



The University of Salford

College of Science & Technology

School of the Built Environment

**A STRATEGIC FRAMEWORK TO AID THE
SUCCESS OF SMALL AND MICRO SIZED UK
CONSTRUCTION CONTRACTORS**

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Submitted in Partial fulfilment of the Requirements of Degree of Doctorate of the

Built Environment

May 2015

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Acknowledgements

Sincere thanks goes to Dr Paul Chynoweth, programme leader for the Doctorate of the Built Environment, from existing, current and future students who without his dedication, foresight and integrity in-so-much has been an instrumental figure in developing this course for practicing professionals otherwise engaged within industry. By his efforts has given opportunities to widen mature students' academic skills for contributions to the built environment that otherwise may have been or remained an unfulfilled prospect. There has not been a time where help, assistance or advice has not been forthcoming and an open-door approach and friendly cooperation has been much appreciated.

Gratitude to former supervisors must be offered for their support help and guidance in particular Professor Chris Fortune and Professor Charles Egbu who have been instrumental in formulating the parameters of the research but much thanks belongs to Dr. Zeeshan Aziz who has taken over the supervisory role and has paid a positive role in bringing all previous research material to culminate into the completed thesis. It would be difficult to think how the thesis would have been finalized without his collaboration and support.

The research has been achieved from both qualitative and quantitative research approaches. Thanks is offered to all parties involved either indirectly or directly in the preparation of this research including the owner/managers of micro and small sized UK Chartered Building Companies who have provided their time and valued information from both questionnaires and interviews and without their assistance the research could not have been accomplished.

Notwithstanding, the research would not have been contemplated without the support of my family. Mum who unfortunately passed away during this study period would have been so proud of this achievement. Special thanks go to my wife Christine who has suffered with and is being treated for Cancer since starting this research has never stopped giving her backing, encouragement and support although this has taken away valuable time which otherwise would have lovingly been offered and spared for her needs. Then there are my two daughters Sheryl and Faye who have both graduated but

now have generously given their support and time just to let Dad have his turn, and all my friends who have suffered many years of enthusiastic rhetoric for this research.

Dedication

This work is dedicated to the memory of mum who has sadly passed away during this study period and to my wife Christine for all their love and support they have both shown and given. May God bless you both, mum in heaven and Christine who is such a joy and inspiration to me and all that know her.

Declaration

This is to certify that I am responsible for the work submitted in this thesis, that the original work is my own except as specified in acknowledgements or in footnotes, and that neither the thesis nor the original work contained therein has been submitted to this or any other institution for a degree.

(Signed)

(Date)

20.04.2015

List of Acronyms

AI	Appreciative Inquiry
BIM	Building Information Model
BQF	The British Quality Foundation
BPI	Building Performance Institute
BRIS, 2014	Bristol Online Survey
BTI	Board of Trade and Industry
CBC	Chartered Building Companies
CI	Continuous Improvement
CITB	Construction Industry Training Board
CPD	Continued Professional Development
CSCS	Construction Skills Certification Scheme
CSFs	Critical Success Factors
DfEE	Department for Education and Employment
EU	The European Commission
FCIOB	Fellow of the Chartered Institute of Builders
GDP	Gross Domestic Product
HR	Human Resource
HRD	Human Resource Development
HRM	Human Resources Management
ICT	Information and Communication Technology
IiP	Investors in People
ISO	International Organization for Standardization
ISCO	International Standard Classification of Occupations
IT	Information Technology

JIT	Just-in-Time
KM	Knowledge Management
LP	Lean Production
MCIOB	Member of the Chartered Institute of Builders
MRM	Mixed Research Method
MRP	Manufacturing Resource Planning
MSE	Measurement System Evaluation
NICEIC	National Inspection Council for Electrical Installation Contracting
NTL	National Training Laboratories
NVQ	National Vocational Qualification
OD	Organisational Development
OEM's	Original Equipment Manufacturers
ONS	Office for National Statistics
QMS	Quality Management System
R&D	Research and Development
SCCOs	Small and Micro Sized Construction Contracting Organisations
SMEs	Small to Medium Enterprises
SPC	Statistical Process Control
STS	Socio-Technical Systems
TQM	Total Quality Management
WCM	World Class Manufacturing

Abstract

Small and Micro sized construction contracting organisations (SCCOs) have a significant contribution to the overall wellbeing of the Construction Industry. Although micro and small sized enterprises have little impact individually they are collectively a significant contributor within the Construction Industry and indeed the UK economy. Despite their influence, SCCOs work independently of each other and take an insubordinate role within the supply chain and without having an authoritative support structure ensures they remain fragmented within the industry. This offers a fascinating dichotomy of influence versus representation and offers a theme to analyse how best to conceptualise a framework to aid critical success factors for SCCOs. In order to accomplish the framework the aim and objectives have been identified.

The aim of this study is to identify the main factors affecting the development of micro and small sized contracting organisations in the construction industry, together with the critical success factors affecting their survival, and to develop an appropriate framework for their improved success. A qualitative research was conducted with thirty one small and micro sized Chartered Building Companies and this was further supported by a quantitative based research carried out with forty Chartered Building Companies to give a more robust accord to the research findings. A case study of five organisations validated the resulting conceptual framework.

The contributions to knowledge offered from this research are: (i) academia; a strategic framework to aid small and micro sized contracting organisations developed from academic rigour which can be cited as an academic contribution and be used for further and future research in this field of work. (ii) Business management forums: as a reference to support SCCOs. (iii) As an aid for small companies; established success factors that can be referenced by other SCCOs and (iv) to further develop formal and informal taught programmes.

Chapter 1 : Introduction

1.1. The Background of the Study

The Construction Industry has a huge impact on the UK, as one of the economy largest sectors contributing 6.7% in value added equating to almost 90 billion pounds. It comprises over 280,000 businesses employing 2.93million jobs equivalent to 10% of the UK job market (Department for Business Innovation and Skills, 2013) and according to further statistics, offered by the Department for Business Innovation and Skills, UK construction companies compared with other European Countries are ranked in third place (by total sales) and thirteen of the UK based organisations were found to be among the top fifty companies (by sales) in Europe in 2011. According to the aforementioned report, at least 99.9% of all firms within the Construction Industry are Small to Medium Enterprises (SMEs) and 83% of these employ no more than one person. The report however confirmed that due to the diversity, range of works, customer base and contract periods, small sized organisations tend to remain isolated and fragmented, making them vulnerable.

A key focus of presented research effort is into the small and micro sized construction contracting organisations (SCCOs) comprising micro and small sized firms as opposed to SMEs which incorporate small to medium sized organisations. The difference between these categories has been illustrated in Table 1-1.

Table 1-1: Micro, small and medium sized firms European Union (2005)

Enterprise category	Headcount	Turnover	or	Balance sheet total
medium-sized	< 250	≤ € 50 million		≤ € 43 million
small	< 50	≤ € 10 million		≤ € 10 million
micro	< 10	≤ € 2 million		≤ € 2 million

Comparisons between micro and medium sized companies are found to be quite distinct, for example micro organisations have 10 or less employees whereas medium

sized firms employ up to 250 staff. SCCOs are made up of a variety of professionals and tradesmen, offering a wide range of services and construction work.

For many reasons including lack of financial resources; man-power and pressing day-to-day management decisions has culminated in an increasing knowledge gap between SCCOs and large firms as identified by (Khan *et al.*, 2007). The associated gaps in literature and the results from interviews of small organisations have identified the reasons behind the failings of SCCOs to keep astride of changing quality standards. These stated reasons are a snapshot of the limitations that hold back small organisations to invest in new business techniques that would take them away from the emphasis of running their businesses. Empathy toward decision making of running a business can be seen to take precedence over identifying and learning new management techniques that may prove to be of no advantage to the prosperity of the business. This approach can result in the business becoming insular resulting in stagnation (Child, 1972). It is a requirement of many professional institutes to maintain and log continued professional development to keep abreast of new thinking however this is not a requirement for business owner/managers who may find that by not embracing current or new developments could affect the viability of continued trading.

The construction sector is in continual flux and reflects the demands placed upon it. The fluctuating nature of “boom or bust” of the construction industry can be attributed to political, financial, and social turmoil. According to Office of National Statistics (2012), UK Construction Industry’s contribute £90bn to national economy, comprising some 6.7% of the UK total gross domestic product (GDP). There are 280,000 firms within the Construction Industry employing 2.93 million people the majority being skilled labour. The make-up of the construction industry owes its identity to the turbulent times of the 70s and 80s which brought about political unrest and dissatisfaction, where a battle for power was fought out within the industrial arena between the government and unions. This conflict resulted in a three-day working week, inflation, restrictions on pay rises, unemployment and ultimately the collapse of consecutive conservative (Heath) and labour (Callahan) governments. Thatcher eventually broke the union stronghold and purported a philosophical approach of self-propulsion. The political will to instil a sense of personal empowerment gave rise to

self-employment, where larger and traditional employers could no longer sustain their employee base. This is now seen to be the turning point for this change from the building company employing staff directly in order to offer a complete service to a more fragmented industry made up of small and medium sized specialist sub-contractors within the building industry (Bumgardner *et al.*, 2011; Hahn *et al.*, 2012).

1.2. Research Background

The researcher has worked in the construction industry since 1973 in many roles from a trade background through to management and professional; affiliation to numerous institutes including (i) Fellow of the Chartered Institute of Building; (ii) Fellow of the Architecture and Surveying Institute – a multi professional institute and achieved the disciplines of corporate quantity surveyor, corporate construction surveyor and corporate project manager; (iii) Member of the Royal Institute of Chartered Surveyors and (iv) Registered Member of the Association of Project Safety and has been the owner/manager of an SCCO since 1991. The business was one of the first in Lancashire to be recognised a Chartered Building Company. This has had a profound impact on the subject choice having “hand on” experience of the industry from the views of the man on site; through to studying seminal authors and other researchers operating within academia. Whilst it is not overshadowed the objectivity of the research the study has benefitted from those years of experience associated with the industry. Although previous industry experience could attract bias to the research the experience has given an in-depth knowledge which has helped to merge practical understanding to the research activities of this study. It is important in scientific research to ensure that the researcher’s bias has been reduced or diminished. The philosophy entrusted to axiology determines the researcher’s position as being value laden having experience of the industry, whose chosen topic could reflect bias. There have been many significant changes within the working lifetime of the author and in order to give perspective to the current state of the construction industry many of these changes have been reflected in the Literature Review.

1.3. The Problem Statement

1.3.1. Justification

The UK Construction Industry has been confirmed as one of the largest and influential sectors in Europe, measured by employment, number of enterprises, and gross value as confirmed by the UK Commission for Employment and Skills (2012) Sector Skills Insights: Construction. <https://www.gov.uk/government/publications/construction-sector-skills-insights>. SCCOs have played a major and fundamental role within this sector and have contributed significant revenue to the GDP. It is proposed therefore that micro and small businesses within the construction industry contribute to the wealth and impact of the UK within Europe and the world stage.

Despite their influence SCCOs work in an environment of continuous flux. There is increasing evidence that SCCOs are facing increasing pressure because of number of emerging industry trends including changing and more pressing client demands, increasing level of awareness of clients (e.g. Govt Construction Strategy, 2011), increasing complexity of work because of fast paced technology innovation, change in more integrated procurement strategies. In 2011, UK Government made the use of Building Information Model (BIM) mandatory for all public sector construction projects, triggering a technology and process innovation impacting SCCOs and rest of the industry.

However, there appears to be paucity of published literature and empirical evidence of strategic management in context of construction SCCOs, from an organisational perspective. Literature review indicated lack of published literature focusing on UK Chartered Construction Companies. This is not surprising where a significant number of micro and small sized CBCs approached for interview expressed reluctance to participate due to ongoing work commitments reflecting a lack of resource enjoyed by larger organisations operating within the Construction Industry. There are various reasons related to lack of knowledge on strategic management within SCCOs context, which include.

- That due to the size and lack of resources the small businesses owner/managers spend much of their time on day to day management activities and although important to the life cycle of the business, they have little time to implement strategies to develop success factors within their organisations (Dun and Bradstreet, 1993). Small companies do not have the luxury of time to acquire new knowledge and embed it through a structured approach (Hari *et al.*, 2005).
- There is lack of realisation of benefits of strategic management and return on investment is not so clear. Many SCCOs live from project to project, without strategic planning. Loosemore (2003) identified that there is general lack of focus on strategic planning within construction sector, despite the fact that this sector is labour-intensive and people oriented and can significantly gain from application of strategic management principles. Loosemore (2003) identified various benefits strategic management could bring to construction SMEs including commitment to continuous improvement, innovation and change management. This thesis has extensively involved the resource of principle figures from micro and small sized Chartered Building Companies where literature review indicates that there is lack of published literature concerning how strategic management is implemented within UK Chartered Building Companies.
- The Office of National Statistics (2012) determined significant failure rates for small businesses operating in the United Kingdom Construction Industry. The longevity of newly formed micro and small sized organisations cannot be taken for granted.

This thesis argues that a comprehensive understanding of how strategic management is implemented in UK Chartered SCCOs, a framework can be developed to guide SCCOs owners to support organisational improvement and alignment with industry needs.

This research limits itself to Construction Contracting Companies with a "Chartered Building Company (CBC) status" as clarified in Chapter 3.4 (the professional significance of the study).

(http://www.cbcschemes.org.uk/about/chartered_building_companies). To register as a CBC a key requirement is to have a proportion of company's executive board professionally qualified (MCIOB or FCIOB). Only businesses that are led by Chartered Professionals are then eligible to become Chartered Building Companies. CBCs serve as a quality assurance mechanism and identify construction businesses that are committed to quality of service, integrity of conduct and concern for clients' needs.

By fulfilling the aim of this study to identify success factors for small sized construction contracting organisations and to build a conceptual framework it is proposed that the construction industry may benefit in the following four ways: (i) Academia; a basis that can be used for further and future research in this field of work. (ii) Business management forums: as a reference to support small construction contracting organisations (SCCOs). (iii) As an aid for small companies; established success factors that can be referenced by other small sized construction contracting organisations and (iv) to further develop formal and informal taught programmes.

1.3.2. Research Questions

To achieve the following aim and objectives of this study, the following research questions have been identified.

1. What existing critical factors have been identified for SCCOs?
2. Is there a degree of apathy about how critical factors affect a practitioner based industry from a practicing business owner?
3. What are the specific barriers or misconceptions held by SCCOs for development and success?
4. Will a framework for improved success of SCCOs be of benefit?

1.3.3. Aim

The aim of this study is to identify the main factors affecting the development of micro and small sized contracting organisations in the construction industry, together with the critical success factors affecting their survival, and to develop an appropriate framework for their improved success.

1.3.4. Objectives

The research objectives are to:

1. To critically review and analyse relevant literature in the area of small sized organisations generally, and construction contracting organisations (SCCOs) specifically.
2. To ascertain and document the characteristics of (SCCOs) and how these impact on the way they conduct their businesses and their development.
3. To establish the factors which have influenced the development of SCCOs, and document their relative importance?
4. To identify and evaluate the critical factors affecting the success of SCCOs to be evaluated against the emergent factors found to influence the development of the interviewed Chartered Building Companies (CBCs).
5. To develop an initial conceptual framework of factors thought to influence the development of small sized construction contracting organisations.
6. Develop a framework for improved success of small sized construction contracting organisation (SCCOs).
7. Validate a framework for improved success of small sized construction contracting organisation (SCCOs).

1.4. Research Unit of Study

From the literature review a wide range of issues were adopted to provide a broad range of subject matters encompassing quality based themes that are thought to encourage meaningful and sustainable factors to support growth in micro and small sized businesses.

A set of in-depth semi-structured interviews was developed to be conducted over one session. This technique was adopted to put the owner at ease and assurance of anonymity allowed the session to progress with less restrictive results. The importance of the choice of interview technique was that it facilitated a more informal discussion, where the approach broke down barriers of resistance and allowed a relationship of trust to develop. The interviews proved to be a useful source of information to develop the framework which went on to be validated by small sized businesses in the community.

Qualitative semi-structured telephone interviews were conducted to identify success factors for small sized construction contracting organisations (SCCOs) however to mitigate the argument that the performance measurements could be found ambiguous a quantitative based research was included to provide clarity and validity which was incorporated into a survey questionnaire. The results from the quantitative data have been used to support the findings of the qualitative research.

1.5. Practitioner Research

Although research has been undertaken around small to medium sized organisation there has been limited research conducted around micro organisations. This research has been focused around the smaller sized firms' limited to micro and small sized organisations. Of the research undertaken there has been extremely limited input from practitioners. As a practicing practitioner the contribution to knowledge comes with the benefit of experience of working within the construction industry. This experience would elude the majority of academic researchers who lack the practical experience gained through a lifetime of "hands-on" related industry know-how.

The literature review has determined that most of the existing research in this area of study has been aimed at project and not organisational level. There has been a need to collate more gathered facts to enable new and emerging theories. The construction industry is fragmented and distrust is endemic within the participating players which has led to an environment of un-cooperation and isolation. Therefore this study

focuses on the measurement of success of SCCOs who operate in such a diverse and intense industry where associated players can access the results to learn and foster a culture of success factors contributing to the development of organisational accomplishment.

1.6. Limitations and Delimitations

This study was undertaken on 204 Chartered Building Companies throughout the United Kingdom and is claimed that it is therefore representative. An initial questionnaire was sent out to 204 Chartered Building Companies and the results were identified to present the questions for the semi structured interviews which were conducted through telephone interviews.

The “insider accounts” technique used, lacks the detailed approach of an ethnographic study where the interviewer would spend much time at the place of work to assimilate a familiarity amongst the staff to a point where trust is gained by becoming “one of the team”. The shortcomings of this approach are apparent in as much as: (i) the interview was carried out on one session; (ii) this may not have been typical of a general day; (iii) the interview was directed toward one person; (iv) other staff members may have had other contributions to offer; (v) structured questions would have focused the interview in a more precise way and; (vi) would the owner have given different answers to someone else or on a different day. “Insider accounts” therefore lacks the consistency of detail and repetitiveness.

1.7. Scope of the Study

The scope of the study has been comprised to offer the detail contained in the following chapters.

Chapter 1: Introduction

Chapter 1 introduces the core research issues and determines the path of the research and its findings toward the thesis conclusion.

Chapter 2: Literature Review

In this chapter the literature has been sourced from seminal works as well as very recent writings and works of leading academic authorities.

Chapter 3: Research Methodology

This chapter discusses the differing research methods which have been evaluated and chosen to apply to this dissertation.

Chapter 4: Quantitative Data Collection and Analysis

This chapter collates the quantitative data and analyses the findings.

Chapter 5: Qualitative Data Collection and Analysis

In chapter 5 the qualitative data is assimilated and the findings analysed.

Chapter 6: Framework Development and Validation

This chapter identifies the conceptual framework and validates the results.

Chapter 7: Chapter Overview

The final chapter summarises the research study, its conclusions, recommendations and reflections for small sized construction contracting organisations.

1.8. Summary

This chapter has identified the basis of the research. It has outlined the background of the study, the problems statement, the aim and objectives, the research methodology, the limitations of the research study as well as the scope of the study. Chapter 2 sets out to identify pertinent and relevant literature contributing to success and failure factors associated with continuance and development of micro and small sized organisations.

Chapter 2 : Literature Review

2.1. Introduction

Seminal authors and other sources have been reviewed in this chapter to identify past and current authoritative reflections connected to this area of study. The literature has been reviewed to add substance, authority and legitimacy and the cited sources of information which can be analysed to support, reflect or inform. Current thinking has its roots embedded in historical research and this study has sourced both previous and new academic literature. By reviewing the wider scope of literature has allowed a time line of academic achievement giving robustness and veracity which has contributed to current management practices.

It was Curtis (2011) who determined that the research question should often be referred to as the research problem, which has been stated here in the Chapter 1. The research question epitomised the context for the research study and determined what the researcher was trying to answer. It will be determined from this study “what is the problem?” and “why does it matter?”

Success is a main theme of the research title, but the word success can mean many things to many people, but in this case success is based on legitimate qualitative standards that have emerged by industrial process, over many decades. The literature review has earmarked important people and events that have influenced quality and standards across the world industries. This has reflected in raised standards by discerning construction companies. Increasing credibility is likely to give accreditation and confidence to its clientele attracting more enquiries and making the company more successful.

Chartered Building Companies (CBC, 2015) were approached, because it was thought that these were organisations that have been proved to be professional and of adequate experience. The prestige they hold within the construction industry is a role model for other companies to imitate, in a drive to be more successful. In order to achieve this data the literature review has included scholarly journals; scholarly books; data bases;

primary sources – first- hand accounts and secondary sources - information originally been presented elsewhere.

The purpose of the literature review has been to test the research question against what already is known about success factors for small sized construction contracting organisations (SCCOs) and it has been determined that the research question has not been answered by anyone else. In resolving the protocol for the literature review the experience of the researcher is determined next to establish the perspective held within the study and the bearing this may influence on the course of the study?

2.2. Theoretical Proposition

2.2.1. Foundation on which the study is underpinned

During the author's involvement with the Construction Industry, there have been many impacting forces observed including differing and diverse political persuasions; union influence; technological change; the labour market and employment status; training; a culture of cyclical times of recession and growth which has all contributed toward the current construction industry. It is of great interest then how small, including micro sized construction contracting organisations (SCCOs) cope, grow or survive in these unstable times. Failure rates for small businesses operating in the United Kingdom Construction Industry are approx. 20% (The Office of National Statistics, 2012). Although no claim is made by the culmination of this study that this trend can be completely reversed it is intended to aid practitioners to improve success and thereby mitigate failure rates.

Success is the main aim of any organisation however most of the research for success factors has been targeted at project level rather than at organisational level such as the works of (Chan *et al.*, 2004). Elwakil *et al.* (2009), who determined that in order to establish success for construction organisations it was necessary to determine the critical success factors (CSFs) at organisational level and in doing so this thesis builds on information from industry in general to establish generic themes that can be considered as consistent factors for the growth of small enterprises. The literature

review analyses business development and relationships from construction related industries and cross matches the results with literature related to SCCOs. The aim is to develop a construct that small enterprises can adopt to encourage growth and success within the construction industry. The literature review is structured into sub-sections that address the nature of the research.

In order to establish enterprises that can be categorised as micro, small and medium-sized enterprises (SCCOs) they are to fulfil the criteria laid down in the Table 1-1. This work is focused on micro and small sized construction contracting organisations which is categorized by a firm that employs more than 1 but less than 50 people with a turnover not exceeding €10,000.000.00 per annum.

2.2.2. Longevity - A Measure of Success

The Office of National Statistics (2012) determined the failure rates for small businesses operating in the United Kingdom Construction Industry for 2009 were that out of 19,008 firms, 2,954 companies failed representing 19.1%. Statistics for 2010 identified that out of 20,015 firms, 3,691 companies failed representing 18.4%. The longevity of construction contracting organisations, especially for newly formed micro and small sized organisations cannot be taken for granted. The factors affecting the achievement of SCCOs and their business success are at the core of this study.

2.2.3. Private Contractors (By Size and Trade of Firm)

The Office for National Statistics (ONS) has also provided information on the number of firms engaged within the construction industry. Table 2-1 identifies small construction contracting organisations (SCCOs) and their impact on the industry from single operatives to organisations operating up to fifty employees. The statistics outline the position of SCCOs within the various constituent parts of the industry and reinforce the important role they have on industry. Being small does not mean that SCCOs collectively are insignificant and the research justifies the importance of this work. Table 2-1 has been sourced from the annual construction statistics published by the Office for National Statistics (2010) and confirms the impact that small construction contracting organisations (SCCOs) have on the construction industry.

The organisations are represented by the number size and trade. Contracting companies have limited autonomy and are often governed by factors outside their control and/or operate within and the relationships they share with other parties within the supply chain. This is an important element which is explored in more depth. It can be determined from Table 2-1 that small enterprises populate the various main and specialist trades within the construction industry ranging from non-residential building, house-building and civil engineering within the main trades and specialist trades.

Throughout this chapter, there are a number of diversified areas that will be referenced in connection with the construction industry and their associations to SCCOs. It would seem appropriate as the construction industry has endured one of the longest recessions in living memory to determine what measures can be placed to compete in the market-place. Table 2-1 presents data from Office of National Stats based on the definition of the construction industry as given in the revised 2003 Standard Industrial Classification. Data was obtained by contacting Construction Statistics Branch at Office for National Statistics. Information relates to the number of private contractors' firms on BERR's Builders' Address File. The number of firms includes some which were temporarily inactive.

Table 2-1: Private contractors: Number of firms by size and trade of firm (ONS, 2012)

Great Britain					3rd Quarter 2009: Number			
Size of firm (by number employed)	Main trades					Specialist trades		
	Non-residential building	Housebuilding	Civil engineering ²	Total main trades		Demolition	Test drilling and boring	Roofing
1	3,956	9,012	2,481	15,448		545	74	2,812
2-3	3,010	9,651	1,766	14,427		317	78	2,342
4-7	1,690	5,701	930	8,320		209	53	1,440
8-13	752	1,922	420	3,093		120	15	489
14-24	497	779	318	1,594		99		308
25-34	206	219	136	562		37		80
35-59	231	239	158	628		46		81
60-79	77	81	55	212		12	16	12
80-114	74	59	49	183		11	8	
115-299	84	87	55	226				11
300-599	27	26	25	79				9
						12		
600-1,199	12	9	13	34		..	..	..
1,200 and over	13	6	9	28		..	..	..
All firms	10,629	27,791	6,415	44,835		1,406	244	7,584

Table 2-2: Construction Specialist Trades (ONS, 2012)

	Specialist trades (continued)						
Size of firm (by number employed)	Construction of highways	Construction of water ways	Scaffolding	Installation of electrical wiring and fitting	Insulating activities	Plumbing	Plastering
1	720	89	474	11,078	1,029	10,924	1,453
2-3	678	62	539	8,261	492	8,468	1,110
4-7	501	48	487	4,876	261	4,203	605
8-13	235	34	287	1,997	109	1,523	190
14-24	146	14	185	1,089	92	747	70
25-34	72	8	83	340	27	219	33
35-59	52	12	58	284	35	203	19
60-79	21		17	68	12	64	6
80-114	13		12	59	6	47	6
115-299	13	5	15	68	8	47	6
300-599	8			17			..
600-1,199				7	6		..
1,200 and over	6	..	8	11	..	10	..
All firms	2,465	272	2,163	28,155	2,074	26,454	3,492

	Specialist trades (continued)						
Size of firm (by number employed)	Joinery installation	Floor and wall covering	Painting	Glazing	Plant hire (with operators)	Other work, installation & completion	All trades
1	8,016	2,455	2,877	1,378	1,494	14,516	75,382
2-3	5,862	1,882	2,343	1,618	844	11,303	60,625
4-7	2,566	922	1,294	1,049	402	5,833	33,069
8-13	801	346	454	391	157	2,148	12,390
14-24	348	171	229	130	104	1,165	6,502
25-34	109	36	80	23	33	362	2,104
35-59	88	31	77	25	51	369	2,064
60-79	33	5	18	5	8	103	596
80-114		5	13		8	93	484
115-299	23			5		101	531
300-599		..	10			32	154
600-1,199		..				7	62
1,200 and over	..	..	..	..	20	12	62
All firms	17,846	5,852	7,395	4,623	3,122	36,043	194,025

2.3 Schools of Thought in Strategic Management

2.3.1 Introduction

This section aims to provide an account of strategic management and its contemporary challenges. It explains common aspects to provide an overview of conventional analytical techniques in strategic management. It could be used as a useful tool for strategy making and how it can better enable organizations to respond effectively to turbulent and unpredictable times.

2.3.2 Strategic Management

Strategic management consists of analysis, decision, and actions to sustain competitive advantage. Analysis is associated with strategic goals (vision, mission and strategic objectives) and these strategies should be applied to the investigation of internal and external environment of the organisation. From this basic concept, the analysis may be applied by identifying: who are the competing industries and; how should the competition be addressed in those industries? When these have been identified, decisions must then be acted on to implement the strategies.

Secondly, the essence of strategic management is to compete in order to create competitive advantages in the market-place that are not only unique and valuable but also difficult for competitors to copy or substitute? This is known as operational effectiveness. Gregory *et al.* (2005) determined that strategy is all about being different from everyone else. Sustainable competitive advantage is about performing different activities from competitors of performing similar activities in different ways, therefore a company with a good strategy must make clear choices about what it wants to accomplish. In replicating the rivals in the marketplace it will eventually culminate in a downward spire of price competition, not long-term advantage.

2.3.3. Criticism of Strategic Management

Although strategic management is not a new concept there are a number of misconceptions. Initially critics of strategic management agree that strategic planning processes can become over rigid and fixated on analysis and quantification and therefore incapable of predicting crucial market shifts. Next strategy is restricted to top management and although management has a role to play it alienates the shop floor worker for instance who also have a contribution to the well being and prosperity of the company. A further issues being strategy which is concerned with planning but strategic management encompasses implementation, evaluation and modification. So if the plan is not rolled into the strategy of the firm's action plan it has no bearing whatsoever. Additionally, strategy is stable and constant unlike the works employees where change is frequent and predictable. An organisation must deal with all matters that are anything but predictable and calm. This means and organisations strategy is neither stable nor constant. A company needs to be flexible and dynamic, able to respond to environmental opportunities, threats and organisational strengths and weaknesses. Finally strategic management outlines the ultimate destination and route which can only be achieved if all the variables were predicable and stable which was thought to be an unrealistic expectation (Spencer, 2007).

One of the pioneering stalwarts from strategic management was Professor Michael Porter. Fundamental to Porter's work was the five forces model which has been widely adopted in industry since the 80s. Due to its significant impact the model and its principle components are detailed further.

