studies have advised against a positive-only perspective (Hackman, 2009) and have even argued the existence of "an unarticulated dark side to positiveness" (Fineman, 2006) whereas other studies (Li et al., 2013; Van Deth and Zmerli, 2010; Villena et al., 2011) have recognised the need for deeper examination of the dark side of SC; consequently, future studies can examine how initial actions, supporting synergistic strategies, produce benefits and/or downsides for firms and isolate those actions that mostly produce benefits versus those that mostly produce downsides to better adjust initial and subsequent firms' strategies.

Finally, from a methodological perspective, this was a qualitative cross-sectional study conducted in the construction industry in the UK; thus, future studies could follow a quantitative perspective using longitudinal sampling to examine diverse political, economic, social, and technological contexts (e.g., boom vs. recession economies, developed vs. developing countries), and cultures (e.g., Western Europe vs. Latin America) plus examine large international organisations to provide a contrasting perspective to the SME approach. A similar study could measure impact of SC benefits and creation of value for stakeholders (e.g., employees, local communities, clients/customers) using variables proposed by the Social Progress Index (Porter et al., 2014), the OECD's (2013, 2001) and World Bank's (1998) guidelines for measuring SC.

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Appendices

Appendix A: Glossary

- A
 - i. Access to the same type of information: a SC benefit that helps firms recognise and validate information through relationships in a closed network.
 - ii. Alter: Person(s) that receive data from and is/are linked to 'ego' (Knoke and Kuklinski, 1982).

- B
 - i. Balance reciprocity: Is an immediate, mutual exchange of favours or gifts (OECD, 2013).
 - ii. BST (BST): is defined as “the organisational aim to achieve profit and improve social development while accounting for environmental aspects” (Galpin et al., 2015, p. 628).
 - iii.

- C
 - i. Construct Validity: “the extent to which the questions asked actually collect data about what they are intended to measure (Saunders & Lewis, 2018, p. 149).
 - ii. Content Validity: “the extent to which a data collection tool, such a questionnaire, provides enough data to answer the research question and meet all the objectives” (Saunders & Lewis, 2018, p. 149).
 - iii. Control: defined as the deliberate action to order, limit, or rule something, or someone's actions or behaviour.
 - iv. Cooperation: Help other network members which can be reciprocal now or in the future (Parkhe, 1993), and could “realize economies of scale” (Inkpen and Tsang, 2005, p. 159). The process of working with another organisation, or country in order to achieve something (Cambridge Dictionary, 2021b)

- D
- E

- i. Economic Sustainability: the long-term access to financial assets of a firm for the manufacture of goods and/or provision of services to stakeholders, and long-term survival of business operations.
- ii. Ego: Person(s) part of a network who is/are supplying data to an ‘alter’ (Knoke and Kuklinski, 1982).
- iii. Environmental Sustainability: the conscious interaction with nature to minimise exhaustion of renewable and non-renewable resources focused on long-term preservation of life on earth.

- F

- i. Financial Capital: “symbols and rights associated with credit and money. For example, when a person receives a loan from a bank, money is created which gives the recipient the power to direct real resources. In this regard, financial capital is a social relationship and functions as any other institutions to structure opportunities” (Robison et al., 2002, p. 7).

- G

- i. Generalised/Unbalanced reciprocity: Based on Putnam’s (1993) proposition that if I do a favour for a person now, that person will do a favour for me later (OECD, 2013).
- ii. Goodwill: “the sympathy, trust, and forgiveness offered [to] us by friends and acquaintances” (Adler & Kwon, 2002, p. 18). Also, as “the value to a firm or organisation of things that cannot be directly measured, for example, its good reputation or its customers' loyalty” (Cambridge Dictionary).

- H

- i. Horizontal SC ties: “interactions among people who share group membership and/or occupy the same level in an organisational hierarchy” (Pil and Leana, 2009, p. 1104).

- I

- i. Influence: deliberate actions by a network member to intercede on behalf of and benefit another network member.
- ii. Information: facts or details about a person, organisation, product.

- J

- K

- i. Knowledge: skill in, understanding of, or information about something, which a person gets by engaging in a network (Cambridge, 2021).

- ii. Knowledge combination: this is considered a SC benefit derived from the interaction of individuals/firms with different types of networks (e.g., closed and split).
- L
 - i. Low-Inference Descriptors: seek to record observations “in terms that are as concrete as possible, including verbatim accounts of what people say, for example, rather than researchers' reconstructions of the general sense of what a person said, which would allow researchers' personal perspectives to influence the reporting.” (Seale, 1999, p. 148).
- M
 - i. Membership-based Networks: firms that are members of and engage with business associations, regulatory bodies, chambers of commerce, and industry/trade specific assemblies.
 - ii. Membership-based Network Engagements: Membership in membership-based associations, regulatory bodies, chambers of commerce, business associations and industry/trade assemblies
- N
 - i. Network: “the pattern of ties linking a defined set of persons or social actors. Each person can be described in terms of his or her links with other people in the network” (Seibert et al., 2001, p. 220).
 - i. Network centrality: The degree to which a firm has quick and independent access to other firms in a particular industry network through the fewest possible links (Powell et al., 1996).
 - ii. Norms: a socially defined right to control an action held by others and not by the actor (Coleman, 1990).
- O
 - i. Obligations: “a commitment or duty to undertake some activity in the future” (Nahapiet & Ghoshal, 1998, p. 255).
 - ii. Other Support Networks: defined as network engagements with suppliers, tradesmen, manufacturers, wholesalers, distributors, contractors, other construction trades, clients/customers, and communities not part of a membership-based association.
- P