2.3.4. Porter's five forces model

Many small sized construction contracting organizations (SCCOs) are vulnerable in that they operate in sectors where there are few barriers to new entrants and where they have little power to dictate to suppliers their needs as shown in Figure 2-1 (Achanga *et al.*, 2006). Porter, (1980) published his first book, *Competitive Strategy*, which owed much of its success to the "five forces" This framework (see Figure 2-1) sought to relate the average profitability of the participants in an industry to

competitive forces. Karagiannopoulos *et al.* (2005) describe the impact of Porter's “five forces” framework on business strategy landscape; these forces are presented in brief.

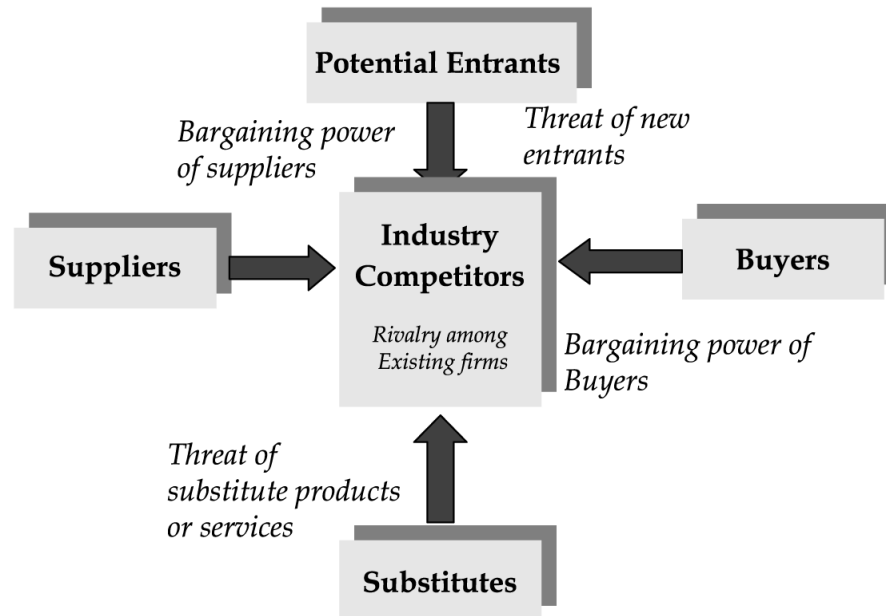


Figure 2-1: Porter's five forces (Source Porter, 1985).

Force 1: The Degree of Rivalry:

The intensity of rivalry among competitors is the most valuable contribution of Porter's “five forces”. In practice SCCOs are subjected to intense rivalry from not only bona-fide firms but black market, cash-in-hand dealings which drives the profitability and quality down which is at the core of the reputation of the building industry.

Force 2: The Threat of Entry:

Both new and existing competitors influence average industry profitability. The most common forms of entry barriers, except intrinsic physical or legal obstacles, are usually the scale and the investment required to enter an industry as an efficient competitor. Qualification is not addressed by Porter, there are many examples of cash-

in hand work where money up-front can allow journey-men to take on larger works but residential customers rarely request the qualifications of a contractor.

Force 3: The Threat of Substitutes

The threat that substitute products pose to an industry's profitability depends on the relative price-to-performance ratios of the different types of products or services to which customers can turn to satisfy the same basic need. In this age of technological growth many examples of substitute products can be found to that which has been traditionally used and Porter is exemplifying this as a fact of statement.

Force 4: Buyer Power

Buyer power is one of the two horizontal forces that influence the appropriation of the value created by an industry. The most important determinants of buyer power are the size and the concentration of customers. Other factors are the extent to which the buyers are informed and the concentration or differentiation of the competitors. SCCOs are generally restricted and therefore at a disadvantage to buyer power against larger firms directly due to the amount of business placed with a supplier.

Force 5: Supplier Power

Supplier power is the mirror image of buyer power. As a result, the analysis of supplier power typically focuses first on the relative size and concentration of suppliers relative to industry participants and second on the degree of differentiation in the inputs supplied. The ability to charge customers different prices in line with differences in the value created for each of those buyers usually indicates that the market is characterized by high supplier power and at the same time by low buyer power (Porter, 1989, 1996). This is confirmed by the author's own experience of geographical supplier location i.e. city against semi-rural location which not only determines the cost but range of products. Although Porter's five forces was a popular concept from the 1980s it has been criticised as having a restricted view from an external organisational perspective. There are various other choices/models available

to aid the business manager/owner this research however limits this range to five to indicate that there are different methods to suit different views.

2.3.5. Alternatives to Porters 5 forces.

Teece *et al.* (1997) evaluated the success of organisations from the perspective of multiple paradigms of strategy described as (i) attenuating competitive forces - Porter (1980). The dominant paradigm of the 1980s being the competitive forces approach developed by Porter (1980) which addresses factors that impacted organisations externally. (ii) Strategic conflict – Glemawat (1986), Shapiro (1989), Brandenburger and Nalebuff (1995). This adopted strategy has been used by organisations to keep their rivals off balance through pricing strategies, investments, signalling and the control of information. This concept shares in its focus with that of attenuating competitive forces on factors such as product market imperfections, entry deterrence and strategic interaction. (iii) resource based perspective - Rumelt (1984), Chandler (1966), Wernerfelt (1984) Teece (1980, 1982). Another perspective adopted to establish a firm's performance based on its capabilities, assets and isolating mechanisms as being the fundamental pre-requisites for company success and finally (iv) Dynamic capabilities perspective – Dosi *et al.* (1989), Prahalad and Hamel (1990), Hayes and Wheelwright (1984), Dierickx and Cool (1989) and Porter (1990). Described by Leonard-Barton (1992) as a firm's ability to integrate, build, and reconfigure internal and external competences in order to identify rapidly changing environments, giving a business the ability to achieve new and innovative forms of competitive advantage.

It has emerged that the above paradigms in isolation offer perspectives from differing positions. There are other demands on small organisations that offer other difficulties such as personal crises including poor health, divorce and bereavement that can contribute to the success of even continuance or an organisations ability to survive in the market place. No reliance should be placed in any one of the above theories in isolation but it has been shown that there are many ways that success or failure can impact the continuity of the life of an organisation some of these factors are explored to give an understanding of the complexities that face the owner/manager of an SCCO. The outlined examples have established multiple paradigms of strategy which

have attributed to competitive edge but what other factors can be associated with either company success or failure?

2.4. Business Success/Failure - Schools of Thought

2.4.1. Introduction

In today's intensely competitive business world, the survival of SCCOs is a major concern for these organizations. Micro and small businesses have to become more efficient to remain in the marketplace. As a result, differing approaches have been developed for SCCOs to prosper within the industry. Construction Industry firms have developed holistic approaches to guarantee success. These holistic approaches include extensive market researches, incorporation of innovativeness within the organization, constant review of performance, customer focus, target marketing and other strategic marketing approaches used to ensure that they remain trading. Despite these efforts, most of these companies usually face numerous challenges as they attempt to stay in demand.

2.4.2. Organisational Factors

Arslan and Kivark (2008) researched critical success factors at organisational level for Turkish construction companies. The research was conducted from 40 organisations over a five months period where the majority of firms were operating within the building and housing sectors. The research topic undertaken in this study are success factors found in SCCOs within the United Kingdom but despite the relevance of the questions construction organisations differ as Arslan and Kivark (2008) research did not take account of micro sized organisations and additionally both the geographical locations and environmental conditions vary.

The questions that were raised by Arslan and Kivark (2008) were constructed to understand how an organisation would implement the factors within its structure and why a business would find it desirable or necessary to implement these factors and are described below.

Interview Questions

i. FACTORS OF BUSINESS MANAGEMENT

- a. How does business organising and plan the works?
- b. What measures are adopted to monitor/control job costs?
- c. How is quality controlled?
- d. What strategies are in place for risk management?
- e. How does good record keeping effect works in progress?

ii. FACTORS OF FINANACIAL CONDITIONS

- a. How does the company control cash flow?
- b. What is the capital/financial strength of the organisation?
- c. Does the Country's economic condition affect the business?
- d. Is the company's profit margin affected by their competitors?
- e. How does the business ensure timely payment of bills?
- f. Do the current low interest rates encourage growth?

iii. FACTORS OF OWNER-MANAGER CHARACTERISTICS

- a. What emphasis do you place on Leadership?
- b. Does it matter to be experienced to manage a business?
- c. What communication skills do you possess?
- d. Does honesty pay?
- e. Is it important to have a high education level?
- f. Do your political connections have any relevance on the company?

iv. FACTORS OF QUALITY OF WORK AND WORKSMANSHIP

- a. How does the company ensure client satisfaction?
- b. Is it important to use good quality materials or do you think this is a drain on profitability?
- c. How do you ensure teamwork and harmony within the organisation?
- d. What measures are adopted to ensure completion of job on time?
- e. Do you have in-house qualified consultants and when would you anticipate using them?
- f. How important is it to have qualified personnel?

- g. How do you retain good sub-contractors?

v. FACTORS OF SALES AND MARKETING

- a. How do you promote the company image?
- b. What do you think is a good advertisement?
- c. What emphasis is the company place within its business community for the need to competitively price for work?
- d. Can the business afford to price fairly to win work?
- e. Does the company offer any sales offers?
- f. Does the business offer any innovative products?
- g. Has the business used E-marketing?

vi. FACTORS OF MARKET SELECTION

- a. Would you say the company is experience in the market?
- b. How does the business determine the public needs?
- c. What is the level of competition?

vii. FACTORS OF TECHNOLOGY USAGE

- a. Does the company follow and adopt new technologies?
- b. Does the organisation have qualified technical staff?
- c. How important is the usage of software programmes to the business?
- d. Does the company have a web-site?

Adaptability of the six building blocks of successful organisations

Pyramid A in Fig. 2-2 has featured the six building blocks of successful organisations as determined by (Flamholtz, 1995). The tasks indicated in the pyramid should not be looked at on a stand-alone basis to contribute to the viability of the company but rather to incorporate the different levels. The influences of the tasks however are dependent on the firm's stage and growth, for example the financial resource of the business as identified in the third tier Resource Management. Although competition is found throughout the different stages of the pyramid the top four tiers form the infrastructure of the organisation contribute to the individual nature of the particular

business (Flamholtz, 1995). The flexibility of Flamholtz and Aksehirli's (2000) pyramid has been adopted to incorporate the research headings i-vii from the above questions (Arslan and Kivark 2008) for Pyramid B within levels 1, 3, 4, 5 and 6 displaying a hierarchical model of organisational development. Chartered Building Companies have been positioned at level 2.

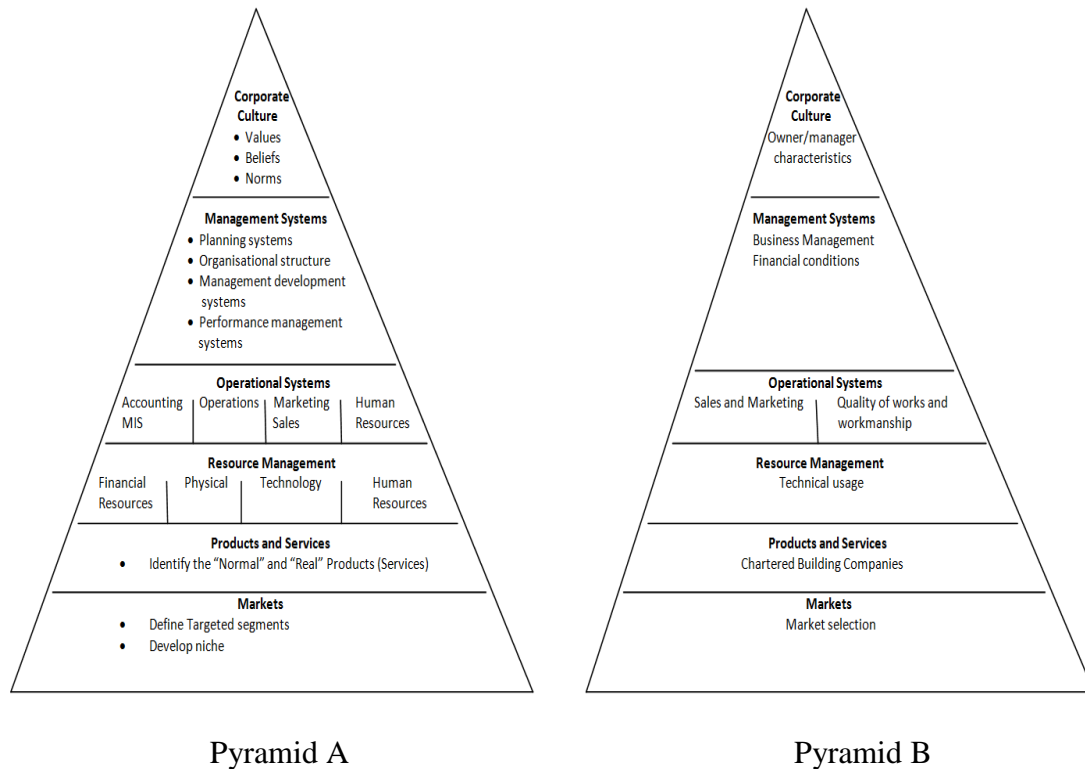


Figure 2-2: Pyramid of Organisational Development: The six key building blocks of successful organisation (Flamholtz and Aksehirli, 2000), used to develop research headings from Arslan and Kivark (2008)

2.4.3 Factors associated with other disciplines

The work undertaken by Arslan and Kivark (2008) very closely represented a survey base that could be used as a benchmark to take the research forward. It was unnecessary to establish other referral works although CSF's were discussed for their relativity including Elwakil *et al.* (2009) who drew on the works of Abrahams (2002) within the IT industry and Chinowsky's (2001) work within the civil engineering industry. Other references to CSF's discussed later are for project management (Chan *et al.*), TQM see table 2-3 and lean manufacturing within SCCOs (Achanga *et al.*)

Table 2-3: Critical Success Factors from Elwakil *et al.* (2009).

No.	Success Factor	No.	Success Factor
1	Clear Vision, Mission and Goals	10	Usage of International Aspects (ISO)
2	Competitive Strategy	11	Availability of Knowledge
3	Organisational Structure	12	Usage of IT
4	Political Conditions	13	Business Experience (number of years)
5	No. of Full Time Employees	14	Product Maintenance
6	Employee Culture Environment	15	Quick liquid Assets
7	Employee Compensation and Motivation	16	Feedback Evaluation
8	Applying Total Quality Management	17	Research and Development
9	Training	18	Market Conditions/Customer Engagement

2.4.4. Critical Success Factors (CSF) for Project Management

There have been considerable studies undertaken to identify CSFs for project management and although this research is aimed at the CSFs at the organisational level of a business the success at project level is fundamental to the viability of a business. As such the CSFs have been included from the work of Chan *et al.* (2004) who was instrumental in developing a conceptual framework for factors affecting project success and this was structured under five categories. The factors within the categories are inter-related and intra-related. The framework could be used to determine project related success factors for SCCOs within the five headings detailed below.

- 1. Human related factors:** 1. Client’s experience, 2. Nature of client, 3. Size of client’s organisation, 4. Client’s emphasis on low construction cost, 5. Client’s emphasis on high quality construction, 6. Client’s emphasis on quick construction, 7. Client’s ability to brief, 8. Client’s ability to make decisions,

9. Client's ability to contribute to design, 10. Client's contribution to construction, 11. Contractors experience, 12. Contractor's technical skills, 13. Contractor's planning skills, 14. Contractor's organisational skills, 15. Contractor's co-ordinational skills, 16. Contractor's motivational skills, 17. Ability to meet cost, time and quality, 18. Contractor's adaptability to change and 19. Contractors working relationship with others.

2. Project related factors: 1. Type of project, 2. Nature of project, 3. Complexity, 4. Size of project.

3. External environment: 1. Economic environment, 2. Social environment, 3. Political environment, 4. Physical environment and 5. Technology advanced.

4. Project procedures: 1. Tendering method.

5. Management actions: 1. Communication, 2. Control, 3. Feedback, 4. Planning, 5. Health and Safety, 6. Quality Assurance, 7. Control of sub-contractors and 8. Overall managerial actions.

2.4.5. Critical success factors (CSF) associated with lean manufacturing within SCCOs

In other research carried out by Achanga *et al.* (2006), four main factors for success associated with lean manufacturing were identified which included: leadership and management, finance, skills and expertise and culture of the recipient organization (fig. 2-3). Leadership and management commitment have been hypothesized to be the most critical success factor of a lean project within the SCCO as identified in Fig 2-3. These skills are important whatever the size of business and are a skill/ requirement of a SCCO to become successful as a long term player in business.

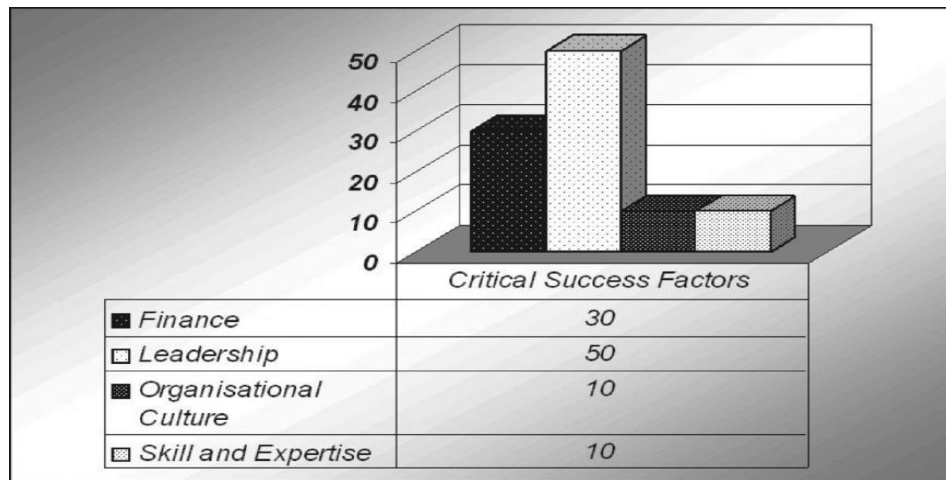


Figure 2-3: The proportions of critical factors from interviews (Achanga *et al.*, 2006 p.466)

The elements expressed in fig.2-4 are transferable to most organisations and are factors that contribute to the successful management of SCCOs.

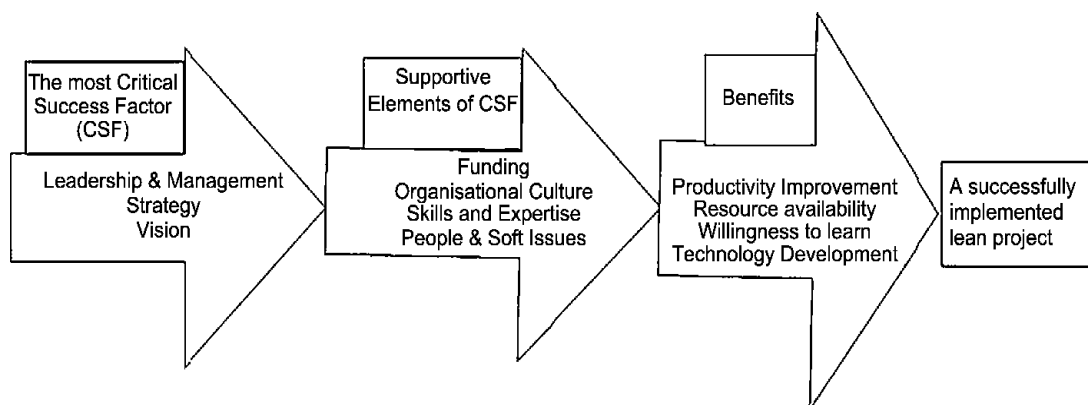


Figure 2-4: Elements of critical factors for a successful lean implementation (Achanga *et al.*, 2006 p.466)

Critical success factors can be applied to numerous tiers of business activity such as the project and organisational level of a business and this review has been selective in numerating just a few. Factors have been explored to identify what may contribute to company success. In reviewing the success of a business it is important not to forget what can contribute to business failure and in this way fulfils the scope of activities that can influence company longevity.

2.4.6. Business Failure

Arditi *et al.* (2000) drew on a number of academic sources to define business failure and cited Frederikslust (1978) who suggested that business failure is the inability of a firm to pay its obligations when they are due which if it were due to a sharp decline in sales may be attributed to: recession; the loss of an important customer; shortage of raw materials; deficiencies of management etc. Altman (1993) defined failure from the point of view of economic criteria and stated that a company is considered to have failed if the rate of return on invested capital, with allowances of risk considerations, is significantly and continually lower than prevailing rates on similar investments, or where insufficient revenues to cover cost and situations where the average return on investment is below the firm's costs of capital.

Then again Arditi *et al.* (2000) cited Storey (1994) who suggested that there are businesses that should not have even started in the first place, or that the person was not competent to do so, or that the business left behind significant unpaid debt. Watson and Everett (1993) determined business failure to four identifiable situations: discontinuance for any reason; ceasing to trade and creditor loss; sale to prevent further losses; and failure to make a go of it.

Like many other things, failure is the outcome of a complex process and is rarely dependent on a single factor. Hannan and Freeman (1977, 1984) claim that the fate of a firm is determined by environmental selection forces, but on the other hand (Child, 1972) determined that it is the importance of managerial decisions and actions that affect the fate of the destiny of firms. Arditi *et al.* (2000) cited Hrebiniak and Joyce (1985) who reconciled these views by acknowledging the importance of both sides: between the environment and management decisions.

2.4.7. Business Matrix

Boyle and Desai (1991) identified business failure in the form of an 'environment/response matrix distribution. The environment is represented on the vertical axis and the response is represented on the horizontal axis. The four cell matrix is adapted to the construction industry by using the factors associated with Dun

and Bradstreet’s annual Business Failure Records on business activities in the US (1989 - 93). Figure 2-5 identifies four cells. Cell 1 covers internal-administrative factors which consist of budgetary and human capital issues. Cell 2 covers the ‘internal-strategic’ factors which represent issues of adaptation to market conditions including sales, competitiveness, growth and expansion. Cell 3 identifies; the ‘external-administrative’ factors which correlate with business issues such as characteristics of managers who run the company; business conflicts. Finally Cell 4 demonstrates the ‘external -strategic’ factors (natural disasters) and macroeconomic

Environment	Internal: events under management control	Cell 1 • Budgetary • Issues • Human and Organizational Capital Issues	Cell 2 • Issues of Adaptation to Market Conditions
	External: events not under management control	Cell 3 • Business Issues	Cell 4 • Macroeconomic Issues
		Administrative systems and procedures	Strategic long term planning
		Response	

Figure 2-5: Environmental/response matrix distribution with failure factors (Boyle and Desai, 1991) adapted by (Dun and Bradstreet, 1989 - 93).

issues such as industry weakness and interest rates. Fig. 2-5 has been categorized with its cells and contents described in further detail below.

INTERNAL –ADMINISTRATIVE FACTORS

Cell 1: Budgetary Issues - Figure 2-5.

A model developed by Beaver (1966) attributes business failure on the basis of four propositions: ‘the larger the reservoir, the smaller the probability of failure; the larger the net liquid asset flow from the operation (i.e., cash flow), the smaller the

probability of failure; the larger the expenditures of operation, the greater the probability of failure, the larger the amount of debt held the greater the probability of failure’.

According to Arditi *et al.* (2000) construction firms are burdened with insufficient profits, heavy operational expenses, insufficient capital, institutional debt, and receivable debt. Insufficient profits and heavy operational expenses have the biggest impact on construction companies and are related to the nature of the construction industry. Low profit margins which are primarily the result of the competitive environment of the bidding process are further diminished by claims and counter-claims during the construction phase. Where bids are based on estimated quantities, productivities and unit costs, these are found to be generally inaccurate which have a direct bearing between the estimated profit and the true cost of the works.

Heavy operating expenses become burdensome where construction firms shrink and expand to reflect the prosperity of the market. These have less impact on larger firms who are able to absorb expenses in a wider range of activities which balances the variations in operating expenses. To mitigate the effects of these five budgetary issues a comprehensive policy can be implemented to achieve sound and well thought out policies to set bidding strategies, specify mark-ups, control overheads and costs, regulate borrowing, select subcontractors etc. Insufficient capital and burdensome institutional debt are attributed to the cash flow conditions of construction companies where procedures involve periodic payments (usually on a monthly basis) by the client for works completed and valued. Typical building contracts require a retention to be held against interim payments usually levied at 5% for potential defects for the duration of the contract reducing after practical completion to 2.5% for a defects liability period which is usually 6 months. Only on satisfactory redress of any defects can the contractor apply for the retention to be paid. This constantly negative cash flow over the course of one or several construction processes is likely to increase the prospect for failure though un-recovered heavy operating expenses and insufficient capital, where capital is borrowed by the contractor to compensate for the negative cash flow.

Cell 1: Human/organisation capital issues - Figure 2-5.

Arditi *et al.* (2000) confirm these issues to constitute; lack of business knowledge; lack of managerial experience; fraud; lack of line experience; lack of commitment and poor working habits. Lack of business knowledge may be attributed to mean a lack of in-depth industry knowledge, market awareness, and how to find clients, suppliers and distributors. Dun and Bradstreet's (1989–93) survey of small business owners indicate that expertise is acquired through formal and continued study and on-the-job experience. However organisational learning identifies construction companies to: profitable markets; partnering alliances with sub-contractors and suppliers; to take advantage of technological innovations and to establish good relations with financial institutions. This works to the disadvantage of new start-up businesses where the owners may have the technical knowledge to complete a job but may lack the business knowledge to prevent failure of their company.

Argenti (1976) describes lack of managerial experience as being caused by one-man rule, a non participating board, an unbalanced top team, lack of management depth, weak finance function, and a combined chairman-chief executive. Unlike large firms owner-managers of small organisations can be found to be involved in the day-to day running of the company including tasks such as project managing and estimating etc. The board of directors may include members of the same trade discipline thus precluding objectivity for medium to long term strategies for growth and expansion of the business. Daily (1995) purports that the existence of out-sider directors on the board may generate a higher degree of objectivity and monitoring of organisational performance whereas the same research showed that failed firms have a majority of inside directors serving on their board.

Lack of line experience can be attributed to a lack of production experience which in the case of the construction industry can mean that the failure of the firm may be considered to be dependent on the failure of one or more of its projects. However this is difficult to determine as this is subjective, and is dependent on the view-point of the party, i.e. a project that is considered to be a success by the owner may be considered to be a failure by the contractor.

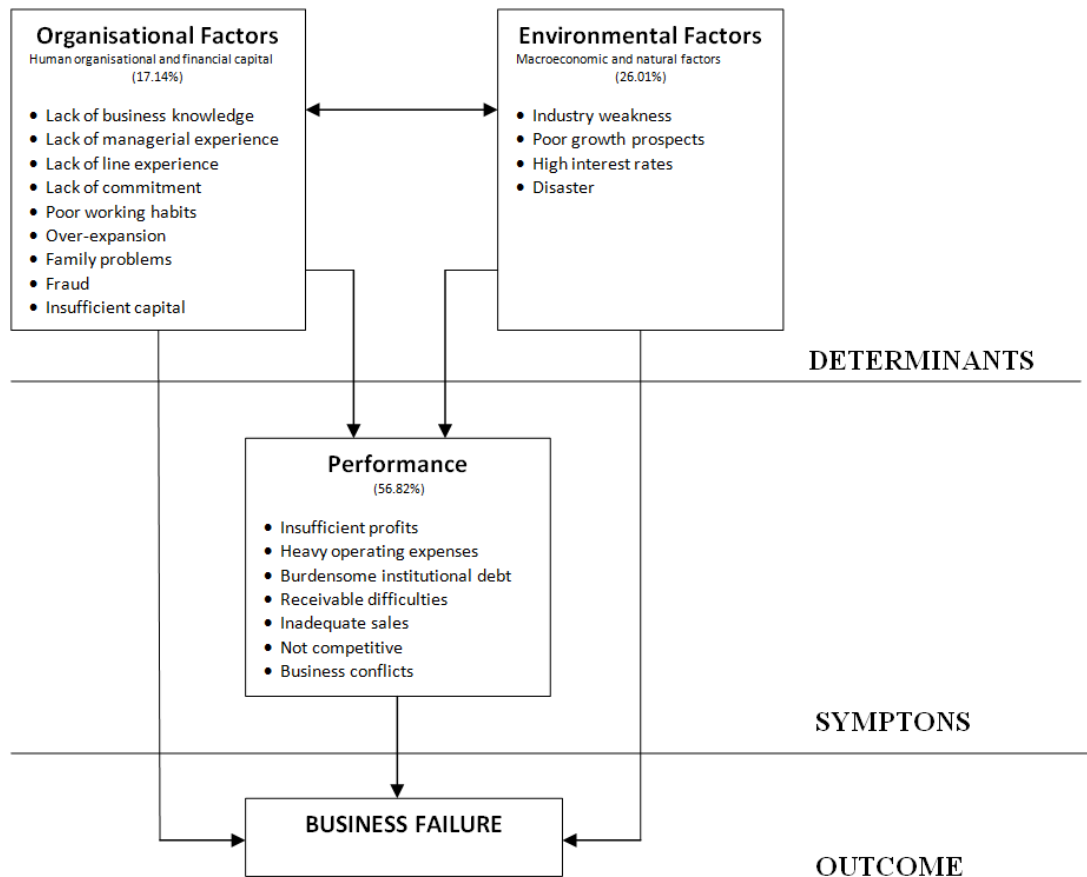


Figure 2-6: Input/output model of business failure in the construction industry

Fraud is defined as a false representation of the facts by one party of the contract to the other party. Durnham *et al.* (1986) stated that to bring about an allegation of fraud the plaintiff must prove that the defendant made a false statement of fact, showed a reckless or intentional disregard for the truth, intended to induce reliance by the plaintiff and such damage was the consequence of this reliance. However this is a very involved and difficult proves to prove.