- i. Private good: This term is used to refer to how SC is viewed as an individual resource and asset sought after by the members engaging in networks (Bourdieu, 1985).
- ii. Public good: This term is used to evidence the perspective of SC as owned by the collective through the resources embedded in the network (Coleman, 1988).

- Q

- i. Quality: is brought about by strict and consistent commitment to certain standards that achieve uniformity of a product in order to satisfy specific customer or user requirements. ISO 8402-1986 standard defines quality as "the totality of features and characteristics of a product or service that bears its ability to satisfy stated or implied needs." (BD, 2020).

- R

- i. Reciprocity: a situation in which two groups agree to help each other by behaving in the same way or by giving each other similar advantages (Cambridge Dictionary).

- S

- i. Sense of Identification: "is the process whereby individuals see themselves as one with another person or group of people. This may result from their membership in that group or through the group's operation as a reference group" (Nahapiet and Ghoshal, 1998, p. 256).
- ii. Small and Medium-sized Enterprises (SMEs): include any business with fewer than 250 employees (House of Commons Library, 2018, p. 5).
- iii. Social Capital (SC): "comprises both the network and the assets that may be mobilized through that network (Bourdieu, 1986; Burt,1992). " (Nahapiet and Ghoshal, 1998, p. 243). Also, as "...the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network" (Nahapiet and Ghoshal, 1998, p. 243).
- iv. SC benefits: Positive consequences of social interactions (Coleman, 1988).
- v. Social Embeddedness: The need to consider the macro and micro-economic environments when evaluating "the social relations in which economic life is embedded" (Granovetter, 1985, p. 507) about the actions individuals and firms

- choose to pursue often judged rational or irrational depending on the perspective of the critic.
- vi. Social Networks: the stakeholders each individual firm, participating in this study, has engaged with in the past. Such networks include accreditation bodies, trade associations, chambers of commerce, business assemblies, and other support networks such as suppliers, distributors, manufacturers, wholesalers, tradesmen, contractors, competitors, customers, and communities.
 - vii. Social Sustainability: ‘Development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED, 1987, p. 40).
 - viii. Strategy: “the match an organisation makes between its internal resources and skills [...] and the opportunities and risks created by its external environment” (Hofer and Schendel, 1978, p. 12). Also, “a statement of important actions to be taken to improve relative performance” (Carroll, 1982, p. 3) (Carroll, 1982, p. 3). Strategy has two components: positional through responses of the firm to changes in the business (e.g., changes in the industry, regulations, growth forecast, substitute products), and performance through the continuous enhancement of comparative advantages (Carroll, 1982). *Relational-level strategy*: developed via interaction with different network members through collaboratively planned activities aimed at gaining “relational rents” found among members (Dyer and Singh, 1998; Lavie, 2006). *Firm-level strategy*: internally developed by each firm focused on utilising external relationships to create value for itself, its customers, and to generate profits via leveraging alliances and networks in which it is embedded (Gulati, 1998; Schreiner et al., 2009).
 - ix. Strategic alliances: defined as a group of firms that voluntarily agree to exchange, share or codevelop products, technologies, or services (Gulati, 1998).
 - x. Strength of tie: “is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie” (Granovetter, 1973, p. 1361).
 - xi. Structural hole: It exists when two network members do not know of each other existence within the network allowing for the person who knows both of them to take advantage of the information and potential resources both unlinked individuals provide to the network (Burt, 1992).
 - xii. Support: the ability to help someone, or offer help with something, when this is needed.

- T

- i. Tie modality: the set of institutionalized rules and norms that govern appropriate behaviour in the network. While these are sometimes spelled out in formal contracts, most often they are simply understandings that evolve within the dyad and the network (Gulati et al., 2000, p. 205).
- ii. Transaction cost theory: costs resulting from engaging in external market transactions can be higher than costs produced through internal market transactions (Hoskisson et al., 1993; Khanna and Palepu, 1997; Williamson, 1975). “Transaction costs include the basic costs of drafting, negotiating, and enforcing contracts and the costs of settling disputes” (Chung, 2004, p. 82).
- iii. Trust: “To trust is to believe that the results of somebody’s intended action will be appropriate from our point of view” (Miształ, 1996, pp. 9–10); Mishra (1996) also defines trust as a belief in the good intentions, the openness, the competence, and the reliability of another party; Mayer et al. (1995) argue high levels of trust are the result of a willingness to be vulnerable to the actions of others.

- U

- V

- i. Value: (In the context of interfirm alliances) “the ability of the partners to earn rents over and above what could have been achieved in the absence of a partnership” (Rai, 2016, p. 1668). Value is “the worth of some product or service to the consumer” (Husted et al., 2015, p. 150); Monetary Value is “the amount the customer is prepared to pay for the product” (Bowman and Ambrosini, 2000, p. 4). Exchange Value is “the amount paid by the buyer to the producer for the perceived use value” (Bowman and Ambrosini, 2000, p. 4).
- ii. Value Creation (VC): A firm creates value by the association of resources in a creative way to increase the productivity of those resources (Moran and Ghoshal, 1999; Schumpeter, 1934). VC is also defined from the consumer’s perspective as the willingness to pay minus the opportunity cost (Brandenburger and Stuart Jr, 1996).
- iii. Vertical SC ties: “the relationship the individual has with her/his direct supervisor” (Pil and Leana, 2009, p. 1105).

- W

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Appendix B: Interview Questionnaire

1. Introduction

- a. Is your firm VAT/PAYE registered?
- b. What is the number of employees in your firm?
- c. For your firm, please select the main area of work from the list below:

	Air conditioning		Central heating engineer		Interior Designer		Scaffold
	Architect		Decorator / Painter		Ironwork / Blacksmith		Stonemason
	Bricklayer		Electrician		Plasterer		Structural engineer
	Builder		Flooring / Carpet		Plumber		Surveyor
	Carpenter		Glazier		Roofer		Tiler
	Other:						

- d. Is your firm part of membership-based networks (e.g., business groups, chambers of commerce, industry/trade specific assemblies)?
- e. How long have you been a member for?
- f. If not a member, what are the reasons?
- g. What business-related interactions does your firm engage in when doing networking (e.g., CPD workshops, seminars, conferences, business shows, project-based meetings, pub meetings, etc.)?

2. BST

- a. How does membership-based network engagement modify your firm's contribution to social, environmental, and economic sustainability?
- b. How does other support network engagement modify your firm's contribution to social, environmental, and economic sustainability?

3. Firm's strategy and network ties

- a. What are the three most important goals/objectives of your firm? (e.g., growth, profit, customer service, etc.)
- b. What strategies does your firm apply to achieve those goals/objectives (e.g., training, minimise costs, innovative products/services, high quality customer service, etc.)?
- c. Do they remain the same for the short (1 year) and long term (5 years)? Why?
- d. How does engaging in membership-based and/or other support networks improve your firm's strategy?
- e. Has the strategy of your firm been modified/improved after engaging in membership-based networks?
- f. Has the strategy of your firm been modified/improved after engaging in other support networks (e.g., friends, extended family, suppliers, acquaintances, etc.)?

4. Creation of economic value and firm's strategy

- a. Since its establishment, how does your firm create economic value? (e.g., new products/services modify a product/service, and/or any action that increase firm's profits).
- b. Does the creation of economic value improve your firm's strategy? If so, How?
- c. Which network (membership-based/other support) has positively influenced the firm's strategy the most? Why?
- d. How is the creation of value making your firm more economically, socially and environmentally sustainable?

5. Benefits of business-related interactions and economic value creation

- a. What benefits has your firm gained via engagement with firms, member of membership-based networks?
 - b. What benefits has your firm gained via engagement with firms, part of other support networks?
 - c. Which benefits of the above allow your firm to create a new or improved product/service?
 - d. Which network has allowed your firm to increase profits the most? Why?
 - e. From all of the business-related interaction, which one has provided the greatest number of benefits? Why?
 - f. From all of the business-related interaction, which one has provided the least number of benefits? Why?
 - g. Does your firm consider important to exchange and combine resources with other firms? Why? Why not?
 - h. How often does your firm engage and combine resources with other firms?
 - i. In what percentage does your firm engage and combine resources with other firms?
6. Network interaction and cooperation/knowledge sharing
- a. When your firm interacts in membership-based networks, does your firm cooperate/share knowledge with other firms also members of membership-based networks? If not, why not?
 - b. When your firm interacts in other support networks does your firm cooperate/share knowledge with other firms also members of other support networks? If not, why not?
 - c. How does cooperating/knowledge sharing with other firms, member of the membership-based network, influence your firm's interaction in the membership-based network?
 - d. How does cooperating/knowledge sharing with other firms, member of the other support network, influence your firm's interaction in the other support network?
 - e. In your opinion, which one occurs first more often than the other, engaging in membership-based networks or cooperating/knowledge sharing?
7. Firm's strategy and cooperation/knowledge sharing
- a. Does the strategy of your firm improve when cooperating/sharing knowledge with members of membership-based networks? If so, how?
 - b. Does the strategy of your firm improve when cooperating/sharing knowledge with members of other support networks? If so, how?
 - c. How does the level of cooperation/knowledge sharing in the membership-based network influence the type/number of benefits to your firm when engaging in membership-based networks?
 - d. How does the level of cooperation/knowledge sharing in the other support network influence the type/number of benefits to your firm when engaging in other support networks?
 - e. Which network (membership-based or other support) has been more beneficial to your firm? Why?
8. Strength of network interaction and perceived trustworthiness
- a. Does the duration and frequency of interaction of other firms in the membership-based and/or other support network influence the level of trustworthiness your firm has on them? If so, how?
 - b. Do you think that the duration and frequency of interaction of your firm in membership-based and/or other support networks influence the level of trustworthiness from other member firms on your firm? If so, how?
 - c. Would your firm trust at the same level a firm that only interacts with other support networks? Why, why not?
9. Level of engagement in cooperation/knowledge sharing and perceived trustworthiness
- a. Does the level of cooperating/knowledge sharing from other firms, part of membership-based networks, influence the level of trust your firm has on them? Why? Why not?
 - b. Does the level of cooperating/knowledge sharing from other firms, part of other support networks, influence the level of trust your firm has on them? Why? Why not?
 - c. In your opinion, do other firms, trust your firm more because of the level of cooperating/knowledge sharing in the membership-based network? Why? Why not?
 - d. Does your firm trust more firms, member of other support networks (friends, extended family, suppliers, etc.), due to level of cooperating/knowledge sharing in the other support network? Why? Why not?
 - e. If your firm were to find a business partner what network (membership-based or other support) would