Arditi *et al.* (2000) determined that a lack of commitment could be defined as the level of excitement enthusiasm and emotion of the management team. Commitment is an intense attribute to new organisations usually operating in the red and this makes them action-orientated, opportunity-driven, highly responsive and flexible. Adizes (1988) reiterates this by saying that a fledgling new company is highly dependent on their leaders/founders and that the leaders commitment is one of the factors that will keep the company growing. However as the company matures the leader's

commitment can create a barrier for the organisation's response to new conditions and environmental changes.

Internal-Strategic Factors

Cell 2: Issues surrounding adaptation to market conditions - Figure 2-5.

Researchers working in the field of this study believe that strategic planning is one of the most important factors that can increase a firm's adaptation capability to the environment. This is because strategic planning regulates the extraction and use of resources for the purpose of optimising sales, competitiveness and expansion. The three factors associated with adaptation issues are: sales, competitiveness, and expansion. Sales can be evaluated by assessing a company's success in bidding.

Competitiveness is defined by Lowes *et al.* (1994) as the ability to meet and beat rivals in supplying a product on a sustainable (i.e. long-term) and viable (i.e. profitable) basis. Reflections for competitiveness are determined to be dependent on product and buyer characteristics the extent of market concentration and cost and demand considerations. Porter (1991) explained that the state of competition in an industry is dependent on five basic forces: threat of new entrants; bargaining power of suppliers; bargaining power of customers; threat of substitute products or services and jockeying for position among current competitors. Knowledge of these sources of competitive pressure provides the basis for a strategic agenda of action. For example, smaller contractors should be aware of the fact that they have a weak bargaining position with respect of suppliers etc. When forming a strategic plan contractors should aim to be either as efficient as possible or they should position themselves to offer services that are as distinctive as possible.

For a construction contractor, over-expansion can mean that a company is overstretched financially by taking on too many contracts or employing too many staff. This can be mitigated by employing sub-contractors but by doing so there is an inherent risk of losing direct control over reliability and quality and without the right preparation this strategy can carry high risks to the contractor.

EXTERNAL-ADMINISTRATIVE FACTORS

Cell 3: Business Issues - Business conflict and family problems - Figure 2-5.

Gardiner and Simmons (1995) described conflict as either: any divergence of interests, objectives or priorities between individual, group or organisations or; non conformance to requirements of a task, activity or process. Alternatively March and Simmons (1993) explained conflict in organisations as a breakdown of decision making in so much that an individual or group experiences difficulty in selecting and alternative action. In order to prevent conflict March and Simmons (1993) suggested to allow for the following measures: availability of alternatives ideas; time pressure; search for clarification; search for new alternatives; amount of past experience; complexity of decision and finally; generosity of the environment. Conflict is not only inevitable within an organisation but is also desirable as conflict is both a cause and an effect of change.

More business conflicts are to be anticipated in the construction industry due to the fragmented nature of its organisation, the ambiguity in contract language, the uncertainty in site operations, the adversarial relationships amongst the parties involved, and the traditionally low profit margins. Conflict appears at project level through inception, design, bidding, and construction phases. Kumaraswamy (1998) conducted extensive research in disputes and conflicts within the construction industry in the UK, the US, Australia and Hong Kong and concluded that the healthy reconciliation of constructive conflict could lead to synergistic scenarios that optimise designs, construction methods, and other operations, management should anticipate, discourage and diffuse destructive conflict, which has debilitating consequences. Construction companies should anticipate and prepare for conflicts.

Family problems consist of long-term injuries, fatalities, divorce, etc, taking place in the family of the company owner. Much research has been undertaken with respect of the leadership and characteristics of the company owner by (Argenti 1976, 1993; Hoffman *et al.*, 1987; Storey *et al.*, 1987; Galbraith 1993; March and Simon 1993). An individual's characteristics can be explained by referring to their work history; family background; personal characteristics and education (Storey, 1994).

External-Strategic Factors

Cell 4: Macroeconomic Issues – Figure 2-5.

Arditi *et al.* (2000) purport that Industry weakness is the second most important factor after insufficient profits in causing business failure. It is well known that the construction industry is influenced by general macroeconomic trends. Its participants include contractors, owners, consultants, suppliers, etc. The construction industry is a volatile industry that is characterised by market ups and downs; this cyclic pattern is heavily influenced by business conditions interest rates and growth prospects. In recessionary times (Platt and Plat, 1994) contend that construction demand is reduced and this fuels fierce competition amongst contractors; this situation forces contractors to submit unrealistically low bids or to bid for projects that are beyond their speciality or competence, which causes many of them to go out of business.

Natural factors

This factor includes such events as acts of God, such as natural disasters. Although, overall this factor plays a much less significant role, this may have much effect at the project level. However many individual small firms can indeed prosper after periods of adverse weather conditions etc.

2.4.8. SCCOs and the Economy

The global recession started in 2008 has affected areas of the business world and society. For a large sector in both residential and commercial markets where SCCOs operate their operational success relies upon distribution of money. Margins have been squeezed in the commercial sector to such low levels that opportunities to maximise profits have been decimated. The majority of residential works are based on competitive tendering which favours the poorly skilled and black market economy which has thrived in recessionary times with higher levels of unemployment. Although to a customer a cheap quotation appears to be a good deal *prima facie* it is usually derived from inadequately trained, or the unemployed or cash-in-hand work that bona-fide contractors are hard pressed to compete with. The author has direct

undeniable testimony to shoddy and dangerous work when his company was approached by the BBC to redress work undertaken by others. With less work contractors have been forced out of business or are trading without making any progress until such time as consumer confidence in the economy has returned. This was a comment made from one of the interviewed contractors who was a participant in the qualitative research study and although this may reflect many of the SCCOs one interviewed company, who worked in a niche market, was thriving as a direct result of the recession.

Although business success has been addressed there is further capacity to determine how success may be measured. This is an important to identify effective measures that can be monitored to make a business more efficient and better equipped to compete within the industry.

2.5. Measurement of Success

2.5.1. Introduction

In this section research has been undertaken to identify key factors found within the academic and business literature affecting success/longevity of SCCOs. The findings are to be used as a benchmark, to confirm practices undertaken, establish gaps, or recognize inconsistencies against the research activities undertaken in this study.

The literature review is presented to categorize different factors associated with good business practices. These categories are classified to give a wide-ranging, although not exhaustive, perspective on key factors thought to affect small sized construction contracting organisations (SCCOs).

2.5.2. Self Assessment

2.5.2.1. Business Excellence

Hewitt (1997) purports that in the UK there are a number of agencies that are committed to improve the performance of businesses; one way is to improve the promotion of quality techniques that improve business results. These organizations include: The British Quality Foundation, Quality Scotland Foundation, Northern Ireland Quality Centre and Wales Quality Centre as well as a number of regional quality award organisers.

The business excellence model (fig .2-7) is one way to promote improvement and best practise in industry. McAdam (2000) refers to fig.2-7 as a model developed by large firms. Europe has used this model to assess the performance and measure the progress of companies. Such organisations as the European Quality Award and the UK Quality Award for Business Excellence have used this model as a framework to identify business excellence in award winning companies. It must be pointed out that the award winners have all been large companies. This may be in part that small companies tend to have more immediate pressures and unless they can see the link between self-assessment and achieving their own short term goals, such as getting more customers, being paid on time, access to finance, (cash flow) then they are not interested. Where the business excellence model has been adopted by small companies it has been claimed that the model has contributed towards TQM principles with their respective organisations (Wilkes and Dale, 1998; Kaplan and Norton, 1996).

The model is arranged in a series of levels as highlighted: i.e. leadership, policy and strategy, people management etc. Underneath the nine headings are a further 32 sub-criteria for self analysis which include the following:

- Processes key to success of the business are identified;
- Processes are managed;
- Processes are reviewed and target set for improvement;

- Processes are improved using innovation and creativity;
- Processes are changed and the benefits evaluated.

For full process criterion refer to *Guides to Self-Assessment* available from the British Quality Foundation, London (0171 963 8000).

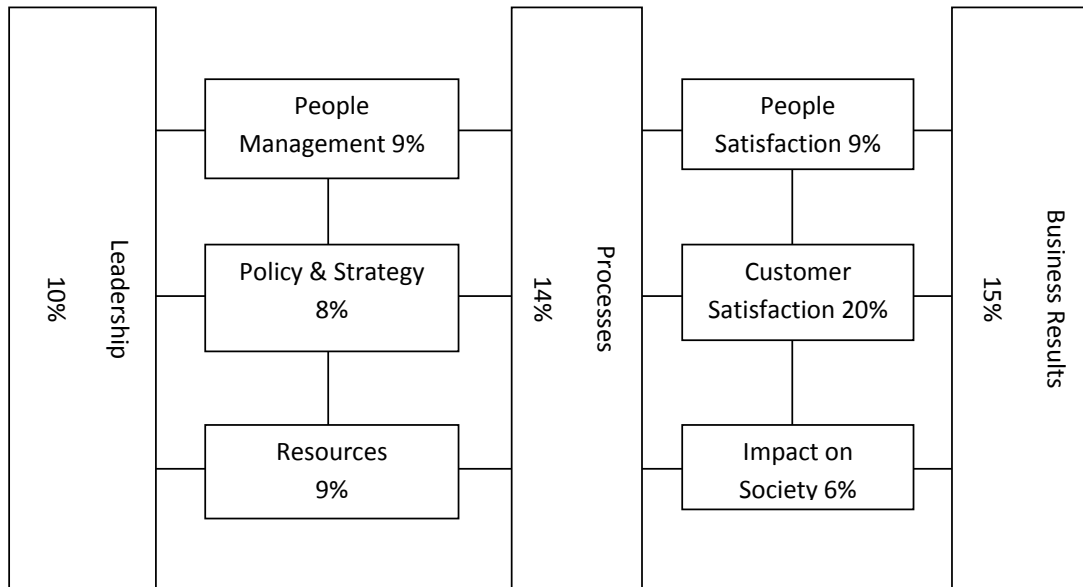


Figure 2-7: The business excellence model (Hewitt 1997, p.77)

2.5.2.2. The validity of the business model

The business model is relevant to both large and small businesses, but what can be a complex process for a large firm to adopt, where tiers of management and departments may be involved, may be simply addressed by just talking to a colleague in a small firm. The procedural requirements of the model means it has a lack of flexibility to address the requirements of a small business and its interpretation that is lacking within the business model.

Self assessment is not as popular with micro/small enterprises (SCCOs) as it is perceived to be too time consuming, require expensive consultancy, or because the benefits are not self-evident. Most small companies have not heard about self-assessment or its advantages to an organisation in terms that are relevant to them.

Other organisations however such as the Chamber of Commerce or Business Link have adopted self-assessment to use in order to aid SCCO's.

In order to ensure SCCO's adopt and maintain self assessment then it needs to become a tool that is clearly visible as an advantage and linked to what are perceived to be critical aspects for small business. For example, cash-flow; the need for investment capital; local publicity and other factors pertinent to individual companies. Companies who supply larger firms are finding that encouragement for business excellence is being pursued for self-assessment where benefits can be measured for both parties. Improved efficiency in the supply chain culminates in better delivery times, more reliable service, better products and lower prices. If self-assessment is to be widely used in SCCO's then it must be recognized to be of value.

What matters to small organisations is their own aim, vision, strategic position, what they want to be and how they want to position themselves not how other people want to measure them. So if an organisation only has a strategic position of stopping at a particular point than having a position to pursue ambition for them that may warrant their view of success. The business excellence model does not address these views that are real and meaningful to numerous small businesses. Teece *et al.* (1997) exemplifies this by suggesting that only relevant frameworks should be thought of as appropriate for a problem at hand but that slavish adherence to any one particular framework to the neglect of all others could be detrimental and likely to generate strategic blind spots. Dixon *et al.* (1990) confirmed that inappropriate performance measurement is a barrier to organisational development as measurement providing the link between strategies and actions. Appropriate measures should provide and strengthen this link, in order to attain strategic goals and impact on the goals and strategies needed to achieve them.

2.5.2.3. *Standard of excellence in business*

Hewitt (1997) affirms factors such as customer focus, process management, continuous improvement, innovation, supplier partnership, people development and involvement, leadership and consistency of purpose are development processes, small firms may find this a difficult process to adopt where the culture of the firm has been

developed by the founding owner of the business. The owner may be the barrier against development where at a time of growth, leadership delegation may be in conflict with the principles of the style that has delivered success thus far. Letting go, and putting faith into new management techniques is alien to the owner who has worked hard on his own volition to build the business from scratch.

Hewitt (1997) has determined that there is reluctance by the owner to accept criticism of the company that has built up a barrier against self-assessment. The small firm is unlikely to experience any external pressure to develop self-assessment unless in a supply chain or other business associate that promotes self-assessment techniques. The business owner will not see the value of self-assessment until they actually try it.

2.5.2.4. *Spotlight on small business*

The British Quality Foundation (BQF) set up a Small Business Task Group in 1995 who found that organisations employing less than 50 people had characteristics that were different to large firms. Using information from the BQF's *Assess* self-assessment tool the traits listed below demonstrates the difference from the large organisations.

Typical small business strengths:

- Have the ability to respond quickly and change to market conditions.
- Waste little time on non-core business activities.
- Tend to have high employee loyalty.
- Reflect on commitment and personality of MD.
- Are likely to deploy improvement quickly and therefore gain rapid benefit.
- Are usually very closely in touch with customers.
- Have the potential for excellent internal communication.
- Have people who are likely to be multi-skilled.
- May be operating an effective ISO 9000 compliant QMS.
- Training is likely to be very focused on skills needed to achieve targets.

- People will usually be aware of how their job impacts on the business as a whole.

Typical characteristics of small business (risk area) are:

- They are highly vulnerable to slump in markets.
- Funding and investment is more difficult.
- Cash flow is crucial.
- No time to look at the “outside world”.
- Difficulty in getting good suppliers.
- Little time to think about improvement.
- Training budgets are likely to be limited.

This list is not exhaustive and may not apply to all small businesses however attempts to implement self-assessment to this sector should take account of the above factors.

2.5.2.5. *Making improvements to a small business*

Hewitt (1997) states that self assessment is a good starting point to improve the potential of a small business. Objective view-points of small business activities can be represented by the following questions:

- Do management encourage everyone to strive for excellence?
- Can people strive to relate their tasks to the overall goals of the company?
- Is everyone encouraged to improve quality?
- Is the best use of resources made available?
- Are the key processes known and how are they managed?
- How satisfied are the customers and how is this measured?
- How loyal are the staff and how is this measured?
- What impact does the company have on the local community?
- What comparisons are made between the company and the best in the industry?

- Are the financial targets met?

If an organisation is not aware of these points and other self-assessment criterion that may be pertinent to the company then there is probably room for improvement in the way the business is managed.

2.6. Total Quality Management

2.6.1. Introduction

Total quality management (TQM) is a quality system whereby organisations can record, monitor and evaluate their operations against benchmark quality criterion thereby removing the element of *laisser-faire*. By recording data the organisation can test its results against points of reference enabling real changes against the company's performance level achievements.

2.6.2. A quality system for SCCO's

Quality systems for SCCOs are perceived to be a requirement for many companies and associations and this is supported by The European Commission (EU) who in its drive to improve economic and employment growth is committed to drive home the principle of "think small first" within all national policies (European Commission, 2006). Parallel commitments are to be observed within academia where the profile is raised for SCCO's to improve overall quality of organizational management. Increased competition is driving SCCO's to adopt formal quality system strategies as it is presumed that the drive toward total quality orientated firms leads to higher levels of productivity and competitiveness (Crosby 1979; Deming 1986; Juran 1988).

Total quality management (TQM) is widely accepted as the benchmark for a quality systems approach (Yosaf and Aspinwall, 1999), where attempts have been construed to justify the relationship between TQM and performance (Easton and Jarrell, 1998; Hendricks and Singhal, 1997). Concerns have been raised however as to whether

TQM have actually raised real improvements in operating performance (Agus and Abullah, 2000).

2.6.2.1 *The correlation between TQM and performance*

A review of the empirical studies on quality demonstrates that quality management systems such as Statistical Process Control (SPC), quality assurance, ISO 9000 quality standards and TQM are perused for business improvement (Lai, 2003; Cho and Pucik, 2005). Despite concerns identified by (Agus and Abullah, 2000) for TQM failure, empirical studies support the belief that quality management systems contribute to the development of successful firms (Prajogo and Sohal, 2003, 2004). This prognosis is further supported by Hendricks and Singal (1997) who support the hypothesis that TQM associated firms outperform non-TQM firms in the following area: profitability, revenues, costs, capital expenditure, total assets and employee turnover.

2.6.2.2. *The correlation between TQM and the consumer*

The customer's perception of quality is a paramount relationship and from the customer's perception this takes precedence over the firm's ability to improve quality by itself (Pinho, 2008). This is supported by Lai (2003) who argues that the consumer orientated approach dictates the requirement for understanding the customer's wants and needs i.e. "doing the right thing" the approach for the TQM is based on "doing things right"

2.6.2.3. *The correlation between the consumer and performance*

Deshpande *et al.* (1993) stated that "a competitor orientation can almost be antithetical to a customer orientation when the focus is exclusively on the strengths of a competitor rather than on the unmet needs of the customer". Deshpande *et al.* (1993) view the customer and market orientations to be the same and therefore distinguishable from competitor orientation. The argument for adopting a customer orientation approach is reliant on SCCO's using simple organisational structures and

more cohesive cultures thereby limiting the coordination benefits of an effective market orientation. SCCO's lack economic resources, R&D and skilled staff to exploit other sources of profitability, it is therefore important for them to adopt a customer orientation. A customer-orientated business has a higher clarity of purpose, pride amongst employees, and high level of customer satisfaction and loyalty and therefore making a business more profitable. (Appiah-Adu and Singh, 1998; Pelhan and Wilson 1996).

2.6.2.4. *The correlation between TQM and innovation*

There are a number of similarities to the TQM-consumer orientation and that of the TQM and innovation, for example: continuous improvement, participative decision-making, empowerment, support and collaboration, team-work and an "open" culture are synonymous to TQM and innovation (Hurley and Hult, 1998; Prajogo and Sohal 2003). According to Singh and Smith (2004) firms who adopt TQM are more likely to be innovative than those who do not. The positive relationship between TQM and innovation lead to a culture of learning which will provide a fertile ground for innovation since it embodies the philosophy for developing innovation.

2.6.2.5. *The correlation between innovation and performance*

Innovation includes tasks such as improving products, processes, or procedures Damanpour (1996). Whilst in the grip of recession and increased competition innovation is proving to be a key factor for survival (Gronhaug and Kaufman, 1988). Organisational innovation which effectively responds to its entrepreneurial environment will lead to improved performance (Han *et al.*, 1998).

2.6.2.6. *The correlation between the consumer and innovation*

Berthon *et al.* (2004) suggest there is disagreement between those who view the customer as the main focus for the decision-making process and those who place innovation as the key factor for economic growth. (Berthon *et al.*, 2004) go on to assert that business decisions are not taken on the polarities of customer v innovation

orientation only, but rather that business will adjust and prepare to market conditions. Therefore managers learn from customer orientation (the market) and that the market learns from the firm's innovation techniques (new technologies) (Pinho, 2008 p.262).

Henry and Walker (1991) state that: SCCO's are more likely to innovate within incremental adjustments to existing products or services and are more likely to place more emphasis on the target market rather than inventing and refining superior products. Hurley and Hult (1998) accept that "People in a market-orientated organisation think about, talk about and act in ways that respond to the environment". Therefore the customer's oriented approach is an important feature for ideas, motivation and innovation within the business community for SCCO's.

2.6.2.7. Measurement items for TQM practice

Yusof and Aspinwall (2000) identified eleven items that have been specifically designed to meet SCCOs requirements for a successful approach to business: leadership and support from top management; providing effective and appropriate training for employees; measuring results and performance; conducting continuous improvement; adopting a quality assurance system (e.g. ISO 9000); sufficient financial resources; providing relevant training for senior management/staff level; favourable work environment and culture; selective application of tools and techniques; involving suppliers in important activities and desirable human resource practices.

2.6.2.8. Customer orientation

Deshpande *et al.* (1993) devised a list that encompassed the requirements for customer needs which are: to adopt a routine or regular measure of customer service; that the product and service development is based on good market and customer information; a business should know its competitors well; to have a good sense of how its customers value the products and services of the business; to be more customer focused than its competitors; to compete primarily on product or service differentiation; the customer's interest to always come first, ahead of the owners; the products are the best in the business; to believe the business exists primarily to serve

customers. Yusof and Aspinwall (2000) identified a successful approach to business and Deshpande *et al.* (1993) categorised customer requirements to take account for in-house business development against that of customer orientated development which are at the core for successful business development.

2.6.2.9. Critical success factors associated with TQM

Salaheldin (2008) developed a table to show critical success factors (CSFs) which are associated with TQM. These factors identified in table 2.3 show a diverse range that indicate a wide range of topics identified with (CSFs). This table is included to show that there are numerous issues associated with success factors. The research will be enhanced by interviews and analysis but too restrictive to be viewed as representative for the British construction industry therefore table 2-3 has been included for comparison and to illustrate the limitations of the study and its conclusions.

2.6.2.10. TQM for small businesses

There have been some small enterprises have embraced TQM and Shea and Gobeli (1995) have cited some of the different reasons for this as being: (i) promotion of growth; (ii) customer satisfaction and employee empowerment; (iii) changing customer expectations; (iv) making work more enjoyable and; (v) improve company performance. However this must be judged to be offset against the problems faced by small companies in their attempt to develop a quality culture. Moreno-Luzon (1993) cited some of these issues to be: (i) resistance to change; (ii) lack of experience in quality management; (iii) lack of resources; (iv) difficulty in moving to a prevention-based system, (v) an emphasis on short-term objectives: and (vi) the lack of strategies and overall objectives. Yusof and Aspinwall (2000), flag two major issues facing small enterprises against them implementing TQM being firstly financial and secondly a more general resource constraint, including time, manpower, technical and managerial expertise which would push this beyond the small business owner's resource availability. The unlimited resources assumption of TQM cannot be applied to small firms. Therefore a gradual process for instance by starting with systems certification then progressing from one initiative to another presents a more plausible approach which is more applicable to the small business.

Table 2-3: Results of factor analysis for CSFs

TQM critical success factors	Factor 1	Component	Factor 3	
	Strategic factors	Factor 2 Tactical factors	Operational factors	
Leadership	0.882			
Organisational culture	0.923			
Top management support	0.801			
Continuous improvement	0.603			
Benchmarking	0.731			
Quality goals and policy	0.861			
Team building and problem solving		0.835		
Employee empowerment		0.741		
Employee involvement		0.598		
Employee training		0.901		
Use of information technology		0.743		
Supplier quality		0.710		
Supplier relationships		0.911		
Assessment of performance of suppliers		0.730		
Product and service design			0.914	
Enterprise performance metrics for TQM			0.667	
Process control			0.823	
Customer orientation			0.634	
Management of customer relationships			0.612	
Resources value addition process			0.881	
Realistic TQM implementation schedule			0.752	
Customer and market knowledge			0.651	
Resources conservation and utilization			0.683	
Inspection and checking work			0.923	
Eigenvalues	3.652	2.973	2.483	
Percent of variance explained	28.32	25.16	22.23	Table III. Results of factor analysis for CSFs
Cumulative percent	28.32	53.48	75.71	

2.7. World Class Manufacturing (WCM)

2.7.1. Introduction

Hayes and Wheelwright (1984) first described WCM to be a way to establish a company's achievement and to improve their manufacturing facility – the ability to make it better. This view is endorsed by Schonberger (1982) who defined WCM as “continually and rapidly improvement in the eyes of the customer” (Khan *et al.*, 2007).

2.7.2. Continuous change through “Kaizen” and training

Imai (1986, 1990) introduced the use of continuous improvement (CI) as a philosophy for process improvement to the west. “Kaizen: The key to Japan's competitive success”. Kaizen promoted the philosophy of a continuing process by putting the emphasis of communication and trust between management and workers. Brunet and

New (2003) asserted that “Kaizen” imposes the mindset/culture of change and technological implementation. The Japanese business community embrace “Kaizen” where it is viewed as an umbrella concept with different methodologies, such as TQM which is represented within it. The western business community hold a different viewpoint where the TQM is the umbrella concept with “Kaizen” represented within the TQM. The down-fall of this interpretation is that without having CI to serve as an entry point into the TQM philosophy the purpose of “Kaizen” can be lost; therefore the western business community has developed an alternative approach to reflect its own philosophical identity. As a testament to the Japanese business community they have found by making CI a never-ending process has promoted many “Kaizen” improvements which have improved Japanese companies over time becoming an envy of the global business population. (Pomlet, 1994).

2.7.3. Training in SCCO's

Training has allowed employees to learn, build skills, solve problems, become multi-skilled and develop interpersonal relationship (Rusaw, 2000) which can implement organisational change. The implementation of WCM relies on the quality of the people working within the company (Eastgate, 2000). However unless the skills developed by a training programme are used immediately or it is found to be irrelevant then those learnt skills are likely to be lost (Idhammar, 1997). Successful SCCO's provide more training than their counterparts. (DTI, 1996).

2.7.4. Soft Skills Training

Soft skills training has been identified as: incorporating problem solving, team working, communication, leadership skills, quality tools and techniques and customer service (Simon, 1999). Cripe (1993) suggested that this is developed as a model or framework as a logical first step for organisational improvement. Cripe (1993) went on to put forward that for the second step the employees must be aware of and understand the model and process which has been developed.

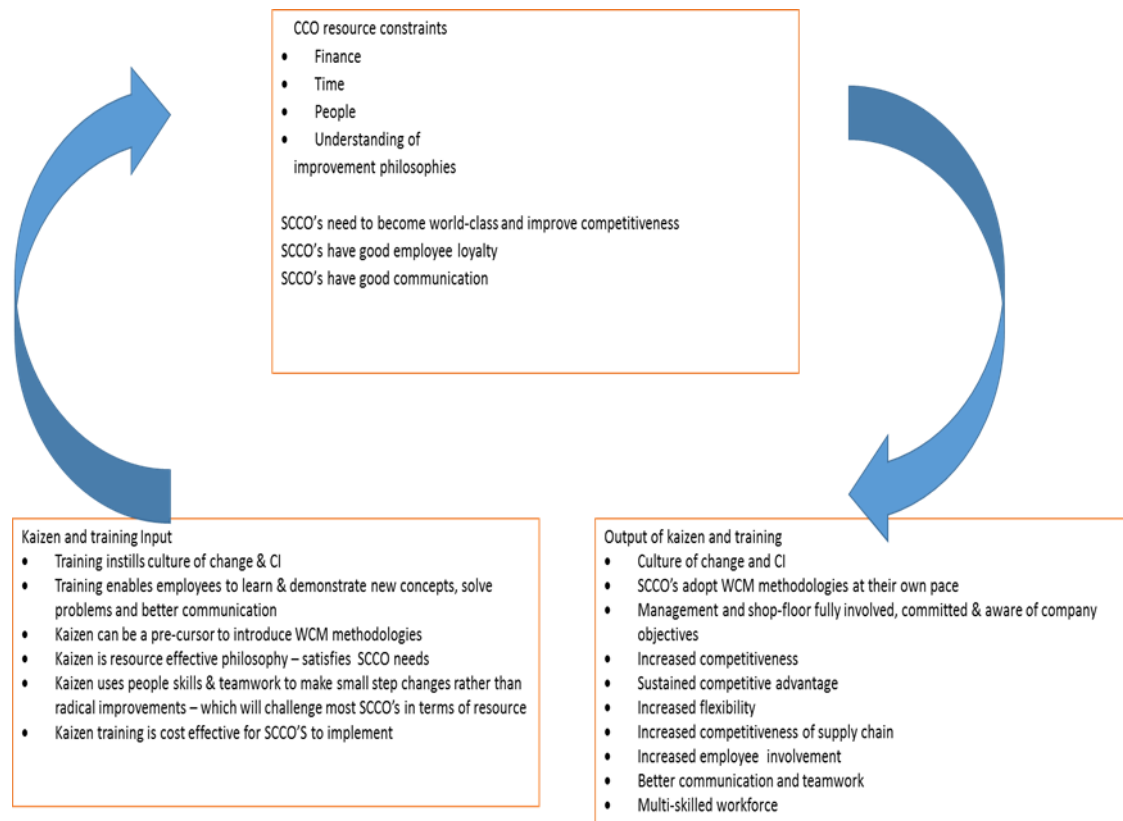


Figure 2-8: SCCOs resource constraints and how “Kaizen” addresses these issues (Khan *et al.*, 2007 p. 349)

The soft skills-training is an excellent base for the second step. Socio-technical systems (STS) theory is based on self-managed work-teams. The company undergo several levels of development for these work-teams which can involve: changes in culture; attitude; levels of training and commitment (Green, 1994). In a study comparing lean production (LP) and STS Niepce and Molleman (1998) suggested the main difference to be the way both systems control and coordinate work and suggest most other differences can be related to this difference. The similarities that LP and STS have in common are teamwork, multi-functionality, direct feedback to shop floor workers and CI. Figure 2-8 highlights the features embraced by “Kaizen” that are pertinent to SCCO’s. “Kaizen” embraces and promotes team-based and orientated activities and Styhre (2001) suggest that these principles are embedded within STS.