you choose from? Why?

10. Strength of network ties and business-related interaction
 - a. How do membership-based networks strengthen the relation between them and your firm?
 - b. How do other support networks strengthen the relation between them and your firm?
 - c. Which network does your firm have stronger relations with? Why?
 - d. How do you keep close relationships with your customers?
11. Level of trust (reliability, confidence, assurance) and business-related capital as benefits
 - a. Does the level of trust of other firms, member of membership-based networks, influence the benefits to your firm generated via engagements with the membership-based network? How?
 - b. Does the level of trust of other firms, member of other support networks, influence the benefits to your firm generated via engagements with other support networks? How?
12. Sense of identification (share same values/work ethic) and business-related capital as benefits
 - a. Does the sharing of same values/work ethic in the membership-based network for cooperation/knowledge sharing influence the benefits to your firm? Why? Why not?
 - b. Does the sharing of same values/work ethic in the other support network for cooperation/knowledge sharing influence the benefits to your firm? Why? Why not?
 - c. Does your firm consider important to share same values/work ethic when engaging in a membership-based network? Why? Why not?
 - d. Does your firm consider important to share same values/work ethic when engaging in another support network? Why? Why not?
13. Interviewee details
 - a. What is your age?
 - b. What is your role in the firm?
 - c. How many years of experience in the industry do you have?
 - d. Is this your first firm?
 - e. What is your level of education?
 - f. What is your nationality?
14. Once findings from this study have been analysed, they will be distributed to all participants. Would you like to receive these findings? Yes / No.
 - a. Please provide your email: _____

Thank you for your time and responses!

This interview has been prepared by Julian D. Riano (j.d.riano-cruz2@newcastle.ac.uk) a PhD student at Newcastle University Business School in London. For further information on the authenticity and rationale of this study, contact: Dr. Natalia Yakovleva: natalia.yakovleva@newcastle.ac.uk T: +44 (0)20 3752 2448 * Newcastle University – London – 102 Middlesex Street, London, E1 7EZ, UK

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Appendix C: Research Consent Form

Good morning/afternoon Sir/Madam,

My name is Julian Riano, and I am an academic researcher for Newcastle University. The purpose of this study is to understand the benefits that small and medium-sized firms in the construction industry in the UK receive when engaging with membership-based and/or other support networks. Also, this study aims to identify how those benefits create value, and whether those benefits and value created enhance the firm's strategy and strengthen its BST at the economic, social, and environmental levels.

By stating on the audio recording your consent to participate in this study, you indicate that:

- this study has been explained to you
- you have read all the documents given to you prior to this interview
- your questions about this research study have been clarified
- you have been told that you may ask any research-related questions at any time or in the future
- you have been told that you may contact the Newcastle University Business School to confirm the authenticity of this research
- you have been told that you may not answer any and/or several questions, if you choose to do so
- you are entitled to a copy of this form, if you choose to do so
- you voluntarily agree to share your contact details such as name, phone number and email address to be kept on record and not to be shared with anyone outside the supervisory team and examination panel at the Newcastle University Business School.
- you voluntarily agree to be voice recorded throughout the length of this interview and that you may ask the recording to be stopped at any time
- you voluntarily agree to participate in the study titled "Understanding social capital benefits and value creation's relationship with strategy enhancement: the case of SMEs in the UK's construction industry".

If you (dis)agree with the above statements, please say so and state it for the record.

Thank you for your participation in this study.