2.7.5. Semi-structured interviews

Khan *et al.* (2007 pp. 350-352) undertook 150 semi-structured interviews with SCCO companies whereby the analysis found the following gaps within the literature as

identified in fig 2-9. The main points from the 150 survey were: businesses were increasingly working with original equipment manufacturers (OEM's) to improve competitiveness; training is still an *ad hoc* activity; there is a lack of understanding of the “Kaizen” philosophy; a minority of organisations implement TQM as a complete philosophy; only 30% apply some form of “Kaizen”; almost all have a Health and Safety policy; managers operate an open door policy; managers are not conversant with best practice methods of manufacturing; managers felt that WCM was only available to very large companies; only 50% of companies had carried out any type of benchmarking; businesses are not making full use of non-financial performance measures; less than 13% of organisations practice TQM.

The main points from the semi-structure interviews conducted by Khan *et al.* (2007) were: shop floor workers were willing to learn the concepts of “Kaizen” and to be involved in a company-wide improvement initiative but were concerned that this may lead to redundancies; the shop-floor were concerned about certain training programmes initiated by the company as the workers had not used the newly acquired skills or knowledge gained from these courses; some supervisors resented BPI because they thought this may lead to more responsibility and work within their daily duties; conversely middle management showed enthusiasm for BPI. Management were interest in training course for themselves to increase their knowledge of manufacturing, management and improvement techniques, but all indicated a lack of interest from higher management; some SCCO managers/owners revealed resistance to improvement methodologies; middle managers thought that BPI frameworks were too complex, time consuming, academic and irrelevant for SCCO needs.

- Middle management wanted the BPI framework to work in a way that it would be easy to understand and follow, one they could use at their own pace and one that would show quick and visible results.
- Management were under the impression that “Kaizen” is a simple employee suggestion scheme system.
- Some SCCO managers did not have the education or the training to fulfil some of these duties.

- All the managers/owners were unanimous in claiming the cost and time (in this order) were major barriers to improvement and training.
- Management felt that a good health and safety policy was a good employee motivator, All had health had safety policies in place.
- Many shop-floor employees were used to carrying out more than one duty and were willing to learn other duties.

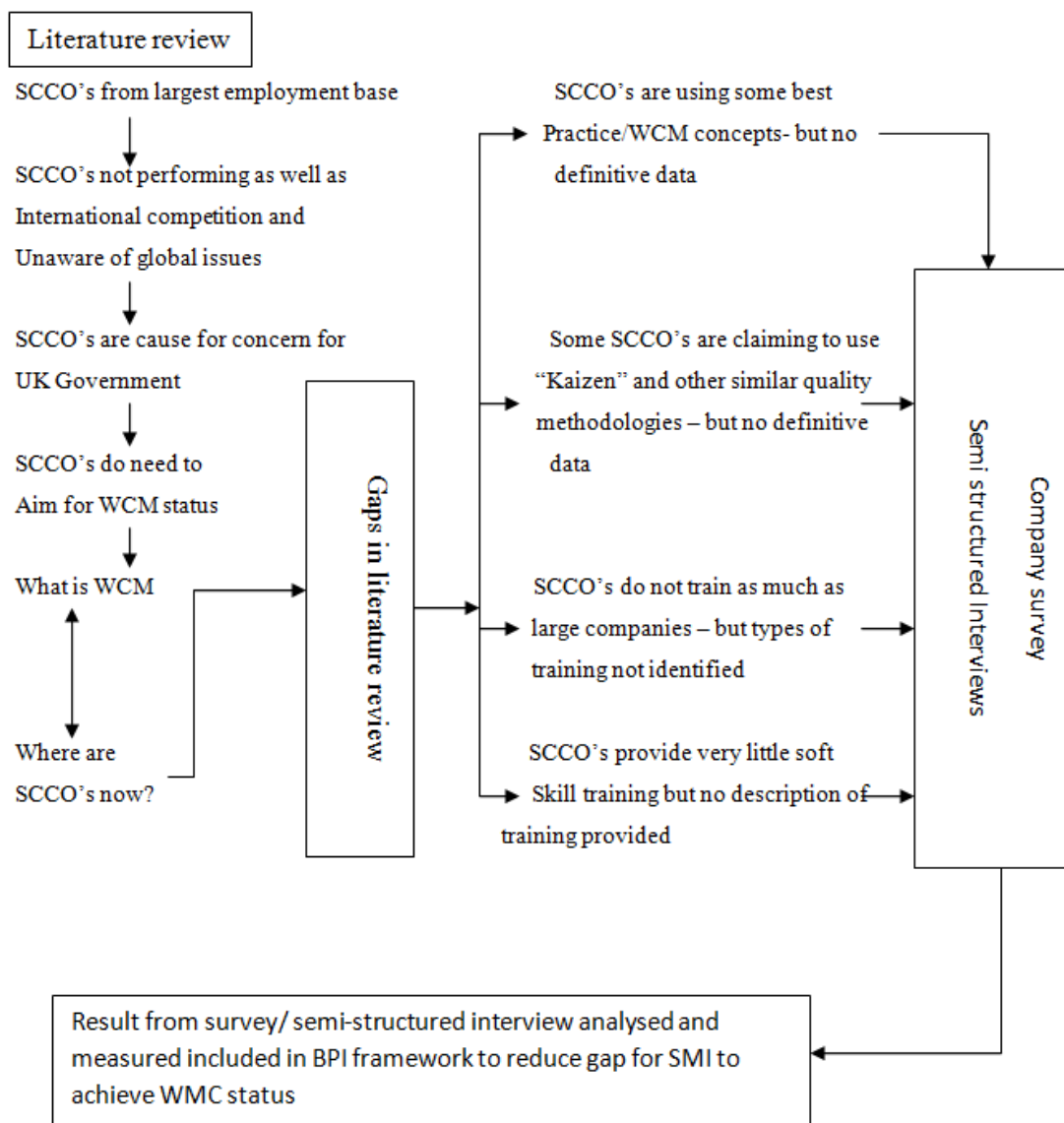


Figure 2-9: Gaps in literature (Khan *et al.*, 2007 p. 350).

2.7.6. WCM and the small enterprise

WCM may be justified for large firms, in many cases Yusof and Aspinwall (2000) found that small firms had been influenced to adopt “alternate management or technological” persuasions such as just-in-time (JIT), manufacturing resource planning (MRP) or concurrent engineering methods. WCM has been found to have been recommended for small firms by consultants, academics, experts who may not have a real understanding of the context in which small enterprises operate and the constraints they face.

2.8. Critical Success Factors (CSF) for Statistical Process Control (SPC) Implementation

2.8.1. Introduction

Statistical process control (SPC) is a method that became more popular as a technique for monitoring, managing, analysing and improving process performances. In order that the quality of service or product is maintained or exceeded a plan should be implemented to coordinate the factors for management involvement and commitment to customers focus.

SPCs are used to observe output and to detect out of control situations (Montgomery, 1996). The success of adopting SPCs is to understand and identify the key characteristics for customer satisfaction or the key variables that have an impact on the process variation. The culture of SPC is more widely used within Japanese companies where the Japanese are trained to have a better understanding of these key factors that make SPCs more successful (Rungasamy; Antony & Ghoch 2002 p 217). The benefits of adopting SPCs in organisations can be seen in the table 2-4. The issues are transferable and applicable to SCCOs enabling organisations to drive down costs, improve relationships, increase understanding and prepare business to become more effective, efficient and economic.

Table 2-4: Benefits of Statistical Process Controls in Organisations

Description	Food Industry (Griggs, 1998)	Blenders & Bottlers (Hogg, 1996)	Service Processes (Roes & Dorr, 1997)
Reduction of waste	X		
Improved process control	X		
Improved packaging efficiency	X		
Improved employee awareness, and improved customer quality assurance	X		
Improved process analysis and monitoring		X	
Increased understanding of processes		X	
Improved involvement of people (operators, engineers, managers, etc).		X	
Reduced customer complaints			X
Increased empowerment of front-line personnel			X
Improved communication			X
Reduced Service delivery time			X

2.8.2. Critical success factors (CSF) for SPCs

Rockart (1979) identified SCFs to determine information that is required for managers. In conducting the research based on Oakland (1999), Antony (2000), Rungtusanatham *et al.* (1999), Dale (1994), and Owen (1989) have established twelve CSFs for the implementation of SPC and are listed in Table 2-5. CSFs are an essential tool to the success of the programme. If the objectives associated with the factors, are not achieved then the application of the technique will fail. In order for the business performance to be successful the organization must review all the critical factors and not isolate one or two factors.

The results of the SPC within the six hundred questionnaires sent to SCCO's in the UK registered with ISO 9000 (Rungasamy; Antony & Ghoch, 2002 p 218 -219) have found a reduction in the scrap rate; re-work rate; reduction in cycle time; improved customer satisfaction as a result of SPC application; enhanced capacity of processes;

improved understanding of the process for people at different levels within the organisation; reduced need for checking/inspection etc.

Table 2-5: Summary of CSFs from the literature (adapted by author)

Critical success factors	R1	R2	R3	R4	R5
Use of pilot study	X	Y	X	Y	X
Use of SPC facilitators	X	Y	Y	Y	Y
Team work	Y	Y	Y	Y	X
Measurement System Evaluation (MSE)	X	Y	Y	Y	X
Appropriate use of Control Charts	Y	Y	Y	Y	Y
Organizational culture change	Y	Y	X	X	Y
Identification of measurement of critical quality characteristics	Y	Y	Y	X	Y
Management commitment	Y	Y	Y	Y	Y
Documentation and update of knowledge of processes	X	X	Y	X	X
Training	Y	Y	Y	Y	Y
Process prioritization and definition	Y	Y	Y	X	Y
Use of computer and SPC software packages	X	Y	X	X	X
<p>Key: R1: Oakland (1999); R2: Antony (2000); R3: Rungtusanatham <i>et al.</i> (1999); R4: Dale (1994); R5: Owen (1989) Y = Considered X = Not Considered</p>					

2.8.3. Reasons for using SPC

Rungasamy, Antony and Ghoch (2002) claimed that the main reason for using SPC for SCCO's was to improve customer satisfaction and reduce business costs. Other firms who have no wish to use SPC gave the following reasons for their decision: the business was successful without adopting SPC; there was a lack of awareness of the benefits of SPC; there was a lack of resources and budget to develop such a policy;

the business was not culturally ready of SPC; there were time constraints on the business; management decision not to engage; not a priority for business; not aware of SPC for short runs. Leppojevic and Kalac (2012) found that research into SPC for SCCO's was almost non-existent. Their findings for this lack of use were due to: insufficient engagement of the top managers and the lack of knowledge but the biggest obstacle to introducing SPC were due to training of employees. SPC has been generated as a system constructed for customer-focus orientation and an improvement process for customer satisfaction. However this is just one process amongst many that SCCOs should be aware of to embed management techniques in raising performance levels giving raised opportunities and benefits to better enable performance achievement to a firm's prosperity moving forward.

2.9. Performance of Micro and Small Sized Organisations

2.9.1. Introduction

Procurement within the construction industry is largely based on competitive tendering. The contractor is monitored by the client or the client's representative to ensure time lines; quality and adherence to the instruction are maintained. The contractor's ability to meet with contractual obligations is in turn governed by labour requirements, the availability of materials and plant, other contractual commitments and cash flow. The client and contractor are both keen to bring the works to completion but have differing agendas which can lead them to conflicting positions. Mistrust is endemic, particularly where adversarial positions have been adopted which detracts from either growth or development. These working practices have been adopted and maintained within the construction industry for many years and in the 1990s two government reports were commission by Latham (1994) and Egan (1998) to address the need for change for improvement to the industry. Both reports suggested that the construction industry could achieve improvement through greater teamwork at site and organisational level.

2.9.1.1. Working together

Over recent years much work has been carried out to build closer working relationships through government reports that have recommended implementation of the methods used by the manufacturing industry such as partnering, the use of integrated production teams and continual monitoring of the effect of performance improvement methods. Longer term relationships have been established in the manufacturing sector that can be found in the construction industry. (Building down barriers, 1999; Hayward, 1999; Mylius 1999; Whitelaw 1999) argued that working practises developed as “Movement for Innovation” have lead to substantial improvements for cost reduction, quality, work environments, relationships, productivity, margins, cash flow, planning for future workloads and image. This has been the benchmark adopted for supply chain partnering between companies and client organisations.

2.9.2. Supply-chain management

Supply chain management is described as the management of networks of organisations involved in carrying out the business process (Harland, 1996). Such networks can be very complex in large projects. A typical construction supply network stems from the main contractor who has links to the client and supply routes to the materials, suppliers and subcontractors.

Supply-chain management can be traced back to its routes to the Japanese Car Industry of the 1970s and 1980s (Womack *et al.*, 1990). This approach to external resource management pioneered by Toyota is sometimes referred to as “lean thinking” in its approach to imitate Toyota’s waste minimization techniques (Womack and Jones, 1996). The lean approach was the dominant model about supply chain and according to Cox (1999) there are eight defining characteristics of the lean approach.

1. Striving for perfection in delivering value to customers.
2. Produce what is pulled from the customer just-in-time and concentrate on those actions that create value flow.

3. Focus on the illumination of external and internal waste in all operational processes that arise from over-production, Waiting, transportation, inappropriate processing, defects and unnecessary inventory and motion.
4. Recognise that all participants in the supply chain are stakeholders and that all participants must add value for everyone in the business.
5. Develop close, collaborative, reciprocal and trusting (win-win), rather than arms-length and adversarial (win-lose) relationship with suppliers.
6. Work with suppliers to create a lean and demand-driven logistics process.
7. Reduce the number of suppliers and work more intensively with those given a preferred long-term relationship.
8. Create a network of suppliers to build common understanding and learning about waste reduction and operational efficiency in the delivery of existing products and services.

The purpose of the supply chain is to mitigate waste and therefore improve value for the customer. Closer and long-term working relationships such as partnerships are encouraged at all levels of the supply-chain to enhance leaner, less wasteful and therefore more competitive and better value for the customer. An operational benefit of adopting a supply-chain structure for increased efficiency is by reducing operational waste that lowers contractual costs without affecting profit, thereby ensuring enhanced business opportunities for all those involved. Alternately businesses that lag behind and fail to deliver value to their customers will lose out in the market place. From the origins of the supply-chain structure developed by Toyota in the 1970s this technique has been adopted by other industries such as supermarket retailing (Cox, 1999).

The supply-chain structure is less successful in the UK construction industry where it is characterised by adversarial practices and disjointed supply relationships. Clients distrust main contractors who in turn maintain an arms-length relationship with tier sub-contractors and suppliers. Projects are treated as individual, separate operations and individual players are reduced to having very little stake in the long-term success of the project and therefore no commitment to it (Briscoe and Dainty, 2005). Latham (1994) and later by Egan (1998) identified problems with the industry's supply-chain. Egan purported that to give the client better value the players within the industry

needed to integrate its processes and products. This approach involved clients, designers, main contractors, and sub-contractors working together as a constituent part rather than individual self-centred organisations. A further report (Strategic forum for Construction, 2002) emphasised even greater collaboration.

Research into three very large clients and their associated supply chains were investigated by Briscoe and Dainty (2005) and they concluded that a requirement for successful alliances was a combination of both formal and informal processes. Analysis of the clients determined significantly different approaches to the supply-chain whereby integration varied as to which parties they interfaced with during the project period. In general they appeared to favour a less structured, informal partnerships and loose alliances which were not prescribed by formal contractual arrangements. Neither the client nor the principal contractor were prepared to associate with subcontractors this was left to the main contractors to forge their own relationships with the subcontractors and at this level there appeared to be a lack of trust which impeded any formal partnering of an enduring nature. This had a significant limiting effect on integration. It would appear that until trust, integration and involvement amongst all players within the project can be accomplished there would be a long way to go before supply-chain management within the construction industry could catch up to the vehicle, manufacturing or supermarket retail industries.

2.9.3. Business projects used to innovative construction products for the residential construction industry.

As augmented by Latham (1994) the construction service industry is fragmented and therefore resists innovation due to the adversarial positions adopted even by participant parties working on or for the same project. It is therefore not surprising to find that the homebuilding industry presents challenges that resist the adoption of innovative products. Typically the products supply chain comprise; material suppliers; manufacturers; distributors; retailers; developer/builders; installers; regulatory bodies and end users. Support for these working practices has been addressed and corroborated by McCoy *et al.* (2009) who found that the developer/builder have resisted innovation forming a barrier to innovation that is unique to the homebuilding product industry. They further claim that it a failure of small sized resource-limited

developers of new home building products to bring products to the market quickly and effectively.

McCoy *et al.* (2009) felt it was important to differentiate and identify the role of contractors and builders and characterise a developer's role to manage land inventories and subcontractors of the assembly process whereas a builder's role is to manage the assembly process. However their research determined that both developer and builder refuse to adopt innovation for purchasing construction products. The reason for this resistance is attributed to uncertainties specific to the construction industry such as: site variability, one-off nature longevity of warranties, supply uncertainty, and the uncertainty inherent in the built environment. Pritchard (1997) explains this by stating: uncertainty represents the likelihood of the occurrence of an event while risk represents the effects of this event. Blackley and Shepard (1996) reinforced this position by stating that a higher risk potential requires longer warranties reflecting the long lifecycle of houses.

The builder/developer preference is to use tried and tested products that have proved to be reliable and cost effective mitigating supply chain variability or uncertainty in construction, but by adopting this process they resist innovation (BTI, 2005; Toole, 1998). In adopting this process within the residential construction environment resistance to technological change is opposed (Kobel *et al.*, 2003; Ball, 1999; Slaughter, 1993a).

The success of new products requires the union of the members of the supply chain (Fig. 2-10) which is only possible if each member of the chain sees a net benefit in joining the chain. According to McCoy *et al.* (2009) the developer/builder's disincentive to innovation is supported by the lack of awareness amongst home buyers who are not knowledgeable of building products/technology. The cost to the developer/builder for innovative products is therefore unwarranted without the support of their end user i.e. the home-buyer whereas other competitors can predict profitability by reusing a template which has been used and reused for house construction. Supply chains may vary from that expressed in Fig. 2-10, for example a contractor can fabricate and assemble their own products but supply chain

management can be used to improve profit, mitigate delays and organisational relationships may foster better working practices.

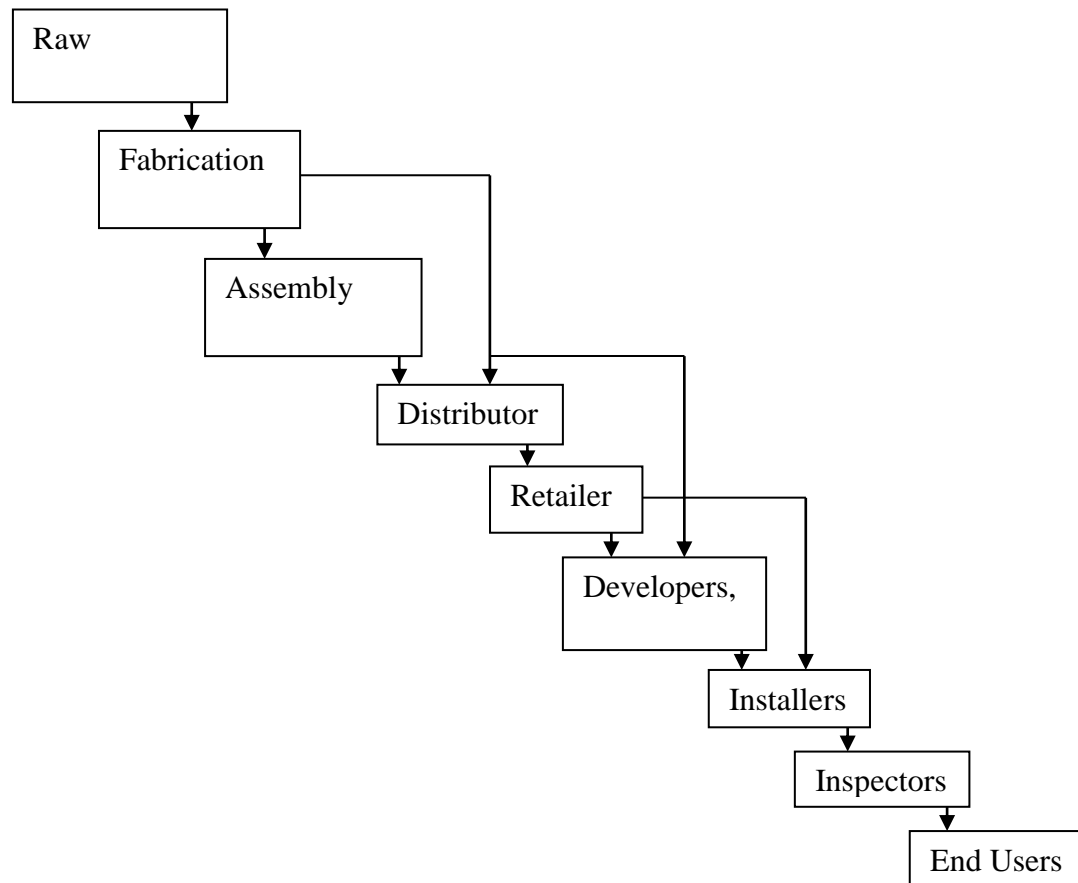


Figure 2-10: Supply Chain (McCoy *et al.*, 2009)

2.9.4. The collaborative approach

The Latham report (1994) and Egan report (1998) supported the concurrent theme that the construction industry could achieve improvement through greater teamwork not only at site and organisational level, but also with clients and suppliers. It was asserted that this would lead to collaborative arrangements such as joint venture, public private partnership, prime contracting and supply chain management in order to improve the construction development process. The construction industry is a service industry and its stability over the last forty years of the industry has been subject to the “boom and bust” cycle of the United Kingdom’s economic climate. In order to address the problems associated with the construction industry in this recession there is research available from times of previous recessions. Lee –

Mortimer (1993) argued that organisations should try to support one and other by developing supplier partnerships to help reduce both costs and risks. This collaboration between supplier companies is opposite to the traditional adversarial purchasing process that is prevalent in the construction industry. Such collaborative unions between partnerships developed through such programmes mitigate the costs and risks of both supplier and customer and reduce the overall costs through the elimination of replicated effort and improvement on quality. The pooling of resources in recessionary times, when resources are scarce, can provide a way of survival or even prosperity for some, providing a win-win situation for all concerned.

However partnering is developed over a long term period where trust and empathy are allowed to develop. This is alien to the management process of fragmented parties who must develop different thinking to act as working for the good of the union rather than self-interest. Should this philosophy not be adopted then partnering cannot work and fragmentation and self-interest lie behind the failure of substantial growth of partnering agreements from 2000. Therefore a collaborative programme is fundamentally different from the usual tender process where the cheapest quote is awarded to the successful contractor to that of a union of interests and goals between all parties involved, where all are allowed to see the benefits of the programme. Advantages must be available for all concerned and the programme must be true to the philosophy of partnering. This cannot be a policy that disappears at the first sign of hard times, to find the customer deciding to cut costs at any expense (Latham, 1994).

The use of collaborative relationships to deliver goods and service has been subject to much research. Douma *et al.* (2000) looked at collaborative relations from a strategic alliance angle and noted that due to the increasing pace of technological developments and access to new technologies, alliances have become a key success factor in many industries. They suggest the need to cooperate is determined on continuity, market opportunities and time pressures. They identify six drivers (Table 2.6) for strategic fit in potential collaborations:

Akintoye and Main (2007) purports the main reasons for construction collaboration relationships are customer-driven (response to the market opportunity and customer

need) and not competitor-driven (pressure of competition forcing firms to react) of supplier-driven (interactions with suppliers). The parties are interested in the opportunities (ranked high) presented by collaborative relationship rather than threats (ranked low) from competitors suggesting that they are willing to balance the risks and rewards involved.

Table 2-6: Douma *et al.* (2000) Six Drivers for Strategic Fit in Collaboration.

Cooperation is to be determined where partners have a shared vision of the development and what impact the development will have on their individual positions.
That a precondition for strategic fit is compatibility of strategies.
The alliance partners will be prepared to make concession when the alliance is of strategic importance to them.
A successful alliance requires mutual dependency.
The alliance should add value for the partners and their customers.
Partners must carefully consider whether the market will accept that alliance.

Luck *et al.* (1996) suggest that relationships between collaborative arrangements need to be good. To improve trust, teambuilding within construction projects is essential for achieving productivity, efficiency, motivation, goal attainment, group dynamics and dispute minimisation (Kumaraswamy, 1996). The temporary nature of construction projects and the ambiguity for responsibility are barriers against optimisation for collaborative team building Luck *et al.* (1996). This may be optimised where the temporary one off projects could be turned into repeat projects (Sarkilahti, 1996) where trust and cooperation are allowed to flourish. This will promote the team to raise the standards to respond to customer needs and market opportunities.

2.9.5. Improved performance through partnerships

Partnering appears to be largely restricted to client-contractor linkages rather than the supplier network and is found to be the most popular with the larger companies. There are a number of diverse smaller companies who include labour only sub-contractors who participate in partnering and these businesses are to be found within a single construction project (O'Brien and Fischer, 1993; Reed, 1999). The fragmented and

open-ended supply of sub-contractors has little to do with the design process for the project and therefore see no advantage in involving their position in an integrated supply-chain. Are SCCOs therefore able to contribute fully into integrated supply-chain management strategies? SCCOs have either generally worked directly with public and private sector clients as main contractors or sub-contract to larger organisations. Alternatively partnering is one of the methods advocated by Egan (1998) to improve the UK construction industry whereby large firms have in-sighted partnering alliances with SCCOs (Mathews *et al.*, 1996).

Partnering was defined by the Reading Construction Forum (1995) (cited in CIB, 1997:3) as:

a management approach used by two or more organisations to achieve specific business opportunities by maximising the effectiveness of both parties. The approach is based upon mutual objectives, and agreed method of problem resolution, and an active search for continuous measurable improvements.

Davey, Lowe and Duff (2001) identified two types of partnering: project partnering, where the parties come together for a one-off project and strategic partnering where the parties develop a longer term relationship over a series of negotiated projects. Partnerships are difficult to set up and may involve players such as clients, consultants, main contractors, sub-contractors and end-users but are easily undermined by the adversarial nature and fragmentation of the market including the use of short term, legalistic approaches to procurement and contracting (Abudayyeh, 1994; Davey *et al.*, 1998a). Partnering should only be recommended where all players involved are fully committed to the creation of partnering culture (CIB, 1997).

The outset of a partnering scheme is difficult to implement especially at the outset where coordination and commitment of the participating parties may be set off against a scheme whereby individual parties are unknown to each other or that the project is unfamiliar at commencement (Barlow *et al.*, 1997). The participating parties must put these concerns to one side and fully commit to the construction process which must be adapted to the needs of SCCOs if it is to work (Bates, 1994). Dainty *et al.* (2001) found managing directors were unimpressed with the ethos of supply-chain

management and that there was little difference to the traditional procurement route. Examples of disillusionment from the study are cited below:

Cost-related issues

Competitive tendering remains the principal process for selection rather than value-for-money. This remains a barrier against effective integration. Late payment is still endemic which puts an undue burden on SCCOs. Sceptical sub-contractors believe that supply chain management is a way of making them finance projects. This has contributed to sub-contractors overpricing tenders to mitigate the risk for late payment.

Time-related issues

Despite communication technology, programming difficulties are found to be both cause and symptom of poor supply chain relations. Unrealistic notice is given by the main contractor who has little sympathy for the sub-contractors own work schedule.

Quality of information related issues

Information from the main contractor is found to be inaccurate and lacking in detail which impacts on the service of the subcontractor. There is also a reluctance to draw upon a specialist sub-contractors expertise in resolving site-based problems by the main contractor.

Attitude related issues

The site-based main contractor management was universally criticised by the smaller sized supply-chain companies who simply dismissed the value of service and experience which was available to the main contractor. Examples cited: The site management priorities for completion of the project in the fastest available time rather than integrating the specialist trades effectively; the contractor's quantity surveyor accused of being arrogant towards sub-contractors and suppliers and the main-contractors estimators accused of requiring complex tenders back without adequate

notice. The sub-contractors and suppliers felt the main contractor would benefit from a better understanding of their businesses and that whilst the traditional tendering process remained this would impede knowledge exchange between the supply-chain companies. Some sub-contractors have made an effort to develop a relationship with the main contractor in some cases over many years but felt their efforts to be both tentative and fragile with a feeling that this could easily dissolve when something goes wrong. Others felt that long term partnerships could lose them work from other sources.

2.9.6. SCCOs in Construction Supply-Chains

A highlighted by Latham (1994) and Egan (1998) an element of mistrust and adversarial culture has existed between main contractors and SCCOs that form the construction supply-chain. It is accepted that if either partnering or supply-chain-management were to be adopted then a dedication to the process had to exist from all stakeholders involved. Although the construction industry is thought of as a service industry it is designed and constructed from products that are purchased from general and specialist suppliers. In order to justify the scale of self-interest the following areas have been included.

2.9.6.1. Factors responsible for unsuccessful collaboration in construction

There has been much research as to why a collaborative approach to construction projects have failed and similar themes are repeated as to their causes for failure as corroborated in an open-ended question survey undertaken by Akintoye and Main (2007). The results of this survey are summarized in the order of significance from the highest to the lowest as: lack of trust; communication breakdown; lack of belief in the system; clash of organisational cultures; unchanging attitudes; lack of planning; varying financial objectives; lack of appreciation for contractual risks; client interference; clash of personalities; disputes not being resolved and the lack of senior management support. These factors were mentioned by over half of the participants

taking part in the questionnaire which suggested that the major criteria by which respondents assessed failure is behavioural.