Appendix D: Demographic profiles of participant firms

Subtrade	Number of Firms	Proportion (%) N = 41	Firm Code	VAT/PAYE or Both	Years established	Number of Employees
Air Conditioning	2	5%	I-14	VAT	31	249
			I-31	Both	8	4
Architecture	3	7%	PI-1	Both	19	16
			I-5	N/A	2	0
			I-6	PAYE	10	1
Bricklaying	1	2%	I-17	Both	17	3
Building	3	7%	I-1	VAT	6	2
			I-12	VAT	9	35
			I-34	Both	4	6
Carpentry & Joinery	4	10%	PI-3	Both	4	20
			I-16	N/A	16	0
			I-27	VAT	5	3
			I-30	PAYE	5	12
Central Heating Eng.	2	5%	I-9	VAT	4	15
			I-29	Both	40	5
Decorating / Painting	1	2%	I-15	N/A	3	3
Electrical	5	12%	I-3	VAT	3	3
			I-4	PAYE	1	0
			I-8	VAT	39	0
			I-13	VAT	11	2
			I-32	Both	13	2
Flooring / Carpet	1	2%	I-23	Both	15	3
Glazing	1	2%	I-2	VAT	54	100
Interior Design	5	12%	PI-2	VAT	21	2
			I-22	VAT	3	50
			I-26	Both	10	2
			I-28	VAT	30	12
			I-36	VAT	10	0
Ironwork/Blacksmith	3	7%	PI-5	Both	104	18
			I-7	VAT	7	4
			I-19	VAT	3	4
Plastering	1	2%	I-11	VAT	20	9
Plumbing	2	5%	I-20	PAYE	4	180
			I-21	PAYE	5	3
Roofing	1	2%	I-10	Both	19	15
Scaffolding	1	2%	PI-4	PAYE	17	2
Stonemasonry	1	2%	I-18	VAT	65	50
Structural Engineering	2	5%	I-24	VAT	80	15
			I-25	PAYE	39	20
Surveying	1	2%	I-33	Both	13	5
Tiling	1	2%	I-35	Both	11	5
TOTAL	41	100%		Average:	19	21

Source: SIC 2007 classifications.

Firm Code	Role in the Firm	Years of Industry Experience	Age	Gender	Highest Level of Education	Nationality
PI-1	Business Dev. Director	15	33	Male	NVQ Level 2	British
PI-2	Director	45	65	Male	NVQ Level 4	British
PI-3	Head of Carpentry	4	30	Male	Bachelor's Degree	British
PI-4	Director	20	49	Male	NVQ Level 2	British
PI-5	Director	28	53	Male	NVQ Level 2	British
I-1	Director	25	47	Male	Bachelor's Degree	British
I-2	Head of Marketing	10	42	Female	Bachelor's Degree	British
I-3	Director	3	45	Male	Master's Degree	German
I-4	Director	12	50	Male	Master's Degree	French
I-5	Director	14	36	Male	Master's Degree	British
I-6	Director	40	61	Female	Bachelor's Degree	British
I-7	Director	22	36	Male	No GCSEs	British
I-8	Director	29	48	Male	NVQ Level 3	British
I-9	Director	39	55	Male	NVQ Level 2	British
I-10	Director	19	49	Female	NVQ Level 2	British
I-11	Administrator	7	50	Female	NVQ Level 2	British
I-12	Director	27	47	Male	Bachelor's Degree	British
I-13	Director	23	39	Male	NVQ Level 3	British
I-14	Regional Manager	21	39	Male	Bachelor's Degree	British
I-15	Director	18	40	Male	Bachelor's Degree	Bulgarian
I-16	Director	16	51	Male	NVQ Level 3	British
I-17	Director	35	50	Male	NVQ Level 4	British
I-18	Site Manager	21	43	Male	Bachelor's Degree	British
I-19	Director	53	71	Male	NVQ Level 2	British
I-20	Branch Manager	3	49	Male	NVQ Level 2	British
I-21	Director	10	39	Male	Bachelor's Degree	British
I-22	Showroom Manager	20	42	Male	Bachelor's Degree	British
I-23	Partner	30	51	Male	NVQ Level 2	British
I-24	Director	25	47	Male	Bachelor's Degree	British
I-25	Partner	30	48	Male	Bachelor's Degree	British
I-26	Director	16	59	Female	Bachelor's Degree	British
I-27	Director	15	43	Male	NVQ Level 3	British
I-28	Manager	2	40	Male	NVQ Level 2	British
I-29	Director	17	30	Male	NVQ Level 2	British
I-30	Head of Carpentry	31	47	Male	NVQ Level 3	British
I-31	Director	15	42	Male	NVQ Level 2	British
I-32	Director	40	55	Male	NVQ Level 2	British
I-33	Manager	12	33	Male	Master's Degree	British
I-34	Director	4	30	Male	Bachelor's Degree	British
I-35	Director	6	44	Female	NVQ Level 3	British
I-36	Director	20	44	Male	NVQ Level 3	British
AVERAGE:		20.5	46			

Source: GOV UK Education (2020) classifications.

Appendix E: Additional SC benefits SMEs have generated

Type	Label	SC Benefit Code	References	Definition
Social	4S5	To have access to reliable suppliers/manufacturers	219	the possibility to develop relationships with suppliers and/or manufacturers that are true to their word.
	4S6	To increase firm's reach	161	the opportunity to expand (boost) brand recognition of the firm.
	4S7	To have recognition as member of reputable organisations	84	the access to receive admiration and respect for belonging to a trade and/or professional association.
	4S8	To identify flaws in membership-based networks	83	the ability to recognise (un)lawful faults, mistakes, and weaknesses in membership-based networks.
	4S9	To receive personalised feedback	82	the possibility to be given specific comments and opinions on firm's activities.
	4S10	To gain access to networking events	56	the opportunity to meet people in events sponsored by membership-based and/or other support networks.
	4S11	To influence third parties on firm's behalf	54	the opportunity to receive favouritism from the influence of a network member (e.g., to avoid/minimise red tape, have access to confidential information).
	4S12	To recognise alternative perspectives	40	the possibility to be aware of similar/opposite approaches to a course of action.
	4S13	To identify local-area dynamics	36	the possibility to recognise business dealings and customs in the local area.
	4S14	To feel part of a community	30	the possibility to share common interests with, be respected by, and considered as part of a group.
	4S15	To identify tradesmen's malpractices	28	the possibility to recognise unlawful, careless, dishonest behaviour by other tradesmen.
	4S16	To engage in cooptation practices	16	the opportunity to cooperate in projects with competitors to generate product/service improvements.
	4S17	To evaluate competitors	15	the opportunity to examine competitors to gain insights into their strengths and weaknesses.
	4S18	To identify new target markets	2	the opportunity to recognise potential markets for promotion, selling, and potential expansion of firm's products/services.
Total Social Benefits' References (4S1-4S18)			3702	

Human	4H4	To define employee relationships	109	the ability to recognise the level of commitment, trust, reliability in employee relationships guiding future engagements.
	4H5	To provide higher quality training to staff	74	the ability to train the firm's workforce to higher quality standards.
	4H6	To have access to potential employees	6	the opportunity to initiate contact with people who have the possibility of becoming firm's employees.
	Total Human Benefits' References (4H1-4H6)		1607	
Financial	4F2	To have access to new contracts	140	the opportunity to increase revenues by accessing new contracts.
	Total Financial Benefits' References (4F1-4F2)		1274	
Manufacturing	4M2	To identify areas for firm's improvement	528	the ability to recognise weaknesses and firm's operational areas where upgrades can be applied.
	4M3	To sell high quality products/services	124	the ability to offer high quality products/services to stakeholders.
	Total Manufacturing Benefits' References (4M1-4M3)		1153	
Natural	4N2	To have access to eco-friendly products and/or services	4	the opportunity to procure eco-friendly inventory and/or services.
	Total Natural Benefits' References (4N1-4N2)		1131	
Intellectual	4I3	To have access to industry benchmarks	72	the opportunity to learn and adopt industry requirements/standards.
	4I4	To obtain accreditation(s)	49	the option to gain and/or renew trade and/or professional certifications.
	4I5	To have access to reliable information	42	the opportunity to obtain valid and trustable information to support decisions.
	4I6	To be audited	21	the opportunity to have certification bodies inspect and evaluate firm's processes with the purpose of gaining accreditation.
	Total Intellectual Benefits' References (4I1-4I6)		549	

Appendix F: Additional Categories of Value Created

Type	Label	SC Benefit Code	References	Definition
Social	6S6	To feel supported	25	the ability to be considered a part of a community and be helped if and/or when needed.
	6S7	To improve stakeholders' operations	25	the ability to help stakeholders' activities be better prepared and/or delivered.
	6S8	To strengthen social fabric	18	the ability to help communities be stronger and/or better off than prior to engagement.
	6S9	To develop long-lasting relationships	11	the ability to nurture network engagements with a long-term perspective.
	6S10	To strengthen reciprocity levels	10	the ability to develop/increase level of support given/received to stakeholders.
	Total Social Value's References (6S1-6S10)			415
Human	6H3	To boost owner's ego	15	the ability to make firm's owner feel appreciated and increase his/her self-pride.
	6H4	To increase owner's and staff's motivation	13	the ability to elevate firm's and personnel's level of interest in their job.
	6H5	To increase staff's knowledge	9	the ability to make staff more knowledgeable and experienced to fulfil clients' and/or customers' expectations.
	6H6	To reaffirm personal values/work ethic	9	the ability to put in practice, at every business' dealings, personal values (e.g., honesty, reliability, transparency) and work ethic (e.g., tidiness, timeliness, effectiveness).
	6H7	To strengthen work-life balance	8	the ability to acknowledge staff and firm's owner must balance work and other aspects of their life (e.g., relationships, children, hobbies).
	Total Human Benefits' References (6H1-6H7)			158
Financial	6F3	To optimise firm's financial efficiency and effectiveness	49	the ability to reduce costs and increase profit consistently and constantly.
	6F4	To reduce costs	39	the ability to lower firm's expenses whenever possible.
	Total Financial Benefits' References (6F1-6F4)			282
Manufact.	6M3	To improve products/services	20	the ability to make firm's products/services more efficiently and/or effectively than before.
	Total Manufacturing Benefits' References (6M1-6M3)			125
Intellectual	6I3	To improve firm's compliance practices	21	the ability to adjust/enhance firm's operational activities to fulfil compliance requirements.
	6I4	To boost firm's technical knowledge	15	the ability to increase firm's technical knowledge to better fulfil clients/customers' expectations.
	Total Intellectual Benefits' References (6I1-6I4)			151