2.9.6.2. Evaluation of collaboration

Contractors enter into collaboration with the hope of financial gains from reduction in development costs and risks. According to Akintoye and Main (2007) their results showed that contractors enter into collaboration for their own benefits and not as a result of what their competitors are doing. The reasons for the collaborative approach are similar for both the construction and manufacturing industries. The factors affecting collaborative relationships are to achieve risk sharing, access to innovation and technology, response to market, resource efficiency and client requirements. There are significant advantages for collaboration however, it is important that collaborations are considered carefully to ensure that they fit into the plans of the organisation that are considering entering into partnerships and the risks for failure are weighed against the advantages in committing the collaborative approach. Akintoye and Main (2007) identified that the success/failure factors in collaborative relationships in the construction industry are similar to that of the manufacturing sector. This suggests that there are generic collaborative practices that are independent of their own industries. Collaboration utilizes different organisations working together to become more effective. This approach has been taken a step further to show the benefits of organisations working in unison within a geographical area to promote and synthesize goods and products which in some cases have become world renowned.

2.9.7. SCCOs and the cluster approach

Karaev *et al.* (2007) concluded that a common understanding of the cluster concept has yet to be achieved. Clusters have been adopted through companies geographically bounded which encourage business transactions dialogue and communication. Clusters consist of private enterprises of different sizes which encompass producers, suppliers, customers, government, professional associations and academic research of training institutes. (Rosenfeld, 1997).

There are two main challenges that face SCCOs entering into cluster approach which are: to increase competitiveness and; by taking advantage of entering into a cooperative infrastructure increase their impact over a singular small enterprise (Fassoula, 2006).

Successful examples of cluster groups are to be found in either traditional products such as: furniture, ceramics and food which are situated in Northern Italy whereas technological products are to be found in the Silicon Valley. These geographical regions exemplify geographical proximity creates a competitive advantage to small enterprises who cooperate and compete to create linkages among cluster members which result in a whole greater than the sum of its parts (Porter, 1998).

As a result of geographical proximity, communications among cluster members in increased and the exchange of both codified and tacit knowledge is enhanced (Martin and Sunley, 1996). Tacit knowledge shared within cluster groups encourages trust which locks the individual groups into an intangible asset for the cluster organisation (Portes and Landolt, 1996). Intangible assets unlike financial and physical ones are hard for competitors to imitate which gives a powerful source of sustainable competitive advantage (Kaplan and Norton, 2004). The improved flow of information and communication help develop virtual links between SCCOs contributing towards collaborative relationships with the trading partners (Chiu *et al.*, 2006).

The interaction between competition and cooperation within cluster groups according to Porter (1998) is an important element of cluster dynamics. Competition drives innovation whilst cluster members are encouraged to work together for example: in a supply chain or an export promotion programme. Cluster members can therefore be found to work in partnership or as competitors and these roles can interchange based on market requirements. Clusters influence competition first, by increasing the sum of the productivity within the cluster base, secondly by promoting innovation, and thirdly by promoting new business which promotes the strength of the cluster.

Preissl and Solimene (2008) articulate that clusters are a set of interdependent organisations that contribute to the realisation of innovation in an economic sector or

industry. This definition does not take account of any geographical location but emphasises the relevant members who take part in the same activity, which leads to innovation. In an economic environment of boom and bust Govindarajan and Trimbel (2004) claimed that the ability to explore opportunities by creating and learning from strategic experiments is more critical for survival than ever. Furman *et al.* (2000) stipulate that organisations who adapt to change most effectively will be rewarded by growth, profit and employment. Innovative processes among cluster groups can show a high level of cooperation with suppliers and universities (Brenner, 2003). SCCOs can benefit from being a constituent part of such a group where instead of isolation, fragmentation and competition, cluster groups can work together to attract more customers, the ability to offer a wider range of services and to take on larger contracts which will increase the success and longevity of the participant organisations.

It is an important factor that an entrepreneurial atmosphere is encouraged as a pre-condition for SCCOs development and that SCCOs are encouraged to experiment with new ideas and mistakes are not perceived as failure (Love *et al.*, 2004). This should be basis for cluster development. Entrepreneurs are allowed to flourish and seek out improvements within their geographical area to mobilise the facility of required assets, skills, inputs, and staff which are often available at the cluster location can lead to new innovative approaches (Porter, 1998). Investors and financial institutes, impressed with this attitude to business, are less likely to perceive this as a risk towards the cluster members. This entrepreneurial movement encourages a spirit which creates conditions for new SCCOs and develops the critical mass of SCCOs as a crucial factor for cluster development.

Trust is a vital concept within a cluster group and where trust is elevated this becomes a strategic factor in the successful development within cluster movements (Dwivedi and Varman, 2003). Raised trust levels will reduce legal disputes and administrative procedures but in order to achieve this, rules of business conduct need to be in place on several different levels, underlined by ethical and legal measures that would sanction them.

Schwanitz *et al.* (2002) argued that competition means the ability of individual firms, whole sectors, regions and even countries assert themselves in the domestic and

global markets and that competitiveness is derived from entrepreneurial activity of individual firms bound by an appropriate structured policy, functioning competitive policy and adequate infrastructure. Porter (1998) asserted that governments at local and national levels have a role to promote the clustering approach by creating the framework conditions, setting the rules for competition and promoting entrepreneurial spirit.

Clusters overcome the disadvantage of size for SCCOs. Geographical proximity brings agglomeration in terms of higher specialization, innovation and knowledge transfer, resulting in cost reduction, improving competitiveness of industrial sectors, regions and nations.

2.9.7.1 Knowledge Management (KM) in SCCOs

Communication is a factor which is attributed to the success of a business and its structure. Egbu *et al.* (2005) asserted that KM incorporated both tacit and explicit knowledge which can be evaluated and integrated into the organizational memory. Egbu cited Nonaka and Takeuchi, (1995) who stated that tacit knowledge, which is a key component of socially constructed knowledge, is mainly captured through informal discussions. It is mainly people-bound and difficult to formalize and therefore difficult to transfer or spread. Tacit knowledge is mainly located in people's heads and therefore cannot be treated in the same way as explicit knowledge is treated. In fact, tacit knowledge can be located, but it cannot be readily captured the way explicit knowledge is captured, because it resides in the minds of people.

In SCCOs, the attempts made to transform tacit knowledge into explicit knowledge have, in the main, been unsuccessful. Knowledge is a key component in an organisational's arsenal to survive in the face of complexity, uncertainty and rapid change. Egbu cited Brooking (1996), who stated that only 20 per cent of knowledge available to an organization is actually used. What happens to the remaining 80 per cent of the employees' knowledge? Hence the teasing out of employees' knowledge is vital to a company's well being. An example of this to be found in on-site training which is conducted through the experience of senior staff (tacit knowledge) whereas off-site training is through (explicit knowledge). Therefore tacit knowledge, a

common-sense approach to an application has its roots through explicit knowledge where the solution has been developed to suit the situation. This has limitations however where technology or regulations change for instance which can make the tacit solution redundant.

Much of the networking techniques have identified the benefits of collaboration and collusion among potential construction partners however an organisation needs to be ready to take advantage of any upturn in its order-book and to accomplish sudden fluctuations must have adequate labour resource.

2.10. Training and Labour Requirements

2.10.1. Introduction

There has been a shift in labour resource since the early 1970s. Prior to that time the majority of the workforce was directly employed but by the end of the decade this had substantially changed to that of a sub contract based labour resource market. Recent changes made by the Inland Revenue have addressed issues surrounding the engagement of sub-contractors but this still remains a popular choice particularly for the micro and small sized contractor who may find it difficult to justify engaging permanent staff in recessionary times or by keeping away from complicated employment regulations that may be avoided by alternative employment arrangements.

2.10.2. Skill shortages

Skills shortages have been linked to the construction industry and have been a recurrent feature since the 1970s (DfEE, 2000). High UK employments levels in the construction industry has given a poor image which reflects poorly against prospective entrants choosing the construction industry as a career option (Baldry, 1997), thus the attraction and retention of skilled construction workers has remained a concern for the construction industry (Yankov and Kleiner, 2001). According to Mackensie *et al.* (2000) the demographic decline in the number of people entering the

labour market is due to: the changing and fluctuating nature of the market and the related decline in operative skills; the introduction of new technologies; the growth in self-employment; and the use of specialist and labour-only subcontractors; the fragmentation of the industry and the decline in training and related resources.

2.10.3. Recruitment

The strategic forum (2002) determined that due to the construction industry's poor public image of a white male dominated industry it is more difficult to recruit new entrants than in other comparable industries. Whittock (2002) has shown that there has been an attempt to diversify its workforce and although measure taken have been limited with the recruitment of women approx. 1% there has been more success in recruiting foreign and migrant workers from Eastern Europe which has been sanctioned by the UK government in order to satisfy industry skills needs (Clark, 2003).

2.10.4. Labour market regulation

There have been steps that the government has made to encourage companies to take on apprentices such as the Construction Industry Training Board (CITB) who have lowered levy fees for companies who engage in training programs. The Construction Skills Certification Scheme (CSCS) launched in the 1990s attempted to provide formal recognition of people's skills and an awareness of health and safety issues. The Investors in People (IiP) is another organization aimed to encourage companies to invest in skills and training activities but the take-up has been low amongst construction companies. This suggests that training and development are seen as secondary activities by many of the industry's employers (Beckingsdale and Dulaimi, 1997). In an attempt to explore the literature for factors that determine success in SCCOs it is important to understand various factors that contribute to business failure and in determining these issues will provide an authoritative and balanced overview of managing a small business within the construction industry.

2.10.5. Skills

Vocational skills are represented in the UK by the National Vocational Qualification (NVQ) system which range in levels 1-5. Level 1 is the entry level which enables students in working toward a job. Level 2 students become involved with practical work and must demonstrate that they are able to carry out tasks to a particular standard. Level 3 involves advanced practical work. Level 4 equates to a foundation degree and level 5 at degree level. Dainty *et al.* (2005) affirmed that approx two-thirds of the construction workforce had achieved a NVQ, but only 50% had achieved Level 3 and further reduced to only 13% at Level 4. Many of the skilled craft workers do not possess formal qualifications but have gained their skills experientially (Agaprio, 1998).

2.10.6. Self employment

The trend towards self-employment according to Dainty *et al.* (2005) has been driven by employers because of the flexibility it offers them with fluctuating demand cycles but this has an impact on training Harvey (2001) revealed that self employment had led to competition-induced institutional failure with the industry, resulting in a low cost, low skilled and a low productivity sector.

2.10.7. New technology

Off-site fabrication and new processes are gradually redefining the skill requirements of the construction industry (DfEE, 2000). Although increasing the production levels the resultant technological advances may result in the de-skilling of traditional on-site activities. Whatever the resources or size of an organization it would be anticipated or even determined what the life cycle is likely to be and given this information could assist in decision making to make effective choices.

2.11. Development Life Cycle of Organisations

2.11.1. Introduction

With the passage of time, a company will go through various stages of the business life cycle. A business will have been faced with a different cycles throughout its life.

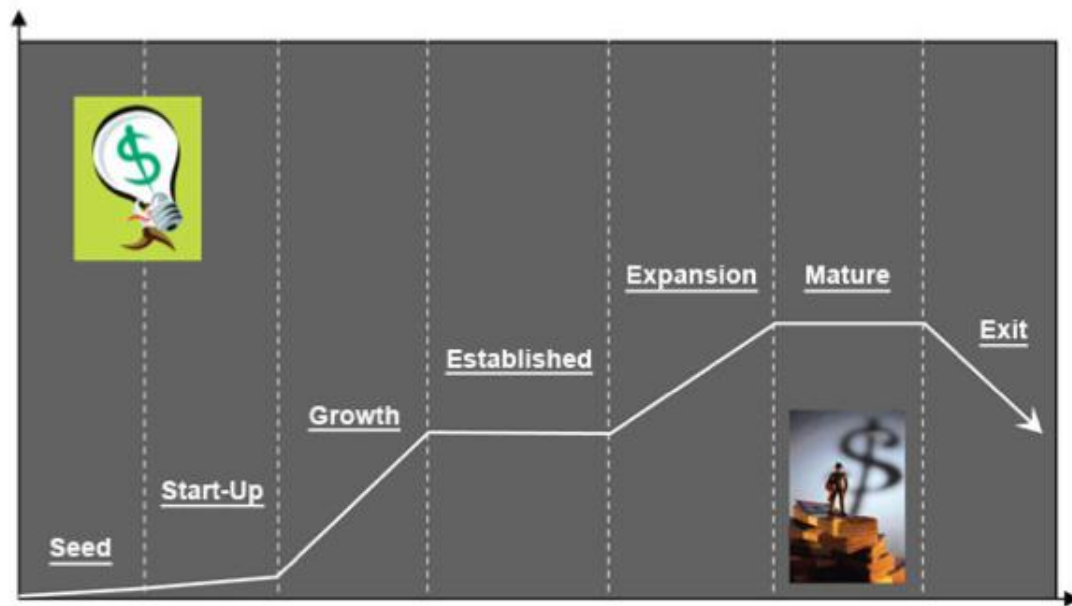


Figure 2-11: The seven stages of a business life cycle

2.11.2. The stages of the business life cycle

The differing stages of the business life cycle as shown in figure 2-11 have been explored in table 2-7.

Table 2-7: Business Life Cycle Explored

Stages of Life Cycle	Description	Challenge	Focus	Money Source
Seed	Initial idea of the business.	Overcome the challenge of market acceptance and pursue one niche opportunity.	Match business opportunities with skills and experience. Other focal points include: deciding on a business ownership structure, finding professional advisors, and business planning.	Early in the business life cycle will rely on cash from owners, friends and family. Other potential sources include suppliers, customers, government grants and banks.
Start-up	This is when the business exists legally. Products or services have been produced for its first customers.	The business is likely to have overestimated money needs and the time to market. The main challenge is to converse the cash flow.	Start-ups require establishing a customer base and market presence along with tracking and conserving cash flow.	Owner, friends, family, suppliers, customers, grants, and banks.
Growth	Revenues and customers are increasing with many new opportunities and issues. Profits are strong, but competition is surfacing.	The biggest challenge is dealing with the constant range of issues bidding for more time and money. Effective management is required	Businesses are focused on running the business in a more formal fashion to deal with the increased sales and customers. Better	Banks, profits, partnerships, grants and leasing options.

		and a possible new business plan.	accounting and management systems will have to be set-up. New employees will have to be hired to deal with the influx of business.	
Established	The business has now matured into a thriving company with a place in the market and loyal customers. Sales growth is not explosive but manageable. Business life has become more routine.	Stay focused on the bigger picture. Issues like the economy, competitors or changing customer tastes can quickly end all you have work for.	An established life cycle company will be focused on improvement and productivity. To compete in an established market, better business practices will be required along with automation and outsourcing to improve productivity.	Profits, banks, investors and government.
Expansion	This life cycle is characterized by a new period of growth into new markets and distribution channels. This stage is often the choice of the business owner to gain a larger market share and find new revenue and profit channels.	Moving into new markets requires the planning and research of a seed or start-up stage business. Focus should be on businesses that complements existing experience and capabilities.	Add new products or services to existing markets or expand existing business into new markets and customer types.	Joint ventures, banks, licensing, new investors and partners, profits, banks, investors and government.
Mature	Year over year sales and profits tend to be stable, however competition remains fierce. Eventually sales start to fall off and	Businesses in the mature stage of the life cycle will be dropping sales,	Search for new opportunities and business ventures. Cutting costs and	Suppliers, customers, owners, and banks. Profits, banks,

	a decision is needed whether to expand or exit the company.	profits, and negative cash flow. The biggest issue is how long the business can support a negative cash flow. Is it time to move back to the expansion stage or move on to the final life cycle stage...exit?	finding ways to sustain cash flow are vital for the mature stage.	investors and government.
Exit	This is the big opportunity for the business to cash out on all the effort and years of hard work. Or it can mean shutting down the business.	Selling a business requires a realistic valuation. What is its real value in the current market place? The challenge is to deal with the financial and psychological aspects of a business loss.	Get a proper valuation on the business. Look at the business operations, management and competitive barriers to make the company worth more to the buyer. Set-up legal buy-sell agreements along with a business transition plan.	Find a business valuation partner. Consult with your accountant and financial advisors for the best tax strategy to sell or close-out down business (Janssen, 2013).

The life cycle of organisations is not to be confused with how organisations develop. The life cycle determines the various stages a business will go throughout its life whereas organisational development is consistent with how a firm can cope with change or change its position given internal/external factors.

2.12. Organisational Development

2.12.1. Introduction

Organisational development (OD) has been a major approach to organisational change to the business environment within the developed world. It has had a chequered impact on the business and academic community which began in the 1950s reached its peak in the 1960s then gradually declined up until the 1980s. A resurgence of OD has emerged in the 21st century based on new perspective on organisations notably social constructionism (Busche, 2011).

2.12.2. The beginnings of Organisation Development

OD can be located to the late 1930s through Kurt Lewin who famously said ‘there is nothing so practical as a good theory’. The original core components of OD were training groups, (T-groups) action research and participative management (Cummings and Worley, 2001). Lewin’s three major contributions to OD were: (i) planned change through field theory, group dynamics, action research and the three-step model (Burnes, 2004b 2007); (ii) psychological theories and techniques developed and used in laboratory experiment to study group behaviour to be applied in real world (Highhouse, 2007) and; (iii) a set of values that promoted democratic values and participation to tackle social conflict (Lewin, 1946).

The first T-groups were a formed as a group of strangers who learnt from group interaction (French, 1982) but group participation evolved through formal training consisting of lectures, role play, general group discussion, the group would then evaluate the day’s work (French, 1982). Gradually staff and participants discovered the feedback from the participants about their day-time work was teaching them as

much or even more than from their daytime activities (Burke, 2006:14), which was in essence what Lewin was trying to establish by showing that leaders needed to understand and change their own ways before they could change other people's behaviour. According to Burke (2006) the term of 'organisation development' came from T-groups and by blending the T-group approach with other OD disciplines such as action research and participative management which was the basis for attempting organisational change (Burke, 2006) and are further detailed.

T-groups

T-groups were build on Lewin's (1946, 1947) work on social psychology of groups and although the original T-Groups consisted of untrained strangers the growth of OD demanded that the National Training Laboratories (NTL) recruited trainees from a psychotherapy background rather than from a social psychological one (Highhouse, 2002). As a consequence they became more like psychotherapy sessions concentrating on personal growth and self-development and began to lose touch with the aim of changing the behaviour of the groups to which they had a responsibility for (Porras and Bradford, 2004).

Action research

The use of action research and participative management became more important as the influence of the T-group waned (French and Bell, 1990). Lewin viewed action research as being much more about creating a dialogue amongst the participants, allowing common understanding to have been reached on the context in which their behaviour took place. (Burnes, 2004b).

Participative management

The third component of OD and was also referred to as group dynamics (Greiner and Cummings, 2004). This concept is based on groups of workers having a role in decision-making and is underpinned in all aspect of OD (Burnes, 2009a). Participative management could be shown to be effective tool for social and organisational settings (Burnes, 2007). Benefits include better decision-making, increased group co-

operation, performance and commitment and a reduction for resistance to change (Bennis *et al.*, 1969).

2.12.3. The pinnacle of Organisation Development (OD)

OD reached its zenith in the 1960s and was driven by the popularity of the T-group approach stressing personal growth, emotional expression, challenging bureaucracy and promotion of democratic participation which matched the times of the freedom movement, civil rights etc. (Thrift, 2005). OD epitomised the values of participative management and the humanising of the work (Burke, 2011). By this time OD was broadening out as a popular movement intent on democratising life in organisations. Many large companies such as Esso and Proctor and Gamble embraced the concept of OD.

2.12.4. The decline of Organisation Development

The 1970s and 1980s faced increasing world-wide competition. Oil prices and unemployment increased, technological changes and a recession changed the optimistic mood of the 50s and 60s and value for money became the dominant factor that replaced OD ideals (Freedman, 1999). As the scope for OD declined it was taken over from academics by practitioners who were focused on results-focused commercial activities that catered for company benefits and results (Burnes, 2009a).

By the 1980s OD had incorporated other approaches such as Six Sigma and Total Quality Management but the influence of global decline where decisive top-down, imposed change including factory closures, mass unemployment issues took precedence over what appeared to be more out-moded values of the OD system and Pettigrew (1985) went on to argue that OD was too rational, linear, incremental and prescriptive and did not pay enough attention to the need to analyse and conceptualise organisational change. OD failed to recognise that change processes were shaped by history, culture, context and the balance of power in organisations. Pettigrew (1987) thought that in its place changes for a complex analytical, political and cultural process of challenging and changing the core beliefs, structure and strategy of the firm should be adopted. However this approach was not embraced as attractive by

practitioners who thought the approach was strong on analysis but weak on application i.e. that it allowed an understanding of organisation but not an approach to changing an organisation (Andriopolous and Dawson, 2009).

2.12.5. The revival of Organisational Development

The revitalisation of OD is in part owed to three separate but parallel developments. The first was that it had become entangled in a debate over the nature and future of the OD issues (Bennis, 2000) whether it was still relevant or still existed. The second development grew out of a new generation of scholars who had taken an interest in the work of Kurt Lewin after a special publication in a 1992 edition in the *Journal of Social Issues* (48/2) marking Lewin's birth in 1890. The new generation of scholars claimed that Lewin's works was still highly relevant claiming that psychology as a field had moved closer to Lewin's world view than it was during his lifetime (Bargal *et al.*, 1992). The final and third development was attributed to the continuing development of OD. The practices had been increasingly incorporated into Human Resources Management (HRM) and Human Resource Development (HRD), creating strong overlaps between the three areas (Ruona and Gibson, 2004) and OD was still globally practiced.

One of the new approaches in OD was found to be Appreciative Inquiry (AI). Busche (2011) described AI as having been based on dialogic OD and social constructionist theory comprising the Four-D approach of Discovery, Dream, Design and Delivery/Destiny. Busche (2001) stated that AI is a form of action research and as such as a strong similarity with Lewin's approach to change Burk 2006).

Dumphy and Stace (1998) have argued that for small-scale, slow change OD would be the appropriate choice especially in situation-dependant cases, but where rapid transformation was required it would be less suitable. Burnes and Jackson (2011) points out that the democratic and humanistic values of OD promoting openness and honesty is less likely to be received in organisations that do not have similar values. OD is therefore more suitable for small scale rather than large-scale change and is more suitable for organisations that share its values.

The mantle of OD has been passed from practitioners hands into the academic world as they seek to develop theoretically strong and rigours approaches to change (Burns and Cook, 2012) but the value of OD will work best when the various methods are adopted i.e. what works, where does it work and how does it work? A survey carried out by the Global Committee on the Future of Organisational Development found: 'leaders across a wide range of industries see increasing opportunities of OD related works that is critical to the future of business and society (Wirtenberg *et al.*, 2007).

2.12.6. Criticisms of Organisational Development

According to Garrow (2009) there appears to be growing number of criticisms from the academic community, particularly from the US, who have suggested reasons why OD may no longer be viable. (i) Bunker, Alba and Lewicki (2004) have indicated that there has been a widening gap between theory and practice and that OD has moved away from its theory based roots to become more tool and technique oriented. (ii) Porras and Bradford (2004) suggest that rather than working with organisation OD has tried to impose its own humanistic values. (iii) Bunker, Alba and Lewicki (2004) viewed that OD has been in danger of pandering to fads to facilitate change instigated by the whims of organisational customers. (iv) Burke (2006) believes that internal OD practitioner have been absorbed by Human Resource (HR) and lack contact with senior executives and goes on to say (v) that there is insufficient information being drawn from the field of social technology.

Wirtenberg *et al.* (2004) conducted a global survey of 6,000 OD practitioners from various OD networks who identified their own criticisms of OD to be that: a) there has been a lack of definition and distinctiveness in what OD does; b) there should be a requirement for greater quality control/effectiveness and business acumen needed for OD practitioners to finalise their results and c) there has been a lack of clarity around return on investment and the value of OD work.

2.12.7. Relationship between Organisational Development and SCCOs

SCCOs operate with limited resources with primary investment into securing business. Due to cash flow and time-management restraints micro and small business

resources have to be optimised. As profit margins have been tightened throughout the recession, micro and small sized businesses as a whole have lacked the cash to fund OD which has remained almost exclusively within medium to large sized operations. OD relies on various participants such as: T-groups; actions research; participative management; human resources management (HRM) and human resource development (HRD) and has incorporated other approaches such as Six Sigma and Total Quality Management. It is further exacerbated where managers of micro and small sized business, for many who has started the business and has nurtured it through difficult times, remain reluctant to devolve responsibility and power. OD is further alienated to SCCOs where it has been passed from practitioners' hands into the academic world.

Although OD as described above has remained outside the reach of many SCCOs this is not to say that micro and small sized business cannot develop their organisation in different ways: (i) through interacting with supply-chain networks which can help to keep abreast of new developments, technologies and changes in the industry which may impact on business at an organisational level; (ii) Continued Professional Development (CPD) either as packages offered to professionals, short courses that may prove relevant to key players, or trade bodies affiliations such as Gas Safe, National Inspection Council for Electrical Installation Contracting. (NICEIC), Construction Skills Certification Scheme (CSCS) and an array of others (iii) Construction and Trade Magazines (iv) advisory councils and (v) colleagues, family and friends. With this array of support and help available the small business community are recipients to organisational development without necessarily acknowledging or identifying this as would be recognised by medium to large firms.

There is a marked difference in the way small businesses undertake OD to their medium and large sized cousins. It would however be a mistake to think of small businesses as merely start-ups with an inevitable growth pattern propelling them into medium and finally large sized enterprises. There are many reasons why SCCOs remain so either by choice or other external/internal factors.

2.12.8. Development process within the small business

Business owners of micro and small sized businesses are likely to be more focused on day to day management, establishing relationships with clients, securing business premises and other aspects of business creation than becoming preoccupied with life cycle issues of decline and dissolution (Organisational life Cycle – Encyclopaedia). This makes small firms different from large firms (Flamholtz, 1986; Hanks *et al.*, 1993; Kazanjian and Dranzin, 1990). Liao and Welsh (2003) who contend that unlike large firms who are bound by bureaucracy and hierarchical thinking small organisation have; shorter chains of command; are closer to the customer and have fewer delays between problem, recognition and action. These idiosyncrasies separate small firms who are radically different in nature, as well as in size making them more flexible and better able to react than larger and more cumbersome counterparts. (Bumgardner *et al.*, 2011). There are many small sized firms who by choice and disposition do not want to grow but remain small (Delmar and Wicklund, 2008). Limited finance and managerial expertise together with restricted knowledge to limit capacity and capability determine the small sized entrepreneur's world but limit their capacity to grow (Baba *et al.*, 2012). Anderson and Ullah (2014) determine that small business owners may choose not to grow because they recognise the benefits and limitation of being small and are concerned about the associated problems of getting bigger. The need for flexibility and the desire for autonomy combined with a lack of time and knowledge create barriers for the small business owner to employ more staff which inhibits growth.

Most small micro and small sized firms never grow beyond being very small (McKelvie and Wiklund, 2010) and few are interested in growth (Chaston, 2008). The reluctance of smaller firms to relinquish autonomy or involve outsiders, even if it were at the expense of growth suggest that may keep their businesses small due to their reluctance to lose control (Chaston and Gregory, 2012). In a bid to remain autonomous but small limits their ability to negotiate for example with banks or investors over terms and conditions (Tocher and Rutherford, 2009) and therefore the small firm's belief and behaviours create the condition of smallness that deters growth in the way small firm's owners' practices are shaped by the way they see the world, reflecting different beliefs, values, assumptions and perceptions (Gibb, 2000).

The results of a qualitative response to employment legislation undertaken by (Anderson and Ullah, 2014) determined the reluctance of the small business owners to employ staff due to the quality, productivity and loyalty of potential employees to the minefield of legislation surrounding employment law. The consensus opinion was found that small firm owners want to make their own choices and guard their right to do so. They want to be allowed to manage more themselves rather than so much government control for example they want to be able to employ who they want, not who the government says they should employ.

It would appear that small firm owners recognise their distinctiveness but this limits their views and shapes their attitude and behaviour. The importance attached to being the boss, autonomy of choice and sense of operational freedom to decide how to run their business appears central to their perceptions (Hahn *et al.*, 2012).

Strength in being small has been recognised but lack of time and resources contribute to explain what is to be a small firm. Anderson and Ullah (2014) concluded that through their research the informants' responses highlighted what is meant to be a small firm owner in-so-much as there was found to be a clear resistance of small enterprises to grow from a comfort zone of control and sustainability which prevent growth. The perceptions surrounding employment can lean to competitive disadvantage; such is the perception of smallness.

Organisational development and its implications to SCCOs have been influential in recognition of the research aim and the measurement of success has been determined however elements which contribute to organisational success are of significant importance to any business and are influential to this study

The aim of this study is to identify the main factors affecting the development of micro and small sized contracting organisations in the construction industry, together with the critical success factors affecting their survival, and to develop an appropriate framework for their improved success.

2.13. Organisational Success

2.13.1. Introduction

There are many concepts that contribute to organisational success but all these concepts cannot be universally applied to all businesses/organisations. To understand the complexity and importance that organisational success has been featured within organisations Michigan State University have expressed this for their staff in terms of: (i) commitment to continuous quality/process improvement;(ii) continuous learning/development; (iii) creativity/innovation; (iv) customer orientation; (v) displays vision; (vi) flexibility/adaptability to change; (vii) leadership/initiative and (viii) teamwork/cooperation (within and across units).

2.13.2. Qualities contributing to Good Leadership

Organisational success policies may differ from company to company but is the product of its staff contribution. A single attribute found common of SCCOs is leadership, where owner/managers play much more an integral role within their size business than that of a larger cooperation. Therefore for the purpose of this study organisational success has been focused around leadership. It was Ochieni *et al.* (2012) who determined that leadership styles impact on performance of staff members which is impacts on the productivity level of the organisation and is pivotal to either success or failure of the business.