Appendix G. Additional SC benefits influencing BST

Type	Label	SC Benefit Code	References	Definition
Social	7S5	To have positive long-lasting relationships with suppliers and/or manufacturers	219	the ability to produce positive outcomes from interactions with suppliers and/or manufacturers in the long term.
	7S6	The continual awareness of firm's reach	161	the ability to constantly identify the level of firm's reach with stakeholders.
	7S7	To permanently network with stakeholders	118	the opportunity to constantly engage with diverse stakeholders.
	7S8	To be recognised as a member from reputable institutions on a regular basis	84	the continual awareness and appreciation as a member of influential institutions.
	7S9	To be aware of flaws in membership-based networks	83	the ability to identify faults, mistakes, weaknesses in membership-based networks for future engagements.
	7S10	To receive personalised feedback constantly	82	the ability to constantly obtain feedback that is relevant and detailed to firm's activities.
	7S11	To acknowledge influence of third parties on firm's behalf	54	the recognition of having access to persuade and/or pressure third parties to benefit the firm if/when the need arises.
	7S12	To be willing to frequently evaluate alternative perspectives	40	the ability to constantly recognise different complementary and/or contrasting points of view.
	7S13	To avoid malpractices as often as possible	28	the ability to recognise and stay away from unlawful, careless, dishonest behaviour by other tradesmen in the long term.
	7S14	To pursue periodic engagements in cooperation	15	the ability to seek periodic interactions with competitors to work on projects for the benefit of those parties involved.
	7S15	To perform periodic evaluations of competitors	15	the ability to routinely evaluate competitors (e.g., pricing strategy, strengths, weaknesses).
	7S16	To perform periodic identification of new target markets	2	the ability to routinely identify new potential markets to offer firm's products/services.
	Total Social Benefits for BST' References (7S1-7S16)			3697
Human	7H3	To reaffirm personal values/work ethic	292	the ability to reiterate personal values and work ethic as vital ingredients for firm's survival.
	7H4	To incorporate effective long-lasting employee relations	109	the ability to carry out actions that increase positive employee relations in the long term.
	7H5	To continuously have access to high quality training to staff	74	the ability to have access to train personnel with the highest quality standards available to the firm as need be.
	7H6	To have periodic access to quality and skilled workforce	6	the ability to engage with networks where quality and skilled employees can be contacted.
	Total Human Benefits for BST' References (7H1-7H6)			1607

Financial	7F3	To sign new contracts	140	The ability to secure new projects through contracts to be fulfilled now and/or in the future.
	Total Financial Benefits for BST' References (7F1-7F3)		2408	
Manufacturing	7M2	Identify areas for firm's continual improvement	528	the ability to recognise areas in the firm for constant advancement.
	7M3	Provide high quality products-services	124	the ability to deliver superior products and/or services as often as possible.
	Total Manufacturing Benefits for BST' References (7M1-7M3)		1786	
Natural	7N2	To have constant access to eco-friendly products/services	4	the ability to constantly purchase eco-friendly raw materials and offer services focused on minimising environmental effect.
	Total Natural Benefits for BST' References (7N1-7N2)		1141	
Intellectual	7I4	To earn reaccreditation(s) consistently	49	the ability to maintain and/or renew trade/professional accreditation(s).
	7I5	To have constant access to reliable information	42	the ability to gain trustworthy information.
	7I6	To carry out periodic audits to implement long-term effective compliance practices	21	the ability to perform audits to adjust firm's activities to meet industry's compliance practices in the long term.
	7I7	To adjust firm's strategy from having access to market trends data	1	the ability to have access to information on market trends that could help modify, update, and improve firm's actions.
	Total Intellectual Benefits for BST' References (7I1-7I7)		550	