All humans have different personality traits this in itself is not significant as different situations require different leadership styles requiring different approaches at different stages of the company's existence. However according to (Ochieni *et al.*, 2012) there are characteristics that appear common to the majority of leaders.

(i) A leader must not be pessimistic but optimistic to motivate and should be intelligent and not seen as 'dumb'. (ii) Another quality is the verbal ability to influence and promote action. (iii) The next important quality is reasoned judgement which will enable analysis of work undertaken with an aim to promote greater

productivity. (iv) Equally important to the owner/manager is to be emotionally stable so that personal feelings can be separated to appraise objectively the needs of the situation. (v) A further quality to good leadership is to be technically proficient so that the owner/manager through extensive understanding of the work can direct the staff to carry out the work and win support their support. (vi) Quick decision making is an attribute of a good leader but this can discourage participation of staff members. (viii) A charismatic leader may capture the imagination of the organisation but equally reduces democracy and equality since the subordinates may naturally place their trust in the leader's decisions without questioning decisions. (ix) There are further qualities that enhance the standing of the principal such as initiative, independence and inventiveness. All these qualities may not be enough to be a successful leader but if they are completely lacking it would be most unlikely to succeed as a leader.

2.13.3. Contributory Theories of Leadership

There has been much discussion and work surrounding the theories of leadership but for the purpose of this study just five leadership theories have been promoted to have been found pertinent.

Trait Theories of Leadership: Trait theory of leadership argues that leaders are born with characteristics of leadership. It was argued that according to the theory all leaders should possess specific characteristics that could be collectively identified rather than individuals found with utterly different characteristics. This theory was discarded and its popularity waned toward the 1960s in preference of behavioural theory.

Behavioural Theory: The behavioural theory suggests that leadership behaviour could be taught and learned. However different situations command distinct decision making in divergent ways that lead to the demise of the behavioural theory as it could lacked an ability to clarify such situational factors.

The Situational Approach: This leadership approach maintains that a leader is a product of time or situation. Therefore the implication suggests that a candidate will emerge to deal with the demands leadership of that time or situation.

The Path-Goal Theory: The path-goal theory identifies with the subordinates acceptance and satisfaction of a leader where the leader's behaviour becomes motivational to them. According to this style of leadership there are two aspects of leadership (i) initiating structure: where the leader has structured the group members and has guided them to the path of attainment and (ii) consideration: where the leader has shown consideration and concern of the individuals of the group and the satisfaction of their needs. There have been found to be disadvantages to this theory. For example (i) the predictions of the subordinates (ii) inconsistent performance due to intervening variables at the work place and (iii) systematic and rational prediction is necessary for effective planning within the organisation.

The Managerial Grid: This leadership style was founded on five basic management techniques. (i) *Impoverished:* A minimum effort to accomplish the work at hand. (ii) *Task:* Concentration on the task in-hand with little concern of the development and moral of subordinates (iii) *Country-Club:* Supportive role for the consideration of subordinates to the exclusion of concern for the task in-hand. (iv) *Middle of the Road:* Concern for the task in-hand and the satisfactory morale of the subordinates and (v) *Team:* The leader works toward the goals of the task efficiency and high morale by coordinating and integrating works-related activities.

2.13.4. Style of Leadership

Leadership styles refer to different philosophies adopted by leaders in mapping out the affairs or activities of an organisation which have an immense influence on corporate performance. These leadership styles have been categorised into three major kinds.

Laissez-faire Style of Leadership: The style of leadership has no control or authority over its subordinates and give free hand to discharge their functions as deemed fit. Without control, discipline or caution mayhem among the group members ensues.

Democratic Style of Leadership: This style of leadership involves the participation of the leader and workforce where the divergent issues are discussed and by careful consideration the leader will draw upon the suggestions from the workers to form a

democratic decision. This works on the assumption that two heads are better than one instead of an autocratic approach to leadership.

Autocratic Style of Leadership: The leader relies on no one else's judgment to make decisions. No delegation process has been developed and no participation from the workforce will be tolerated. All decisions are imposed on the workforce without objection and the leader relies on intimidation and coercion to win compliance. A major downside of this style of leadership is by ignoring workers expertise then this is likely to lead to resentment by the workforce.

2.13.5. Inter-relationship goals

The relationship between leadership, motivation and worker's performance is driven by the attributes of good leadership. It would be difficult business targets where leadership were found to be woeful. A good leader must instil an environment within the workplace to create motivation among the workforce. It would be beneficial for any organisation to have employees who work with enthusiasm and optimism to drive forward the organisational success of the business and it is therefore the task of the leader to motivate the employees toward the realisation of the company's objectives (Ochieni *et al.*, 2012).

2.13.6. Critical Review of Effective Leadership on Organisational Success

On reflecting on the works of (Ochieni *et al.*, 2012) the role of the leader appeared to be epitomised where an organisation employed a stable and directly employed workforce. In the construction industry it would be more probable that a micro or small enterprise would be more reliant on casual or sub-contract labour that would be favourably resourced for short term projects. Casual or sub-contract labour has owed their own loyalties to either/or: (i) continuance of work; (ii) financial reward. Sub-contractors cannot under the current Inland Revenue's legislation be seen to be "employed" by a contractor and must find work from other sources and therefore are less reliant for continuance of work from a single business. Consequently they have

their own agenda for their own future success that may not reflect the target objectives of their main contractor. Loyalty therefore plays a more subdued role for these players and the owner/manager must reflect this in the leadership role played within the supply chain.

2.14. Conceptual Framework

2.14.1. Introduction

The stated aim of this study is to identify the main factors affecting the development of micro and small sized contracting organisations in the construction industry, together with the critical success factors affecting their survival, and to develop an appropriate framework for their improved success. As such the conceptual framework has been clarified to understand the background and later inclusion.

2.14.2. Defining concept and conceptual framework

Conceptual frameworks are the products of qualitative processes of theorization (Jabareen, 2009). To implement a constructional framework the term “concept” and “features of a conceptual framework” are detailed:

According to Deleuze and Guattari (1991) (i) every concept has components and is defined by them; (ii) a concept is distinct heterogeneous but not separable (iii) It is a multiplicity but “not every multiplicity is conceptual,” and “there is no concept with only one component.” Using this as a definition (Jabareen, 2009) highlighted a number of aspects to determine the term concept:

1. Every concept has an irregular contour as defined by its components.
2. Every concept has history.
3. Every concept contains elements originating from other concepts.
4. All concepts relate back to other concepts.
5. A concept is always created by something else.

6. Every concept is “considered as the point of coincidence condensation, or accumulation of its own components”.
7. Every concept must be understood in relation to its own components, to other concepts, to the plane on which it is defined and to the problem it is supposed to resolve.

Jabareen (2009) defined the main features of conceptual frameworks:

1. A conceptual framework is not just a collection of concepts but rather a construct in which each concept plays an integral role. Miles and Huberman (1994) suggest a conceptual framework “lays out the key factors, constructs or variables, and presumes relationships among them.”
2. A conceptual framework provides an interpretative approach to social reality.
3. A conceptual framework provides understanding.
4. A conceptual framework provides a “soft interpretation of intentions” (Levering, 2002).
5. Conceptual frameworks are indeterminate and cannot predict an outcome.
6. Conceptual frameworks are developed through a process of qualitative analysis.
7. Where conceptual analysis aims to produce concept, metasynthesis produces metaphors, ideas concepts and more. Usually, metasynthesis initially selects studies and then identifies key metaphors, ideas, concepts and relations in each one. (Nelson, 2006; Campbell *et al.*, 2003; and Noblit and Hare, 1988).

2.14.3. Preparing a conceptual framework

Vaughan (2008) stated that a conceptual framework can either be presented either in a written or visual form and that it should explain graphically or in a narrative from the main things that have been studied i.e. the key factors, concepts or variables and the presumed relationship among them.

Consideration ought to be undertaken as to where the conceptual framework should appear in the research. In order to map out the parameters of the framework consideration to features such as: (i) knowing the direction of the research; (ii) knowing what to do after being guided by the research and (iii) be guided by previous

experiences and by information provided by others. The factors considered within a qualitative research programme identified in a conceptual framework are the: (a) research problem; (b) paradigm; (c) aim and objectives; (d) literature review; (e) research questions; (f) data collection and analysis; (g) interpretation of the results; and (h) evaluation of the research.

Qualitative work is described as starting from an inductive position, seeking to build up theory, with the conceptual framework being emergent to support existing literature. Miles and Huberman (1994) suggested that it is better to have some idea of what will feature in the study, a tentative rudimentary conceptual framework, even if that idea changes over time.

2.14.4. What inputs go into developing conceptual framework?

There are a number of variances that contributing to conceptual frameworks and these considered points add to the matrix of a well constructed conceptual framework.

Experiential knowledge of the researcher

The issues considered here impact on the scope and outcome of a conceptual framework and should be addressed to ensure comprehensive outcome: (i) technical knowledge; (ii) research background; (iii) personal experience; (iv) data; (v) Literature review; (vi) prior 'related' theory – concepts and relationship that are used to represent the world, what is happening and why; (vii) prior 'related' theory – how people have tackled similar problems and what have they learnt. (viii) Other theory and research – that are not obviously relevant/previously used and (ix) how might a conceptual framework be developed?

Elements of the conceptual framework may be borrowed but the researcher provides the structure.

To develop the structure thought to identifying the issues should be contemplated: (a) key words used the subject should be identified; (b) the literature review should be

used as a source of information; (c) brainstorm one concept at a time then use the most relevant and (d) focus on both the content and tier inter-relationships.

The presentation of the conceptual framework

What general forms might a conceptual framework take: (I) set out the stages through which an action moves from initiation to conclusion? These relate to the ‘how?’ question. (II) Set out the variables, and possibly the relationship (with relative strengths) between them. These relate to the ‘why?’ question.

Various forms of conceptual frameworks

There are a number of different possibilities some of which have been included: (A) flow charts; (B) tree diagrams; (C) shaped based diagrams – triangles, concentric circles or overlapping circles; (D) mind maps; (E) soft systems and (F) a ‘flow chart’ of innovation decision making.

2.14.5. What information have conceptual frameworks provided researchers with?

There are a number of positive elements that conceptual frameworks have assisted research such as: (1) the ability to move beyond descriptions of ‘what’ to explanations of ‘why and ‘how’; (2) a means for selection process in determining research question and related data collection methods; (3) a reference point for the discussion of the literature, methodology and results.

2.14.6. Limitations of conceptual frameworks?

Conceptual frameworks have associated problems in-so-much as: (i) it is influenced by the researchers experience and knowledge and encourages bias; (ii) will ignite ongoing bias as the developed conceptual framework may influence the researcher’s thinking resulting in areas given prominence over other areas being ignored.

Jabereen (2008) accepted that conceptual frameworks have limitations such as different researchers may have different conceptions resulting in different results. There are however considerable advantages. Flexibility: being based on flexible conceptual terms rather than embedded in theoretical variable and causal relations. Capacity for modification: can be modified as a result of new data that were not available at the time the framework was first developed and finally. Understanding: conceptual frameworks aim to help phenomena rather than to predict them.

2.15. Conclusion

The intention of the literature review has been to provide milestones that have affected the construction industry within the working lifetime of the author and how these have impacted working practices and managerial styles over that period. The literature review has reflected on past and current publications but does not suggest that all changes have been addressed. The literature review is at the core of the thesis and references throughout the treatise are to find its roots embedded in this chapter.

Chapter 3 : Research Methodology

3.1. Introduction

The end objective of this research is to establish a conceptual framework for the critical success factors that may influence small (and micro) sized construction contracting organisations (SCCOs). Chapters 1 and 2 have detailed the research domain, aims and objectives and the main findings arising from the literature review. This chapter identifies the research methodology and philosophical position and the use of quantitative and qualitative research methods to provide a mixed method study to reflect the research objectives.

3.2. Research Method

The fundamental nature of research is to arrive at a version of the truth (Ioannidis, 2006). It cannot be claimed that the completion of the research will never be surpassed, as the conclusions are dependent on the veracity of the research/investigation which will have culminated at a particular point in history. New research will either support or not support prior theories by rigorous analysis of the available data at a particular point in time. In order to consider what methodology is to be adopted, it is important to embed an academic research programme within a framework of accepted and tested criterion and to develop the initial structure the scope of the study. This can be tested against Saunders research onion (Saunders *et al.*, 2009).

The research onion, as illustrated in Figure. 3-1 reveals the layers of research techniques which are adopted to suit a particular field of research. The hierarchical layers are designated and start from the outside to the middle. The following research approach is linked to each of the layers indicated in the research onion.

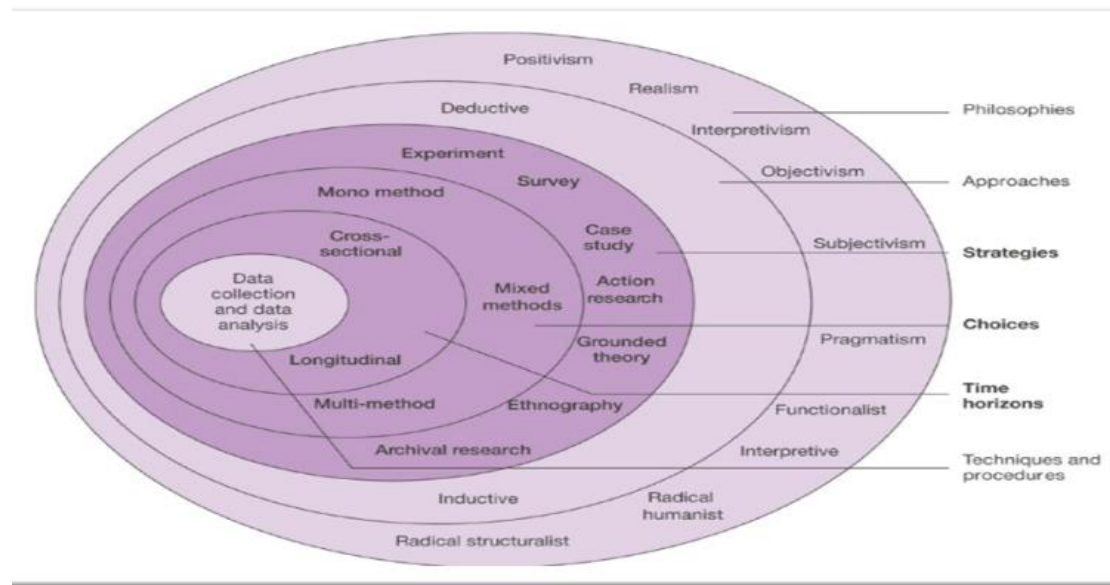


Figure 3-1: Saunders's Research Onion

3.2.1. Positivist v Interpretative research

According to Biggam (2008), a positivist view-point of the world considers that reality is objective and independent of the observer (positivist = deductive). Quantifiable data are often linked to a positivist research approach. An interpretative (interpretive = inductive) view-point is where there are many interpretations of reality, and those interpretations are dependent on when they are made and the context in which they are made i.e. they are *time* and *context* dependant. An ontological assumption associated with interpretative research accepts that multiple realities exist which are time and context dependent. This will sway the decision to undertake the investigation using qualitative methods to gain an understanding of the ideas held by people in that context. Should the investigation concentrate on interviewing people on their views then they will be engaging in interpretative research. Views may change over a period of time; this technique encompasses *time* and *context* variations.

This type of research combines research that uses a positivist approach (description-driven) in that positivistic research is synonymous with the use of quantitative methodology where empirical observations are made within a controlled environment whereby the variables can be minimised, in order to arrive at a universal truth and pragmatism which is prescriptive - driven as described by Brown (1992); Collins *et*

al. (2004) to being a ‘messy situation’, where independent variables cannot be minimised nor completely accounted for.

Table 3-1: Research Design Strategy

Research Area	Clarification	Technique
Identify the research need	Identification of the problem statement for the research.	Personal involvement in the construction industry as a small contracting business; literature review and consultation with other pertinent stakeholders
Literature Review	Review of existing literature.	Extensive literature review of previous detailed support processes to aid development of small businesses.
Methodology	Understand and identify appropriate methodology strategy.	Extensive study on research methodology, philosophy, and techniques
Survey questionnaire	Based on review of literature.	Used to provide information on CBCs and questions for semi structure interviews.
Semi structured interviews	Used to source views of owner/managers of construction companies	Semi-structured interviews with 31 owner/managers of CBCs throughout the United Kingdom.
Framework Development	The findings from the literature review; questionnaire, data collection and semi structured interviews.	Combine the findings of the literature review; questionnaire, data collection and semi structured interviews.
Validate the Framework	Validation of the framework.	Business owners from CBCs used to express their views of the framework
Conclusion	Summary of findings.	Analyze the findings from the CBC group and draw conclusions for the validity of the framework

Social scientists using a pragmatic paradigm utilise the value of questioning the research carried out in a controlled situation (Brown 1992; Hodkinson, 2004; Kelly and Lesh, 2000; Perrin 2000; Susman and Evered, 1978; Walker and Evers, 1999; Zaritsky *et al.*, 2003) and by looking at causal effects through different perspectives. This is known as pragmatic validation which was first described by Worren *et al.* (2002), who contrasted it with scientific validity. Social scientists commend the pragmatic approach where real-life settings are needed to produce worthwhile research artefacts (Robson, 2002). Nowotny and Weiss (2000) maintained that research which is judged by the adoption rate of practitioners within the community of practice associated with that field of research as being ‘socially robust’, meaning that the research has been carried outside the laboratory and has been widely accepted and used by practitioners within the research field. The research facilitated the results from a quantitative research this was used to add to the overall research design which relied on an interpretive perspective. This was adopted because the work has a problem centred pragmatic real world approach to the research. The research is prescriptive-driven and is aimed toward a practitioner market. It was resolved that this was the most suitable method for this type of study.

3.2.2. Data Collection Techniques

For the quantitative research used in this study, research questions based on the works of Arslan and Kivark (2008) were adopted to ascertain the most critical of the questions posed. Analysis was drawn from the Bristol On-line Survey provided to staff and students from the University of Salford.

In a qualitative study, there are four main techniques of data collection: (i) observations (ii) interviews (iii) documents and (iv) audio-visual materials (Creswell, 2009). This research relied on the analysis provided from the quantitative research to provide the most critical question which was used for the telephone interviews as the main source for qualitative data collection.

3.2.3. Philosophical approach

For the purpose of this study the overall research design relied on a mixed method approach by adopting a quantitative research approach to gain valuable data to support the overall research findings. Biggam (2008) attributes a quantitative research approach to a positivist view-point of the world (positivist = deductive) and therefore can be measured and predicted. This type of research is more common in science than the arts. Quantifiable data are often linked to a positivist research approach.

An interpretive approach from a pragmatic viewpoint is associated with the qualitative approach to research. The nature of the problems requires exploring issues and factors which demand taking such a particular approach. It was resolved that this was suitable for this type of study. Biggam (2008) purports that an interpretive viewpoint is *time* and *context* dependant; therefore an interview based dissertation justifies an interpretative research.

It is important in scientific research to consider different philosophical perceptions to entrust cohesion throughout the research study, and to ensure that the researcher's bias has been reduced/diminished. The three branches of philosophy are ontology, epistemology and axiology. Ontology was described by Grix (2004) as being a branch of metaphysics concerned with the nature of being; better understood as the way in which the world is viewed. Ontology is derived from claims and assumptions that are made about the nature of social reality; what exists; what it looks like, what makes it up and how then these immersed values interact with each other. Ontological assumptions therefore are concerned with what is believed to constitute social reality. (Blaikie, 2000) views ontological positions to be implicit even before you choose your topic of study.

Grix (2004) went further to describe Epistemology the theory of knowledge. Epistemological considerations are dependent on: beliefs about the nature of knowledge and assumptions about forms of knowledge. Epistemological issues are therefore concerned with access to knowledge and ways of acquiring and gathering knowledge (Holloway, 1997). All of the above impact on the research process and, importantly, data collection and analysis. Epistemology refers to the 'strategies

through which a particular theory gathers knowledge and ensures that its reading of phenomena is superior to rival theories' (Rosamond, 2000).

Axiology is about the researcher's position either being value free or value laden. Value free is purely objective, value laden as in the case of the researcher having experience of the industry, whose chosen topic could reflect bias.

Qualitative research emphasizes the “value-laden nature of inquiry” and seeks to answer the meaning of social experience. In contrast, quantitative research seeks to emphasize “measurement and the analysis of causal relationship between variables” within a “value-free framework” (Densin and Lincoln, 2003).

Academic research is bound by tight disciplines that promote and regulate its community and it is very important that these rules are followed. This is scientific method, based on fact. Science is empirical, but, perhaps, research itself has limitations. The next section takes account of understanding research. Academic research is a discipline that is practised for the purpose of new knowledge that can be shared amongst the academic community. Dependent on the discipline knowledge can be used for the advancement of its particular field.

3.2.4. Research Framework

The research programme has been developed around the framework identified by Grix (2004), showing the inter-relationship between the building blocks of research as detailed in Fig. 3-2. An explanation for the terms used in the building blocks (Fig.3-2) are detailed, ontology and epistemology have been explained earlier.

Methodology: Methodology may adopt certain ontological and epistemological hypothesis which will establish the way ahead in finding out about fundamental questions. Methodology should not be confused with Method. Methodology tests the projection of theories and logic of enquiry.

Methods: A method is a process which is used to collect and analyse data in the pursuance of knowledge. The chosen methodology and initial questions dictate the

adopted method. Methods range from discourse analysis, data retrieval, observations, data and documentary evaluation, interviews, survey evaluation, statistics and questionnaires. Methods are used in quantitative and qualitative research or perhaps a mixture of them both.

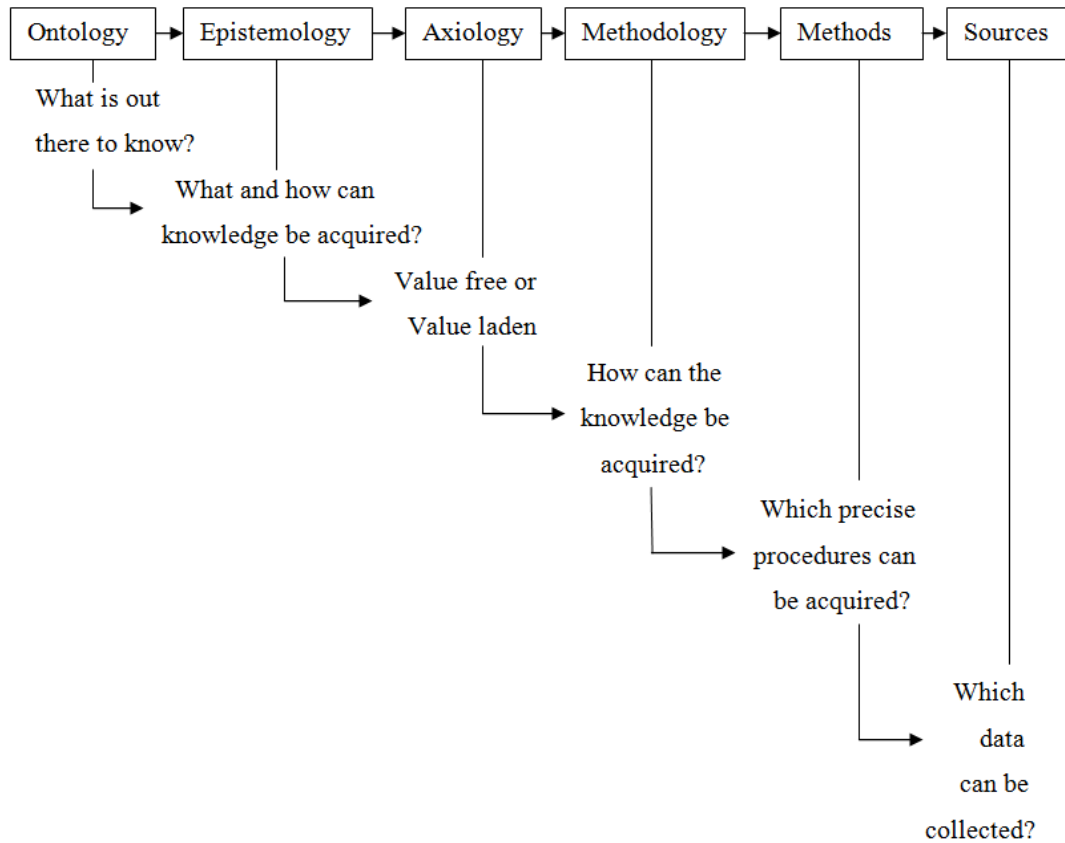


Figure 3-2: The inter-relationship between the building blocks of research

Model: Research models are represented by links that have identified data using boxes and arrows as shown in figure 3-2.

Sources: Sources are used in research to test the gathered material. Unlike methods and methodologies, agreement is not sought for the value of some sources against others. A large source base will increase the validity of the research. Sources are a vital part of the research process. Figure 3-2 is an example put forward but it is not conclusive and other frameworks may be considered for research to be carried out. There is no singular or right way to undertake research, conclusions may be criticised, but research has been developed by due process.

3.2.5. Quantitative v Qualitative research

Quantitative and qualitative research methods have been adopted processes used in the built environment. Quantitative research is aligned to the representation of numbers used within a positivism approach. Glatthorn (1998) describes quantitative research as being derived from a positivist epistemology, which is adopted for studies that are experimental in nature, using measurement and a search for relationships whereas qualitative research is based on a phenomenological view. Phenomenology was a movement which originated by Edmond Husserl in around 1905 and is a philosophy which contends that reality consists of objects and events which are understood in human consciousness and not that of anything independent of human consciousness. Studies derived from a qualitative stance are associated with meaning and understanding which take place in a natural environment (McMillan, 1996). A qualitative study is therefore confirmed to be associated with an interpretive research strategy. Although there is little available research on small construction firms, qualitative analysis has become dominant (Shaw, 1999). Biggam (2008) justifies what is quantitative or qualitative research by stating that in general quantitative research answers the *how* questions and qualitative research answers the *why* questions. Qualitative research is based on a phenomenological view. Studies derived from a qualitative stance are associated with meaning and understanding which take place in a natural environment (McMillan, 1996).

Table 3-2 indicates the different elements associated with quantitative and qualitative research. The quantitative and qualitative columns indicate different criteria that will have influenced the choice of research method. The research program does not have to be either quantitative or qualitative but can be improved and culminate in a more informed result by employing a mixture of both methods (King *et al.*, 1994). It can be seen that neither method is a complete solution to problems. Depending on circumstances, different approaches are advisable and useful. Table 3-2 broadly sets out how both strands of research have come to be associated with certain types of enquiry in academia.

There are five qualitative strategies that Creswell (2009) listed, including:

- Ethnography – the researcher studies a group in a natural setting over a prolonged period of time by collecting observational and interview data (Creswell, 2007).
- Grounded Theory – The researcher derives a general, abstract theory of a process, action, or inter-action grounded in the view of the participants. Multiple stages of data collection and the refinement and interrelationship of categories of information (Charmaz, 2006; Strauss and Corbin, 1990). Two characteristics of this design are the comparison of data with emerging categories and theoretical sampling of different groups to maximize the similarities and the differences of information.
- Case Studies – the researcher explores in-depth a programme, event, activity, process, or one or more individuals. Case studies are bound by time and activity, researchers collect detailed information using a variety of collection procedures over a given time period (Stake, 1995).
- Phenomenological research – the researcher identifies the essence of human experiences about a phenomenon as described by participants. This is accomplished by studying a small number of subjects through extensive and prolonged engagement thereby developing patterns and relationship of meaning (Moustakas, 1994).
- Narrative research – the researchers studies individuals and asks them to provide stories of themselves. This information is collected by the researcher into a narrative chronology. In the end the narrative combines view from the participants and researcher's life in a collaborative narrative (Clandinin & Connelly, 2000).

Table 3-2: The So-Called Quantitative-Qualitative Dichotomy

Quantitative	Qualitative
Interested in finding out numerical qualities of an event or case: how many, how much?	Interested in the nature and essence of an event, person or case
Goal of investigation is prediction, control, description, hypothesis-testing	Goal of investigation is understanding, description, discovery, hypothesis-generation
Uses hard data (numbers)	Soft data (words or images from documents or observations, etc.)
Objective	Subjective
Usually tackles macro-issues, using large, random and representative samples	Tends to analyse micro-issues, using small, non-random and non-representative samples
Employs a deductive research strategy	Employs an inductive research strategy
Its epistemological orientation is argued to be rooted in the positivist tradition	Its epistemological orientation is argued to be rooted in the interpretative tradition
Aims at identifying general patterns and relationships	Aims at interpreting events of historical and cultural significance
Measures are created prior to data collection and are standardized	Measures are created during interaction with data and are often specific to the individual setting
Survey methodology	Interview (in-depth case-study)
Procedures are standard, replication is presumed	Research procedures are particular, replication rare
Value-free	Political
Abstract	Grounded
Concepts are in the form of variables	Concepts are in the form of themes and motifs
Findings attempt to be comprehensive, holistic and generalisable	Findings are seen to be precise, narrow and not generalisable

Source: Adapted from Mason (1998); Silverman (2000); Neuman (2000): 123; Danermark *et al.* (2002).

Hammersley and Atkinson (1995) have used “insider accounts” as ethnographic research technique for listening and asking questions in the context of sociological and anthropological studies. Ekanem (2007) wanted to develop “insider accounts” into a research method in its own right to overcome the shortcomings of small firm research (Curran and Blackburn, 2001). The philosophical underpinning of “insider accounts” is to treat people as subjects and therefore they are able to produce accounts of their world.

Atkinson and Hammersley (1994) described similarities as detailed below between “insider accounts” and ethnography.

1. To explore the nature of phenomenon rather than testing hypotheses
2. To work with unstructured and semi-structured data
3. To assess the data which involves explicit, verbal and explanatory descriptions, interpretation of the meanings and functions of human actions?

“Insider accounts” has its origins in ethnography. Its approach is neither purely ethnographic nor as Glaser and Strauss (1967)’s grounded theory. Ekanem (2007) modified “insider accounts” into a longitudinal, case study methodological approach consisting of “in-depth interviews” and “direct observation”. It is therefore different in the following ways:

1. Interviews are semi-structured as opposed to unstructured which are found in “ethnography” and “grounded theory”.
2. The researcher is only present at the place of research sporadically for example to carry out interviews.
3. More reliance is placed on in-depth interviews and observations taken whilst the researcher is at the organization. Hammersley and Atkinson (1995) place more emphasis on “participant” observation as in ethnographic and grounded theory.

This approach to “Insider accounts” research is much more practical than “ethnography” particularly in small firm research, which by definition employs less than 50 people; the researcher would become conspicuous, in the way, and his presence is likely to become less welcome.

Other problems associated with ethnographic study include bias Hammersley and Atkinson (1995). By “going native”, in an ethnographic study, the researcher becomes a member of the organization and is involved in the everyday lives of the subjects. The researcher cannot become dispassionate or detached, thus through bias is unable to think theoretically about what he has seen (Glaser and Strauss, 1967).

Through less familiarity with the organisation and its staff “insider accounts” provides detachment between the researcher and the organization. Because “insider accounts” provides a good understanding of the small firms and that of the owner-manager it helps to answer the basic questions relating to the decision-making process (Ekanem, 2007).

3.2.6. Semi-structured Interviews

The choice of using semi-structured interviews was used in this study to encourage meaningful responses (Patton, 1990). This open-ended approach to the interviewee could lead to new information which could be discussed and recorded. The interviews were conducted over one session. This technique was adopted to put the interviewees at ease and assure them of their anonymity. This allowed the sessions to progress in a less constricted context. By posing the questions in a semi-structured fashion, allowed the conversation to develop into areas where information may have been found to be of consequential value. The importance of choice of interview technique was that it facilitated a more relaxed discussion, where an informal approach broke down barriers of resistance and allowed a relationship of trust to develop.

For the purpose of the thesis, a one-to-one interview has an advantage over focus groups where the Q and A process is more tightly controlled. The focus for the research is to identify factors from individual companies, and not to arrive at a general consensus from a group.

3.2.7. Use of Mixed Research Methods

Both quantitative and qualitative research methods have limitations and are tended to be used for specific types of research. A combination of both quantitative and qualitative research methods offers an enhanced insight into the research problems and/or questions (Frels and Onwuegbuzie, 2013). The mixed research method (MRM) technique is more advanced, time-consuming and extensive than a single research method in isolation (Creswell, 2012). Due to the nature of this research study the MRM has been adopted to add to the robustness and rigour of the research programme.

Venkatesh *et al.* (2013) offered seven propositions for MRM: (i) complimentary, (ii) completeness, (iii) developmental, (iv) expansion, (v) corroboration, (vi) compensation and (vii) diversity which are described as follows:

1. Complimentary – Obtain shared viewpoints about comparable experiences.
2. Completeness – Bolster representation of attained experiences.
3. Developmental – Use the prior method to present hypothesis to be tested against the subsequent method.
4. Expansion – Elaborate on knowledge gained from the prior method.
5. Corroboration – Evaluate the ideas gained from one method.
6. Compensation – Mitigate the weakness of one method by using the other.
7. Diversity – Opposing viewpoints obtained of the same experiences.

Strengths of Mixed Research Methods: Additional strengths of adopting MRM include: (i) words or narratives can be used to add meaning to numbers whilst numbers can add precision to words; (ii) research questions may be developed due to limitations of adopting one research design; (iii) a more robust conclusion can be presented; (iv) validity may be obtained through triangulation (cross validation); (v) Insight and understanding are improved; and (vi) the capability to generalise the results compared with a mono-study design (Cronholm and Hyalmarssoon, 2011).

Weaknesses of Mixed Research Methods: There are a number of weaknesses that include: (i) difficulties due to the complexity and additional information for a single

researcher to undertake which may be better placed using the resources of a research team; (ii) research can be more time consuming and expensive; (iii) multiple methods of research have to be learnt to combine them knowledgeably and (iv) methodological purists maintain that research should be conducted from either a quantitative or qualitative perspective and that the two should never be mixed in a single study which could result in conflict (Cronholm and Hyalmarssoon, 2011).

3.2.8. Mode 1 and Mode 2 research

After establishing the criteria between quantitative, qualitative, and mixed methods the research should be designed for its market audience which explored in this section. Research papers are developed to reach academic or professional markets and the preparation and presentation is very different.

Management researchers working in an academic environment are expected to present their works within a strictly disciplined and codified fashion. Their works to be published within the academic community are demanded to meet criteria that shows a research trail to justify their work and differentiates between the deductive researchers who questions whether they have rigorously applied the appropriate techniques to get closer to the truth, while the inductive researchers often question their involvement with the object of inquiry and their ability to capture as accurately as possible local meanings. (Holland, 1999)

The dissemination of knowledge derived from academic research tends to stay within the academic community and the language if not alien, is difficult to absorb by the practitioner who although may identify with the findings may determine that the presentation has little interest.

An academic researcher's goal is to construct a better model of understanding in the organizational world, Keleman and Bansel (2002) suggested that in contrast, practitioner-oriented research aims to prescribe how managers should act in the real world in order to improve organizational performance and output.

Mode 1 and Mode 2 form the different research development criteria for the academic and practitioner lead researcher. Table 3-3 has been developed based on the data from Keleman and Bansel (2002) to identify the issues.

Table 3-3: Facets of enquiry to establish approach to Mode 1 and 2

Mode 1	Mode 2
Academic peer review determines the problems that are important. Problems are defined in terms of criteria that reflect the intellectual interests and preoccupations of management academics.	Incorporate a wider range of intellectual interests, being driven by the market and the practicable applicability of knowledge.
Located in universities.	Located in research centres, government agencies, industrial laboratories, think-tanks, consultancies, multinational firms, network-firms and small hi-tech firms.
Construct or test theory that can be tested in time or space.	Gaining insights into a particular context with a view to providing a practical solution to identified problems (action research).
Tends to be elitist, is governed by, reflects and re-enacts academic interests.	Pluralist, tries to accommodate and allow for a wider range of interest as they exist within a particular economic and social setting.
Knowledge produced is mainly theoretical and codified.	Knowledge produced is more applied, being embedded in context.
Knowledge travels linearly through institutionalised disciplinary channels aiming to reach academics within the same discipline.	Knowledge travels in an ad hoc manner across a wide range of potential sites of knowledge aimed at management researcher and practitioners.

Management researchers can only reach a wider audience by working in partnership with practitioners and as such the language and purpose of research is meaningful to both parties. This would not be an efficient source of enquiry for much research as the results of research are intended for their own academic or practitioner audience.

Table 3-4: Dimension of Mode 1 and Mode 2 research

	Mode 1	Mode 2
Context	Cognitive.	Social and Economic.
Research boundaries	Disciplinary.	Transdisciplinary.
Aim of inquiry	Theoretical replicability.	Gaining insights useful to industry, government, society.
Stakeholders	Academics.	Networks of academics and practitioners.
Research ideology	Elitist.	Pluralist.
Outcome	Basic research and applied research.	Applied research.
Type of knowledge	Codified.	Tacit and codified.
Theoretical development	Linear.	Incremental.
Knowledge growth	Homogenous.	Heterogeneous.
Chronology	Consumption subsequent to production.	Simultaneous production and consumption.
Knowledge dissemination	Institutionalised disciplinary channels.	Embedded in the practical context.
Methods	Bound by discipline.	Negotiated within the specific context.
Type of reflexivity	Method reflection.	Socially and contextually bound.

There is much debate as is highlighted in (Keleman and Bansel, 2002) paper, where a collaborative approach to trans-disciplinary research could be acceptable to from

academic – practitioner audience and vice-versa. The most important dimensions are presented in Table 3-4 as identified by (Keleman and Bansel, 2002). The next section explores how information is disseminated with examples for Disciplinarily and Interdisciplinary Modes for Information Movement.

Griffith, (2006) quotation is a central theme on the research question describing the built environment as having multi disciplines. The multi-disciplines within the built environment are required to work together in what has largely been accepted by a body of scholarship to be determined as an inter-disciplinary movement. Jantsch (1972) categorizes the four stages of discipline in multi-disciplinarity, pluri-disciplinarity cross-disciplinarity and inter-disciplinarity.

Multi-disciplinarity can be defined where a number of actions are taking place and where there is no interaction or integration between disciplines. Pluri-disciplinarity is the first stage of cross information where information is randomly exchanged.

Cross-disciplinarity is the second stage. This one directional flow of information is without any structure in place to offer “feedback” there is no guarantee of a free flow of information. This may be expressed as “goes without saying” or (Jantsch refers to this as axiomatics). Finally inter-disciplinarity is the last of the models to be viewed. Jantsch describes this as disciplines of knowledge are brought together in a structure which reflects “basic themes of society or need area” rather than having their own disciplinary identities.

The four stages of discipline in multi-disciplinarity, pluri-disciplinarity cross-disciplinarity and inter-disciplinarity offer the ranges of transference of knowledge from independent knowledge acquirement found in multi-disciplinarity through to a comprehensive flow and transference of knowledge conferred in the inter-disciplinarity. There are advantages to be found in each of the four disciplines but these models should be consulted in the planning stage to identify which may be found the most suitable.

Identified above are four examples pertaining to the disciplinarity modes. These examples illustrate a diverse application outside that of the built environment,

however Chynoweth (2006) cited (Jantsch, 1972) who in turn cited Architecture and Urban and Regional Planning as an example in Figure 3-3 below a model which is included to show a specific model within the built environment aspiring to true inter-disciplinarily.

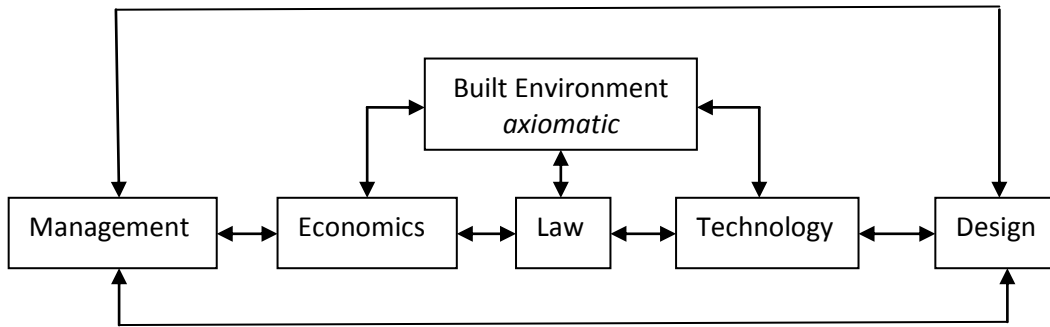


Figure 3-3: The Built Environment Interdisciplinary (after Jantsch, 1972)

3.3. Validation of New Knowledge from Accepted Research

New knowledge through research is procured through existing and current seminal thinkers using an ontological basis developing epistemological theories of knowledge. In order for new knowledge to be accepted by the academic world, rigorous testing is developed by scientific knowledge from observation and experiment. A clearly defined “tree” of research is developed using empirical evidence, data, study, research and knowledge to develop on existing knowledge.

Much of the accepted new knowledge is developed through well tested routes of academic development. The academic due process is in place to guide the researcher, ensuring the research aids have been employed to enrich and keep the research paper valid. This is particularly important in controversial work where prejudice and conflicting accepted knowledge is different to the research paper.

Mode 1 and Mode 2 dictate the disciplines required that ensure acceptance of the research paper but in doing so demand the style of writing that is particular to its relative audience. As a process of communication this can be thought of as Cross-disciplinarily as discussed in section seven whereby the Mode 1 and Mode 2 dictate

the paper's presentation to its receptive audience. The next section is developed to show the selection process from the thousands of small and micro sized businesses that populate the construction industry.

3.4. The Professional Significance of the Study

In order that the research remained manageable, only those SCCOs, who qualified for CBC status from the other thousands of random small sized construction organisations trading within the United Kingdom, were selected as identified in Figure 3-4. CBCs are important part of the CIOB and CBC status enables construction companies to demonstrate a commitment to professionalism and best practice (CBC, 2015).

The process adopted in figure 3.4 ensures that the study remains relevant by making sure that the interviewed companies share consistency. From the thousands of small sized contracting construction companies operating within the United Kingdom, the compelling factors significantly reduce the companies that meet the required standards ensuring that the small case study numbers reflect a much higher percentage of the companies that are available to meet the required standards therefore making the study more reliable.

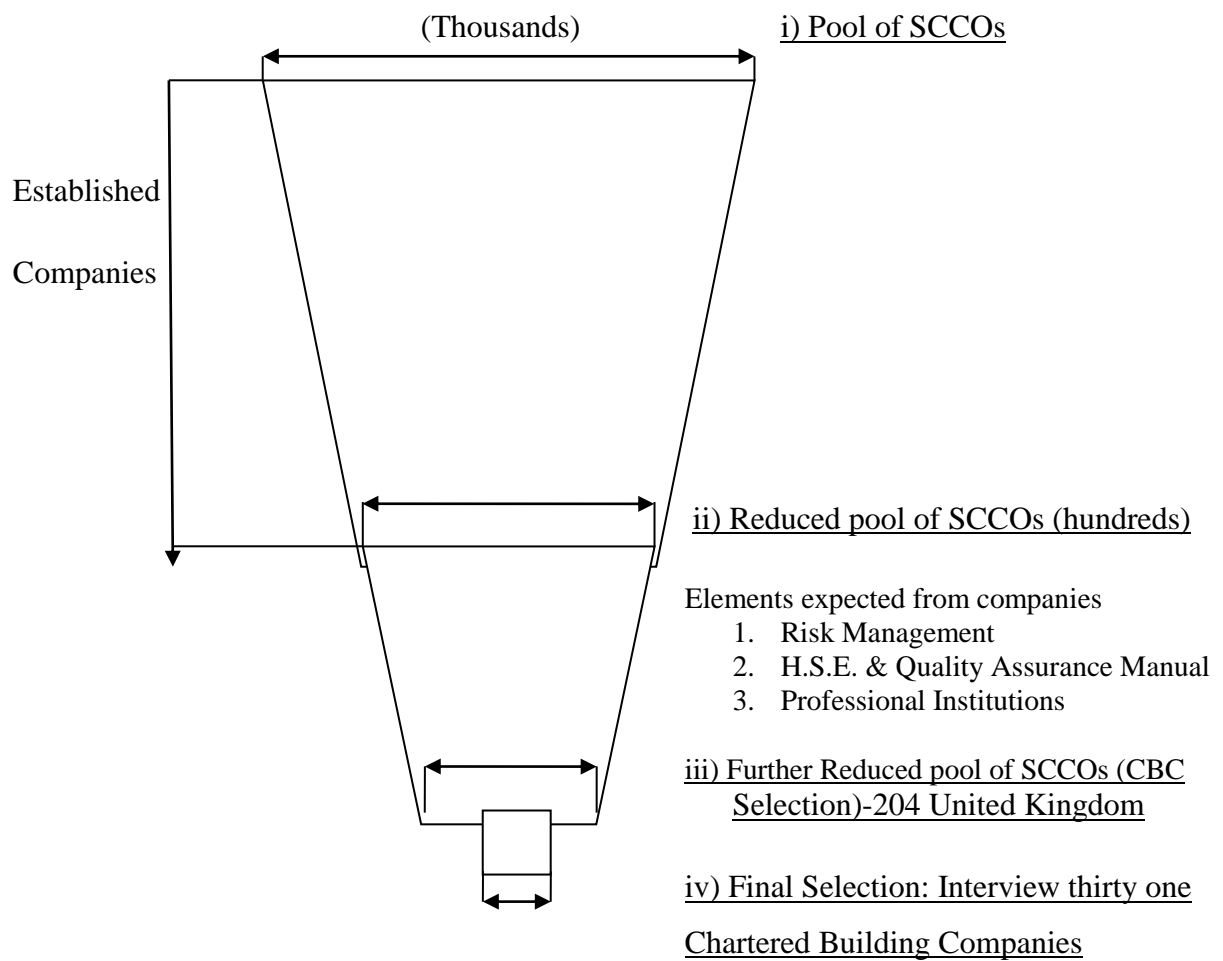


Figure 3-4: Selection Process

The research hypothesis has been identified within the Research Methodology section. There are three main strands of research philosophy being epistemology, ontology and axiology. Axiology is about the researcher's position either value free or value laden. Value free is purely objective, value laden as in the researcher's case of having experience within the construction industry is where the research and results could reflect some bias.

The considerable amount of years experienced in the construction industry, professional status and current position as owner/manager of an SCCO, has influenced the researcher. Whilst it is not overshadowing the objectivity of the research, the study has benefitted from the researcher's years of experience associated with the industry. The viability of research and associated trends has been assessed for

their actual impact on practicing practitioners working within the construction industry and to what extent this has been relevant.

3.5 Summary

To review research methodology this chapter has reflected on a variety of different methods and methodological approaches available for academic research. In arriving at the most appropriate choice for the various data collection techniques and philosophical approaches were sourced and strength and weaknesses of approaches evaluated. The research framework identified to explain the various elements, and the development of Mode1 and 2 researches explained. The interdisciplinary movement identified the various stages of discipline of multi-disciplinarity, pluri-disciplinarity cross-disciplinarity and inter-disciplinarity and finally the selection process has been identified to show how CBCs were chosen to represent SCCOs throughout the UK.

Chapter 4 : Quantitative Data Collection and Analysis

4.1. Chapter Overview

This chapter presents quantitative data collection and analysis as part of this research. An online questionnaire was used as key mechanism of data collection. The design of questionnaire is explained. Demographic profile of survey respondents is discussed and key findings resulting from quantitative data analysis are elaborated upon. The chapter concludes with summary of key findings from the quantitative study.

4.2. Quantitative Research Design

A quantitative based research was conducted, where the questions identified in Appendix 1 were posed to all 204 micro and small sized Chartered Building Companies, located through the United Kingdom. In order to increase the response rate, three reminder letters were sent and followed up with phone calls. Response from 40 companies was obtained (representing a 19.6% response rate). Results have been collated and detailed in this Chapter. Although the quantitative based research had been used to support the qualitative research, it resulted in new interests and helped define much about the respondents and how this has influenced critical factors, pertinent to their organisations. The questionnaire was set up using an online tool, Bristol Online Survey (BRIS, 2014).

The common denominator shared by the respondents to the questionnaire is that they were all registered with the Chartered Institute of Building as Chartered Building Companies and as such represent those businesses that are committed to quality of service, integrity of conduct and concern for clients' needs (CBC, 2014). There are other attributes that may be factored into what makes a successful business, but the principles that contribute to excellence based on professionalism and expertise are the foundation that the author wanted to focus on. On reviewing the data from the quantitative research attention has drawn upon the respondents from the questionnaire, this helps to build up who are contributing to the strengths and as forward thinkers of the industry. These characteristics are analysed by beginning with the recipient's ages.

4.3. Survey Respondents' Demographics

4.3.1. Respondents' Age Profile

From Table 4-1, the respondent's age has been banded between 16 - 19 and 70 – 79. All age groups were represented in survey response, with the exception of the age group 20 – 29. The most populated age group is 40 – 49, representing 50% of the recipient sample followed closely behind with the age group 50 – 59, and holding 32.5%. The age banding from 40 to 59 represented 82.5% of the returned questionnaire. The youngest person involved in returning the questionnaire was just nineteen when the questionnaire was sent whilst the oldest was seventy-six, the average age being forty nine. The questionnaire was not targeted at a specific age band but the age span was thought to be quite considerable and surprising where it has been determined that the youngest and oldest participants are active and contributing to the future of the construction industry.

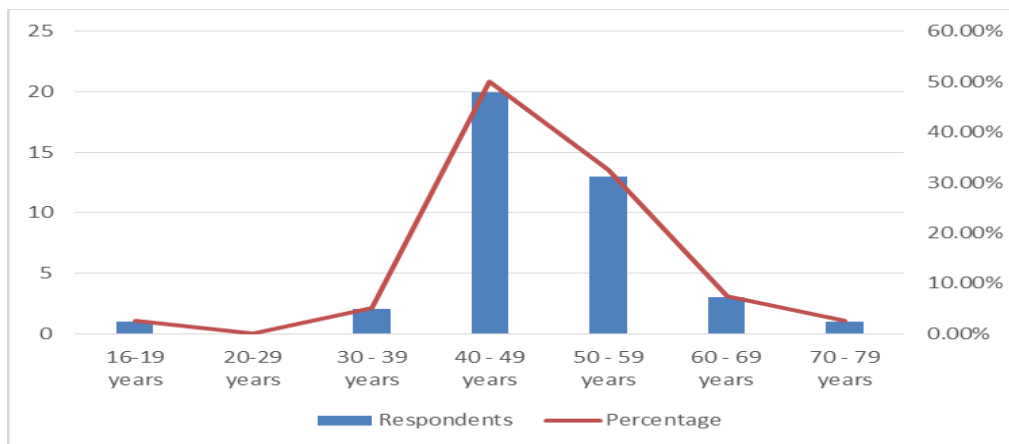


Figure 4-1: Respondents age profile

Table 4-1: Respondents Age Profile – Frequency stats

Age band	Respondents	Percentage	Average age
16-19 years	1	2.5%	49
20-29 years	0	0.0%	
30 - 39 years	2	5.0%	
40 - 49 years	20	50.0%	
50 - 59 years	13	32.5%	
60 - 69 years	3	7.5%	
70 - 79 years	1	2.5%	

4.3.2. Survey Respondents' Gender

Survey respondents were primarily male (i.e. 38 male and just two were female), as illustrated in Figure 4-2. The gender of the recipients could not have been anticipated as the information was sent to the companies email address and there was no control of who completed and returned questionnaire. The results were surprising and could be attributed to skewed gender imbalance within construction sector. Similar observations have been made by Amaratunga, *et al.* (2006), whose findings confirmed that although there are over 11 million women employed in the UK accounting for almost 50% of the work force, women who are employed in the UK construction industry account for just 9% of the work force.

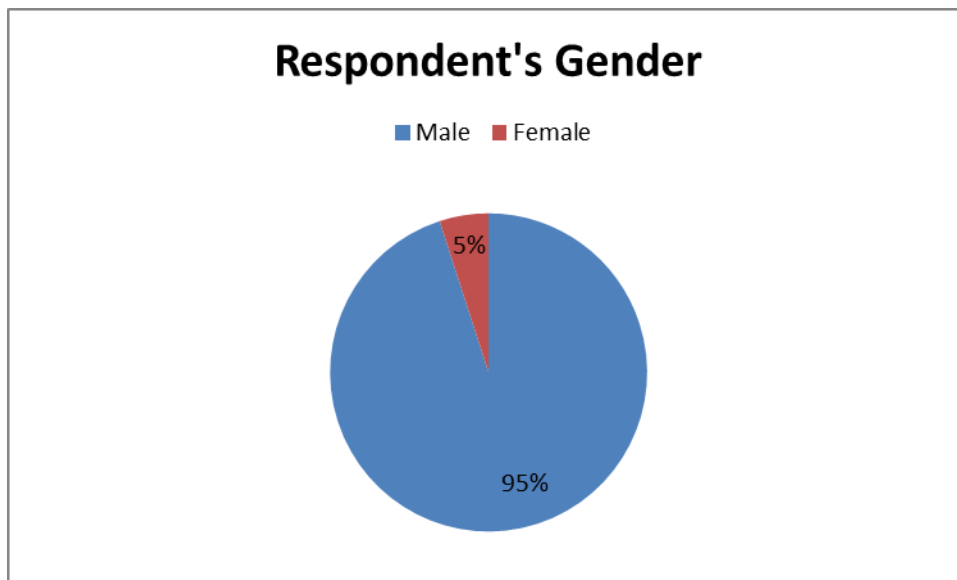


Figure 4-2: Respondent's Gender

However, the statistics for women managers employed within the construction industry according to the office for national statistics (2013) are considerably different where women make up a third of UK managers. It is interesting to compare these figures with other European countries where the range of women employed within the construction industry range between 16% and 45%. Table 4-2 presents results of a survey, carried out in selected countries of the European Union from October to December 2012. The proportion of women among the UK's managers was 34.8% in October-December 2012, slightly higher than the European Union average of 33.5%. The percentage of managers that were women was slightly lower than the UK figure in the larger economies of Spain (31%), Germany (29%), and Italy (24%) but it was greater in France (39%). Across the European Union as a whole,

women were most prominent within the managerial occupation group in Latvia (45%) and Lithuania (41%). The country where women were least prominent as managers was Cyprus (16%).

Table 4-2: Women Managers in European Union Countries (Eurostat, 2012)

The percentage of women working in the managers occupation group¹ by selected European Union countries, Q4 2012	
Managers	Percentage Women
Latvia	45.1
Lithuania	40.6
France	39.3
United Kingdom	34.8
European Union	33.4
Ireland	32.4
Spain	31.3
Germany	29.4
Italy	24.4
Luxembourg	18.2
Cyprus	16.2
¹ Occupation group is based on the (ISCO) International Standard Classification of Occupations	

The discrepancy between the returned questionnaires and other research and statistics detailed of the gender split is thought to be due to the sample size although this does confirm male domination from the survey sample. Other details have been accumulated that give information about the participants work history and these factors are explored further.

4.3.3. Survey Respondents' Work History

The sample identified in Table 4-3 has been divided into 7 age bands, plus the overall survey results. The only age band not represented was 20 - 29. The 16 - 19 age band shows that this

one person has had worked in the construction industry for less than 5 years. The 30 - 39 grouping identified two people had been in the construction industry between 16 - 20 years. The most populated age band 40 - 49 was occupied by 20 people where seventeen had been in the industry for more than 20 years, two between 11 - 15 years and one between 6 - 10 years. The 13 people located in band 50 - 59, three people in band 60 - 69 and one person in band 70 - 79 all have been in the construction industry for more than 20 years. The research confirmed that thirty five of the forty respondents had worked in the construction industry for more than 20 years which is a good measure of their experience.

Table 4-3: Years spent in the Construction Industry (separated by age band).

Age Band		Overall	16-19	20-29	30-39	40-49	50-59	60-69	70-79
Amount of Respondents		40	1	0	2	20	13	3	1
Years worked in the Construction Industry	1-5 years	1	1	0	0	0	0	0	0
	6-10 years	1	0	0	0	1	0	0	0
	11-15 years	2	0	0	0	2	0	0	0
	16-20 years	1	0	0	1	0	0	0	0
	more than 20 years	35	0	0	1	17	13	3	1

Table 4-4 identifies the average years of the bands (A), the amount of people within the bands (O) and the average years per category (A x O), which was used to determine the average combined length of time that participants have worked within the construction industry, totalling 930 years. Based on these figures, it is estimated that the overall individual average time that the respondents have held a position within the construction industry is 23.25 years. This reflects on extensive industry experience of survey respondents.

Table 4-4: Average overall years worked in the construction Industry

Years worked in Construction Industry	Average of category banding (A)	Overall amount of people (O)	Average years per category (A x O)
Less than 1 year	0		
1-5 years	3	1	3
6 -10 years	8	1	8
11 – 15 years	13	2	26
16 – 20 years	18	1	18
More than 20 years	25	35	875
Total		40	930
Average time in construction industry		23.25	

4.3.4. Geographical Location of Survey Respondents

The sample identified in Table 4-5 has been divided into 9 individual location bands. 24% from the East of England returned the questionnaire all but one had worked in the industry for more than 20 years, the other between 16 - 20 years. There are only two CBCs from the North East, but they both responded and they too had worked in the industry for more than 20 years. One out of five representing 20% from the East Midland's respondents had worked in the industry for more than 20 years. Twelve out of fifty three responded from the South East representing 22%, ten of who have worked in the construction industry for more than 20 years, one between 11 - 15 years and one 5 years of less. Only two out of thirty nine people had responded from the London area representing just 5% and they too had worked in the industry for more than 20 years. The results from the South West indicated that five had been in the Construction Industry for more than 20 years and one other between 11 - 15 years. One respondent from 12 (8%) responded from the West Midlands had worked between 6 - 10 years. Six out of twenty people from the North West representing 30% returned the questionnaire and all had worked in the industry for more than 20 years and finally one out of five CBCs from Northern Ireland had declared involvement with the industry for more than 20 years. None of the four Welsh or two Yorkshire firms returned the questionnaire.

Table 4-5: Geographical Location of Survey Respondents

Location		Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of Respondents		40	9	2	1	12	2	6	1	6	1
Years worked in the construction Industry	1-5 years	1	0	0	0	1	0	0	0	0	0
	6-10 years	1	0	0	0	0	0	0	1	0	0
	11-15 years	2	0	0	0	1	0	1	0	0	0
	16-20 years	1	1	0	0	0	0	0	0	0	0
	more than 20 years	35	8	2	1	10	2	5	0	6	1

4.3.5. Respondents present job

Survey respondents were asked about their work experience in present job. Submitted information was further analysed based on respondents' age and geographical location. Table 4-6 identified there was just one respondent who fell within the 16 - 19 age band and two people within the 30 - 39 grouping who shared their current jobs in the 1 - 5 and 16 - 20 years sectors respectfully. The 40 - 49 age banding identified that nine people held their most recent jobs for 5 years or less; seven people between 6 - 10 years; three people 11 - 15 and one person between 16 - 20 years. The next banding 50 - 59 established that four people held their current job for less than 5 years; one person between 6 - 10 years; two people between 16 - 20 years but the majority in this age category have held their most recent position for more than 20 years. In the 60 - 69 age group one person has been identified in each of the categories 6 - 10, 16 - 20, and over 20 years. The over 70 has held the most recent job for over 20 year also.