Appendix H: Additional Actions for BST

Type	Label	SC Benefit Code	References	Definition
Social	8S7	To develop long-lasting relationships with reliable tradesmen/contractors	21	the significance of valuing and preserving relationships with trustworthy tradesmen and contractors for the long-term survival of the firm.
	8S8	To gain (renew) accreditation(s)	21	the relevance of obtaining and/or renewing trade and/or professional accreditation(s).
	8S9	To be clear about firm's and/or personal limitations	21	the significance of being honest and transparent with stakeholders about firm's and/or personal constraints influencing projects and future engagements.
	8S10	To engage in outreach activities	20	the significance of being included in firm's strategy the sponsoring and/or participation in activities that strengthen social fabric.
	8S11	To engage in coepetition that provide positive outcomes	19	the relevance of cooperating with competitors in projects that benefit firms involved.
	8S12	To work with stakeholders with similar work ethic and values	19	the relevance of cooperating with stakeholders that hold similar work ethic and personal values.
	8S13	To develop long-lasting relationships with reliable suppliers/distributors	15	the relevance of valuing and preserving relationships with trustworthy suppliers and distributors for the long-term survival of the firm.
	8S14	To learn from relational mistakes	15	the significance of adjusting firm's and staff's actions to avoid future relational mistakes with stakeholders whenever possible.
	8S15	To have periodic evaluations of firm's areas for improvement	13	the significance of evaluating firm's relational areas for constant advancement.
	8S16	To strengthen reciprocal relationships	12	the significance of improving the level of support given/received to stakeholders as often as possible.
	8S17	To hire a business coach (developer)	12	the relevance of hiring a business coach and/or developer as part of the firm's relational strategy.
	8S18	To promote a two-way communication with stakeholders	12	the significance of advocating in favour of interactive talks with stakeholders where ideas, feedback and suggestions are exchanged.
	Total Social Benefits for BST's References (8S1-8S18)			625
Economic	8E4	To engage in activities that increase firm's financial experience	31	the pursuit of projects that improve firm's knowledge, skills, and other financial strategies.
	8E5	To engage in coepetition that increases firm's revenue	17	the deliberate cooperation with competitors that help firm increase its revenue.
	8E6	To engage with stakeholders that help reduce firm's expenses	16	the deliberate interaction with stakeholders that help firm reduce its expenses.

	8E7	To implement and monitor firm's compliance processes	15	the adoption and constant assessment of firm's compliance practices.
	8E8	To learn from financial mistakes	15	the deliberate adjustment of firm's and staff's actions to avoid future financial mistakes.
	8E9	To be willing to pursue different revenue streams	12	the evaluation of possibilities for seeking revenue avenues that differ from firm's conventional strategies.
	Total Economic Benefits for BST's References (8E1-8E9)		881	
Environmental	8N3	To purchase eco-friendly supplies	13	the procurement of eco-friendly products/services as raw materials to be transformed by firms to offer stakeholders.
	8N4	To apply environmental sustainability practices with other stakeholders	7	the intention to work along other stakeholders and apply environmentally sustainable practices in the long term.
	Total Natural Benefits' References (8N1-8N4)		65	

Appendix I: Number of firms found in online business directories

Sub-Trade	Checkatrade	UK Small Business Directory	YELP
Air Conditioning	73	14	515
Architect	41	20	1165
Bricklayer	1225	3	11
Builder	1964	199	1000
Carpenter	620	30	450
Central Heating Engineer	1028	10	*
Decorator / Painter	1055	169	810
Electrician	782	54	1000
Flooring/Carpet	330	1	*
Glazier	331	52	*
Interior Designer	22	90	*
Ironwork/ Blacksmith	29	2	*
Plasterer	680	24	*
Plumber	1444	200	*
Roofer	742	31	*
Scaffold	74	3	*
Stonemason	22	6	*
Structural engineer	3	5	*
Surveying	16	*	*
Tiler	253	7	*
Subtotal Firms Included:	10734	920	4951
Total Firms Included:	16605		

Source: Author's development using three business directories. *: Data capture process did not occur.

Appendix J: Professional Associations contacted during the purposive sampling stage

#	Professional Statutory and Regulatory Bodies
1	The Federation of Small Businesses (FSB)
2	The London Chamber of Commerce and Industry
3	The British Institute of KBB Installation
4	The Federation of Master Builders (FMB)
5	The Chartered Institute of Building (CIOB)
6	National Federation of Builders (NFB)
7	The Royal Institution of Chartered Surveyors (RICS)
8	The Royal Institute of British Architects (RIBA)
9	The Chartered Institute of Architecture Technologists (CIAT)
10	The Institution of Structural Engineers (IStructE)
11	The National Federation of Roofing Contractors (NFRC)
12	The Construction Industry Council (CIC)
13	The Renewable Energy Consumer Code (RECC)
14	Institution of Civil Engineers (ICE)
15	Timber Research and Development Association (TRADA)
16	The Mineral Products Association Limited (MPA)
17	London Housing Consortium (LHC)
18	British Board of Agreement (BBA)
19	The Business, Energy and Industrial Strategy (BEIS)
20	Chartered Institution of Building Services Engineers (CIBSE)
21	The Modular and Portable Building Association (MPBA)
22	The Forum of Private Business (FPB)
23	Society of Light and Lighting (SLL)
24	The Lighting Industry Association (LIA)
25	Constructing Excellence
26	Institution of Lighting Professionals (ILP)
27	The UK District Energy Association (UKDEA)
28	Builders Merchants Federation (BMF)
29	British Woodworking Federation (BWF)
30	Good Homes Alliance (GHA)