Table 4-6: Years worked in present job (separated by age band)

Age Band		Overall	16-19	20-29	30-39	40-49	50-59	60-69	70-79
Amount of Respondents		40	1	0	2	20	13	3	1
Years worked in present job	1-5 years	15	1	0	1	9	4	0	0
	6-10 years	9	0	0	0	7	1	1	0
	11-15 years	3	0	0	0	3	0	0	0
	16-20 years	5	0	0	1	1	2	1	0
	more than 20 years	8	0	0	0	0	6	1	1

Table 4-7 identifies respondents' location; how many are included in each area; how many have worked within their current job and for how long.

Table 4-7: Years worked in present job (by geographical location)

Location		Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of Respondents		40	9	2	1	12	2	6	1	6	1
Years worked in present job	1-5 years	15	2	1	0	5	1	3	0	3	0
	6-10 years	9	1	1	1	1	0	2	1	1	1
	11-15 years	3	2	0	0	1	0	0	0	0	0
	16-20 years	5	2	0	0	3	0	0	0	0	0
	more than 20 years	8	2	0	0	2	1	1	0	2	0

Table 4-8 identifies the average years worked in the present job (A), the amount of people within the bands (O) and the average years per category (A x O) which has determined that the average combined length of time that the participants have worked in their current jobs is 446 years and the overall individual average time that the respondents have held their current job is 11.15 years.

Table 4-8: Average overall years worked in the current position

Years worked in present job (A)	Average of category banding (A)	Overall amount of people (O)	Average per category (A x O)
Less than 1 year	0	0	0
1-5 years	3	15	45
6 -10 years	8	9	72
11 – 15 years	13	3	39
16 – 20 years	18	5	90
More than 20 years	25	8	200
Total		40	446
Average time in present job		11.15	

4.3.6. Respondents' Management Level

Survey respondents were asked to specify position held within their companies, either being senior, middle or junior management. Survey response is indicated in Table 4-9, indicating a wide majority of respondents held senior position within their company.

Table 4-9: Management level of the respondents

Management Level	Respondents
Senior Management	37
Middle Management	2
Junior Management	1

The results of the questionnaire determined that the respondents shared four job titles. Out of the 40 results shown in Table 4-10, thirty seven were identified as directors. Twenty from age band 40 - 49, thirteen from 50 - 59 band three from 60 - 69 and one from the over 70s. There was one project surveyor from age band 30 - 39, one quantity surveyor from age band 40 - 49 and one trainee manager from the age band 16 - 19.

Table 4-10: Respondents' Job Title analysed by age bands

Age Band		Overall	16-19	20-29	30-39	40-49	50-59	60-69	70-79
Amount of Respondents		40	1	0	2	20	13	3	1
Job Title	Director	37	0	0	1	19	13	3	1
	Project Surveyor	1	0	0	1	0	0	0	0
	Quantity Surveyor	1	0	0	0	1	0	0	0
	Trainee Site Manager	1	1	0	0	0	0	0	0

Table 4-11 demonstrates that returned questionnaires have been completed primarily by the company directors, with an exception of the West Midlands area where the survey had been

completed by a quantity surveyor. Other exceptions included a response from a project surveyor, located from the South West and the trainee manager, from the South East.

Table 4-11: Analysis based on respondents' job title and location

Location		Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of Respondents		40	9	2	1	12	2	6	1	6	1
Job Title	Director	37	9	2	1	11	2	5	0	6	1
	Project Surveyor	1	0	0	0	0	0	1	0	0	0
	Quantity Surveyor	1	0	0	0	0	0	0	1	0	0
	Trainee Site Manager	1	0	0	0	1	0	0	0	0	0

4.3.7. Respondents' Trade Background

Figure 4-3 indicated that wide majority of survey respondents (30%) came through trade background and progressed to senior management occupations. It is revealing of the number of owner-managers who started their careers in a non-trade background now occupy Chartered Building Company status (23% of respondents). The lowest level, by number, entry has come from a graduate background (3% of respondents). This would reflect that professional management is still considered to be new to the construction industry and the respondent's ages would suggest that this would mirror the increasing popularisation of higher education. Given the results of the CBCs manager's entry into their current occupation, it would be interesting to find more about the level of education of the participants and whether this has any bearing on their location?

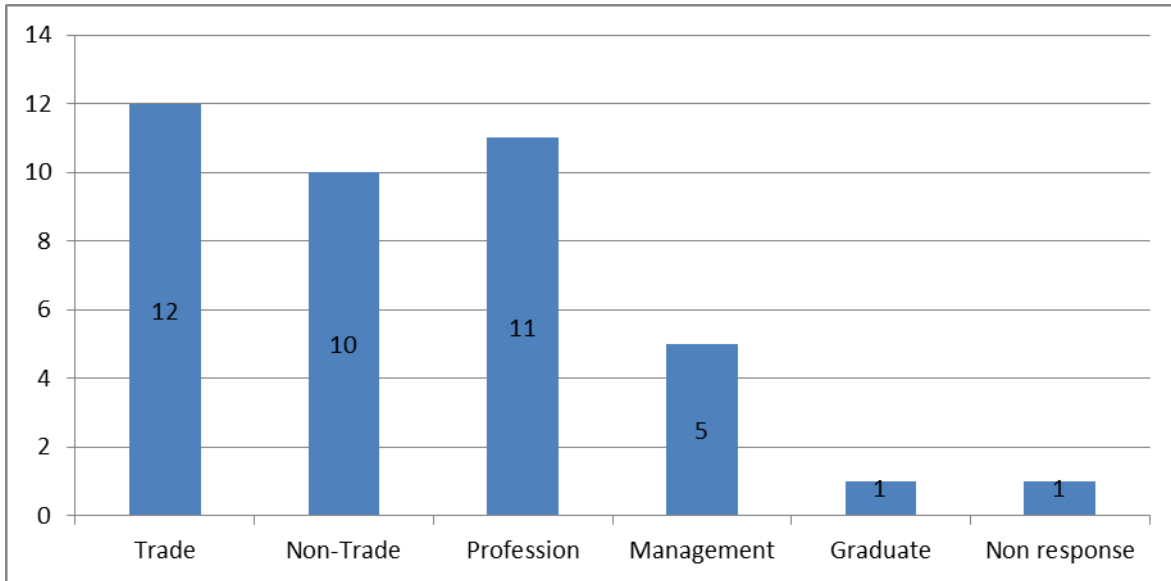


Figure 4-3: Respondents' Trade Background

4.3.8. Respondents qualifications

Table 4-12 represents the analysis of respondents' qualifications and age band. It can be expected that more qualifications are distributed to higher numbers of people that occupy certain age bands and this may look confusing. Table 4-12 is therefore further split to show the percentage of listed qualifications held by each age group. From the qualifications listed, it can be determined which age group hold the widest range by percentage of the listed thirteen qualifications. Age bands (i) 40 - 49 = 92.31% (1) 50 - 59 = 92.31% (iii) 60 - 69 = 76.92% (iv) 30 - 39 = 46.15%; (v) 70 - 79 = 38.46% (vi) 16 - 19 = 13%.

Table 4-12: Analysis of Respondents' Qualifications by Age Band

Age Band		Overall		16-19		20-29		30-39		40-49		50-59		60-69		70-79	
Amount of people		40		1		0		2		20		13		3		1	
No. of people – Percentage		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Qualifications achieved	Total with O Level or Equivalent	31	77.5	0	0	0	0	1	50	17	85	11	84.6	1	33.3	1	100
	Total with A Level or Equivalent	15	37.5	0	0	0	0	1	50	8	40	5	38.5	1	33.3	0	0
	Total with ONC or Equivalent	12	30	0	0	0	0	0	0	7	35	3	23.1	1	33.3	1	10
	Total with OND or Equivalent	6	15	0	0	0	0	1	50	2	10	3	23.1	0	0	0	0
	Total with HNC or Equivalent	17	42.5	0	0	0	0	1	50	8	40	6	46.2	1	33.3	1	100
	Total with HND or Equivalent	6	15	0	0	0	0	0	0	5	25	1	7.7	0	0	0	0
	Total with City and Guilds	13	32.5	0	0	0	0	0	0	6	30	5	38.5	1	33.3	1	100
	Total with B-Tech	2	5	0	0	0	0	0	0	1	5	0	0	1	33.3	0	0
	Total with First Degree	18	45	0	0	0	0	1	50	9	45	6	46.2	2	66.7	0	0
	Total with Higher Degree	7	17.5	0	0	0	0	0	0	4	20	2	15.4	1	33.3	0	0
	Total with Diploma In Management Studies	1	2.5	0	0	0	0	0	0	0	0	1	7.7	0	0	0	0
	Total with membership in a professional institute	31	77.5	0	0	0	0	1	50	18	90	9	69.2	2	66.7	1	100
Total with Other qualifications	11	27.5	1	100	0	0	0	0	6	30	3	23.1	1	33.3	0	0	

Analysis of respondent sample presented in Table 4-12 confirms that the forty's, fifties and sixties have the widest range of qualifications, followed by the seventy age group and finally the teen group. The twenties are unrepresented in this survey. From Table 4-12 the most populated qualifications from the overall category are: (i) O levels = 77.5% (ii) Membership of professional institutes = 77.5% (iii) First degree = 45% (iv) HNC = 42.5% (v) A Level = 37.5% (vi) City and Guilds = 32.5% (vii) ONC = 30% (viii) Other qualifications = 27.5% (ix) Higher degree = 17.5% (x) OND = 15% (xi) HND = 15% (xii) B Tech = 5% and (xiii) Diploma in Management studies. Table 4-13 presents an analysis of respondents' qualifications based on location. Although the sample size is too small to make definite conclusions, it is interesting to identify the qualifications held by the participants in their own region.

Table 4-13: Analysis of respondents' qualifications by location

Location		Overall		East England		North East		East Midlands		South East		London		South West		West Midlands		North West		Northern Ireland	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Amount of people		40		9		2		1		12		2		6		1		6		1	
Qualifications achieved	No. of people - %	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	Total with O Levels	31	78.5	8	89	2	100	1	100	11	92	2	100	3	50	1	100	3	50	0	0
	Total with A Levels	15	38	2	22	2	100	0	0	8	67	2	100	1	17	0	0	0	0	0	0
	Total with ONC	12	30	3	33	0	0	0	0	1	8	1	50	3	50	1	100	3	50	0	0
	Total with OND	6	15	1	11	1	50	0	0	2	17	1	50	1	17	0	0	0	0	0	0
	Total with HNC	17	43	3	33	0	0	0	0	2	17	2	100	5	83	1	100	3	50	1	100
	Total with HND	6	15	2	22	1	50	1	100	2	17	0	0	0	0	0	0	0	0	0	0
	Total with City and Guilds	13	33	3	33	0	0	0	0	4	33	1	50	0	0	0	0	5	83	0	0
	Total with B-Tech	2	5	0	0	0	0	0	0	1	8	0	0	0	0	0	0	1	17	0	0
	Total with First Degree	18	45	4	44	2	100	0	0	6	50	0	0	2	33	1	100	3	50	0	0
	Total with Higher Degree	7	18	0	0	0	0	0	0	2	17	0	0	3	50	0	0	1	17	1	100
	Total with Diploma In Management Studies	1	3	0	0	0	0	0	0	0	0	0	0	1	17	0	0	0	0	0	0
	Total with membership in a professional institute	31	78	8	89	2	100	1	100	8	67	1	50	4	67	0	0	6	100	1	100
Total with Other qualifications	11	28	3	33	0	0	0	0	4	33	1	50	1	17	0	0	2	33	0	0	

4.4. Questionnaire Analysis – Understanding CBC perceptions on Critical Success Factors

The quantitative analysis presented in Section 4.3 helped identify respondents' age; gender; how long they have worked in the construction industry; what is their current job and how long they have held that job and what are their qualifications. In establishing the background of the CBC participants, questions were posed to ask about the most important critical success factors that influence their businesses, which are further explored in this Section and presented in Table 4-14. The critical factors developed by Arslan and Kivark (2008) were adopted to understand why a business would find it desirable or necessary to implement these factors. These factors were relayed within the questionnaire, which was then collated to identify which factors the CBCs thought were most critical to the success of their organisations. The total scores for each question in table 4-14 were established by multiplying their chosen sector: "very critical" was multiplied by 4, "critical" by 3, "fairly critical" by 2 "not critical" by 1 and no response by 0. The highest score for each critical factor was calculated to determine the relevant CSF in order of importance.

By identifying the most critical factors, the first four factors were used to form part of the interview process comprising: (i) control of cash flow; (ii) organising and planning; (iii) job cost control and (iv) client satisfaction. Businesses that rely on a customer base cannot act in isolation of their patronage and most of the listed factors can be interlinked with each other and involve both business and their customer base. When reviewing the data, it is interesting to find that the profit margin only enters Table 4-14 at number 16, out of the most critical factors. The results therefore suggest that interaction and communication with the customer is a vital process to develop sustainable business development.

Table 4-15 demonstrates the importance of the factors to the relevant age bands. The overall column in this table closely follows the results of Table 4-14, where both tables identify control of cash flow as the most critical factor and organising and planning as the second most important. Client satisfaction ranked at number three (Table 4-15) comes in as the fourth most important factor in the Table 4-14. Job cost control ranks fourth by age band (Table 4-15) but third in the overall table 4-14.

Competitive pricing is the fifth most important by age band (Table 4-15), but this has a wide discrepancy with the overall Table 4-14, which shows this to be only the eighteenth most important factor.

Table 4-14: The most important critical factors which influenced the development of SCCOs (CBCs)

Factor in order of importance	Score	Order of importance
Control of cash flow	150	1 st
Organising and planning	144	2 nd
Job cost control	143	3 rd
Client satisfaction	143	4 th
Honesty	136	5 th
Company image	130	6 th
Quality control	127	7 th
Good sub-contractors	126	8 th
Leadership	125	9 th
Experience	124	10 th
Timely payment of bills	123	11 th
Communication skills	123	12 th
Fair pricing	121	13 th
Capital/financial strength	120	14 th
Teamwork and harmony	120	15 th
Profit margin	118	16 th
Use of good quality materials	116	17 th
Competitive pricing	116	18 th
Company experience in the market	116	19 th
Completion of job on time	115	20 th
Good record keeping	112	21 st
Qualified personnel	110	22 nd
Have a web-site	107	23 rd
Risk management	106	24 th
Qualified technical staff	104	25 th
Country's economic condition	102	26 th
Qualified consultants	96	27 th
Level of competition	96	28 th
Determine public needs	89	29 th
Follow and adopt new technologies	89	30 th
Usage of software programmes	84	31 st
Good advertisement	82	32 nd
Education level	81	33 rd
Low interest rates	78	34 th
Innovative products	62	35 th
E-marketing	62	36 th
Sales offers	51	37 th
Political connections	45	38 th

Table 4-15: Factors that have affected company development within the last five years (by age band)

Age Band		Overall	16-19	20-29	30-39	40-49	50-59	60-69	70-79
Amount of people		40	1	0	2	20	13	3	1
Factors that have affected development in the last 5 years	Control of cash flow	1	2		5	1	4	1	3
	Client satisfaction	3	1		1	2	2		
	Organising and planning	2	5		7	3	1	2	2
	Job cost control	4				8	2	3	
	Honesty	8				5	11		1
	Company image	9			2	10	6		
	Leadership	6				6	5	6	
	Quality control	6				6	8	4	4
	Good sub-contractors	15				15	10	9	
	Experience	13				9	17	6	
	Communication skills	16			7	12			
	Timely payment of bills	10			2	12	11		
	Teamwork and harmony	14				10	14		
	Fair pricing	24					20		
	Capital/financial strength	11			6	14	8		5
	Profit margin	11	3			15	7		
	Competitive pricing	5	4		2	4	11		
	Completion of job on time	19					14		
	Qualified personnel	21				18			
	Have a web-site	18				19	18	6	
Good record keeping	23				19				
Risk management	19					14			
Country's economic condition	17				15	18			
Level of competition	21				21		4		

The factors that have least importance to company development within the last five years (by age band) did not register any level of importance by the recipients and has been confirmed in Table 4-16. It is important to stress that the question was posed to identify the five most critical factors which was collated from the participants of the questionnaire. Although these factors did not rank as their most important it cannot be ruled out that these factors do not have an influence on running a business.

Table 4-16: Factors that have least importance to company development within the last five years (by age band)

Age Band		Overall	16-19	20-29	30-39	40-49	50-59	60-69	70-79
Amount of people		40	1	0	2	20	13	3	1
Factors that have affected development in the last 5 years	Use of good quality materials								
	Company experience in the market								
	Qualified technical staff								
	Qualified consultants								
	Follow and adopt new technologies								
	Determine public needs								
	Usage of software programmes								
	Good advertisement								
	Education level								
	Low interest rates								
	E-marketing								
	Innovative products								
	Sales offers								
Political connections									

Table 4-17: Factors that have affected company development within the last five years (by geographical area)

Location		Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of people		40	9	2	1	12	2	6	1	6	1
Factors that have affected development in the last 5 years	Control of cash flow	1	1	1	1	3	5	4	2	2	
	Client satisfaction	3	3	3	4	1	1	2		5	4
	Organising and planning	2	2	5		2	5	2		1	1
	Job cost control	4	6			8	7	4	3	3	
	Honesty	8	4			4	7	8			
	Company image	9	8		5	17		1		6	
	Leadership	6	9			8		7	4	4	2
	Quality control	6	12		3	8	3	4		8	
	Good sub-contractors	15	9			8		13		15	
	Experience	13	14	3		12		13		12	
	Communication skills	16	12			14					3
Timely payment of bills	10	14			4	3	11		12		

Location		Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of people		40	9	2	1	12	2	6	1	6	1
	Teamwork and harmony	14	17			12		11	5	8	
	Fair pricing	24				18					
	Capital/financial strength	11	4			18		13		12	5
	Profit margin	11	14	5		4		17		8	
	Competitive pricing	5	7	2	2	7		13		11	
	Completion of job on time	19								6	
	Qualified personnel	21	9								
	Have a web-site	18		7			7	8			
	Good record keeping	23				15					
	Risk management	19					1				
	Country's economic condition	17				15			1		
	Level of competition	21						8			

Table 4-18: Factors that have least importance to company development within the last five years (by geographical location)

Location		Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of people		40	9	2	1	12	2	6	1	6	1
Factors that have affected development in the last 5 years	Use of good quality materials										
	Company experience in the market										
	Qualified technical staff										
	Qualified consultants										
	Follow and adopt new technologies										
	Determine public needs										
	Usage of software programmes										
	Good advertisement										

Location		Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of people		40	9	2	1	12	2	6	1	6	1
	Education level										
	Low interest rates										
	E-marketing										
	Innovative products										
	Sales offers										
	Political connections										

The top five most critical results have been found to be the same by age Table 4-19 and by location Table 4-18. The least critical factors were again to be the same which were identified by age (Table 4-18) and location (Table 4-20) and did not register any level of importance by the recipients.

There has been a national and international recession which has affected numerous industries since 2008. It was interesting to determine whether the effects of recession would have any bearing on the critical factors which may affect the development of organisations in the next 5 years? The results were subtly different to those found to be important within the last five years and have been identified in order of critical importance in Table 4-21 the most critical factors were determined to be (i) organising and planning (ii) control of cash flow (iii) client satisfaction (iv) profit margin and lastly (v) capital/financial strength.

Table 4-19: Factors most likely to affect company development in the next five years by (age band)

Age Band		Overall	16-19	20-29	30-39	40-49	50-59	60-69	70-79
Amount of people		40	1	0	2	20	13	3	1
Factors that will affect development in the next 5 years	Control of cash flow	2	2		1	2	6	7	
	Client satisfaction	3	1		2	3	2	11	
	Organising and planning	1	5			1	2	1	3
	Job cost control	8				9	7		
	Honesty	9				11	9	9	1
	Company image	13				11	13		
	Leadership	6			6	5	5	11	4
	Quality control	21				26	15		
	Good sub-contractors	12				7			
	Experience	9				10	9	2	
	Communication skills	30			6	26			
	Timely payment of bills	13			4	16	13		
	Teamwork and harmony	27				26		9	
	Fair pricing	19				20	19	11	
	Capital/financial strength	5				4	2	5	5
	Profit margin	4	3		4	7	1		
	Competitive pricing	9	4		3	11	11		
	Use of good quality materials	30				23			
	Completion of job on time	21				23	18		
	Company experience in the market	21						3	
	Qualified personnel	21				16			
	Have a web-site	15				11	15		
	Good record keeping	33				26			
	Risk management	15					15	7	2
	Country's economic condition	7				6	8		
	Level of competition	35				31			
	Qualified consultants	30				23			
	Usage of software programmes	33				26			
	Good advertisement	27				20			
	Education level	19				16	19		
Low interest rates	17					11	5		
E-marketing	21				16				
Innovative products	21						3		
Sales offers	27				20				
Political connections	18				11				

Conversely, only three factors did not register a ranking as identified in Table 4-20 and it would seem *prima facie* that these factors would be difficult to be put into perspective where the future could be more problematic to connect those factors.

Table 4-20: Factors least likely to affect company development in the next five years by (age band)

Age Band		Overall	16-19	20-29	30-39	40-49	50-59	60-69	70-79
Amount of people		40	1	0	2	20	13	3	1
	Qualified technical staff								
	Follow and adopt new technologies								
	Determine public needs								

Again the top five most critical results, to go forward in the next five years, have been found to be the same by age, Table 4-21, and by location, Table 4-23. The least critical factors were again to be the same identified by age (Table 4-22) and location (Table 4-24). These factors were also included within the least important factors to have affected the development of the organisations within the last 5 years.

Table 4-21: Factors most likely to affect company development in the next five years by (geographical location)

Location		Overall	E. England	North East	E. Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of people		40	9	2	1	12	2	6	1	6	1
Factors that will affect development in the next 5 years	Control of cash flow	2	2		1	5	3	1	5	3	
	Client satisfaction	3	1	3	3	2	1	5		13	
	Organising and planning	1	3	5		1	1	8		12	2
	Job cost control	8	12			9		14	4	3	
	Honesty	9	6			9	3			9	
	Company image	13			2	8		17		15	
	Leadership	6	12			3	7	1			3
	Quality control	21	20			9					
	Good sub-contractors	12	5			15		11			
	Experience	9	11	3		6				5	
	Communication skills	30	16								
	Timely payment of bills	13	12			12				9	
	Teamwork and harmony	27	20					14			
	Fair pricing	19				15		17	3		
	Capital/financial strength	5	4		5	7	3	3		2	5
	Profit margin	4	6	6		4	3	5		1	
	Competitive pricing	9	8	2		12		3		15	
	Use of good quality materials	30				12					
	Completion of job on time	21	16							13	
	Company experience in the	21								5	
	Qualified personnel	21								5	
	Have a web-site	15	16	7				14			
	Good record keeping	33				15					
	Risk management	15	12					7			
	Country's economic condition	7	10	1		18	8	13	1		4
	Level of competition	35	20								
	Qualified consultants	30	16								
	Usage of software programmes	33			4						
	Good advertisement	27								9	
	Education level	19								15	1
Low interest rates	17						11		5		
E-marketing	21						8				
Innovative products	21						8				
Sales offers	27							2			
Political connections	18	8									

Table 4-22: Factors least likely to affect company development in the next five years by (geographical location)

Age Band	Overall	East England	North East	East Midlands	South East	London	South West	West Midlands	North West	Northern Ireland
Amount of people	40	9	2	1	12	2	6	1	6	1
Qualified technical staff										
Follow and adopt new										
Determine public needs										

Table 4-23 has identified the most critical factors from the results of the questionnaire. The first column relates to the initial score ranking as identified in Table 4-15. The location/age banding for the critical factors found for the last and next 5 year cycles were found to be the same and these have been represented by one column each to prevent replication.

Differences can be observed from Table 4-23 in each of the representative columns. The first column registered in order all of the 38 critical factors that were used for the purpose of the research extrapolated from the critical factors developed by Arslan and Kivark (2008). The second column only registers 24 critical factors for the previous five years that have been important for the companies involved in this research. The last column registers 35 critical factors that are thought to be of significant importance to the participants of the questionnaire.

Table 4-23: Summation of critical Factors

Factor in order of importance	General order of importance	Critical factors for the last 5 years	Critical factors for the next 5 years
Control of cash flow	1 st	1 st	2 nd
Organising and planning	2 nd	2 nd	1 st
Job cost control	3 rd	4 th	8 th
Client satisfaction	4 th	3 rd	3 rd
Honesty	5 th	8 th	9 th
Company image	6 th	9 th	13 th
Quality control	7 th	6 th	21 st
Good sub-contractors	8 th	15 th	12 th
Leadership	9 th	6 th	6 th
Experience	10 th	13 th	9 th
Timely payment of bills	11 th	10 th	13 th
Communication skills	12 th	16 th	30 th
Fair pricing	13 th	24 th	19 th
Capital/financial strength	14 th	11 th	5 th
Teamwork and harmony	15 th	14 th	27 th
Profit margin	16 th	11 th	4 th
Use of good quality materials	17 th		30 th
Competitive pricing	18 th	5 th	9 th
Company experience in the market	19 th		21 st
Completion of job on time	20 th	19 th	21 st
Good record keeping	21 st	23 rd	33 rd
Qualified personnel	22 nd	21 th	21 st
Have a web-site	23 rd	18 th	15 th
Risk management	24 th	19 th	15 th
Qualified technical staff	25 th		
Country's economic condition	26 th	17 th	7 th
Qualified consultants	27 th		30 th
Level of competition	28 th	21 th	35 th
Determine public needs	29 th		
Follow and adopt new technologies	30 th		
Usage of software programmes	31 st		33 rd
Good advertisement	32 nd		27 th
Education level	33 rd		19 th
Low interest rates	34 th		17 th
Innovative products	35 th		21 st
E-marketing	36 th		21 st
Sales offers	37 th		27 th
Political connections	38 th		18 th

4.5. Conclusion

Data collection was standardized and robust and when completed was sent direct via a link to the Bristol online survey for analysis and as such eliminated bias. The quantitative based research was developed to aid the qualitative research. The questions posed have been most illuminating and has identified much about the participants age, gender, association with the construction industry, what their present job is and how long they been in that role, what qualifications they hold, location, what have been the most important critical factors in order of importance that has influenced the development of their business, what five critical factors affected the development of the respondent's organisations for the previous and next five years. The sample size was just forty and there may be criticism levelled against this number to be justified as representative but the number of micro and small sized registered Chartered Building Companies throughout the United Kingdom was only two hundred and four when the research was conducted and therefore the sample size represents 20% of the target population.

Chapter 5 Qualitative Data Collection and Analysis

5.1. Chapter Overview

This chapter presents qualitative data collected and analysed as part of this research. The qualitative aspect of this research was based on thirty one interviews with directors of micro and small sized Chartered Building Companies. The previous quantitative research has been provided to supplement the results of the qualitative research to fulfil the aim and objectives of the study. A software tool NVivo (2015) was used to analyse unstructured interview data. The findings resulting from the qualitative data analysis have been presented.

The interviews were conducted between August, 2013 and February, 2014 and involved thirty one Chartered Building Companies (CBCs), operating within the building sector. Targeted CBCs represented micro to small sized companies. A key focus of interview discussions was determination of success factors found in SCCOs within the United Kingdom. The questions rose by Arslan and Kivark (2008) were constructed to understand:

- How SCCOs would implement the CSF within its organisational structure?
- Why SCCOs would find it desirable or necessary to implement these CSF?

The interviewees were asked for their contributions as to what additional “success factors” could be identified to the success of their own organisation, in order to establish the factors that were pertinent to the interviewed practitioners and their own companies. The questions were split into five areas and the results tested against research objectives. In addition, a final category addressing “points of interest” was introduced to capture significant remarks that were thought to provoke interest. Remarks drawn from the interview process have been highlighted in italics and where found to be necessary pertinent points have been separated by... to maintain focus.

5.2. Research Objectives and Interview Questions

The research objectives listed A – G below as presented in Chapter 1 were tested against the four most important critical factors found to influence the development of SCCOS as identified in table 4-14 (I) control of cash flow (II) organising and planning (III) job cost control and (IV) client satisfaction. Only the top four of the most critical success factors have been researched due to the time limitations of the thesis. Another two topics were introduced from the qualitative research i.e. (V) what critical success factors were important to the interviewees and their organisations and (VI) Points of interest, raised by the participants.

5.3. Analysis of Interview Data

Information collected from interviews of 31 Chartered Building Companies was categorised into various headings and sub-headings (Figure 5-1). This information was extracted from the transcribed documents. The six main headings in the first column of figure 5-1 are classified as the main factors e.g. cash flow. The sub-headings or components have been presented under the main factors in the first column for example under the main heading “Cash Flow” are listed the components “bad debt; healthy etc.” the components contribute information about the main factor. The four most important factors influencing the development of SCCOs listed in Table 5-1 had been sourced from the quantitative data analysis as presented in Chapter 4 (Table 4-16). Two more topics have been introduced which were taken from the semi structured interview questions from participants’ views on “what made their organisation successful” and “points of interest” which came from conversation that brought to light remarks worthy of interest. There are many things that affect the elements described within Table 5-1 and although these issues have been examined in this chapter, it would be inappropriate to suggest that this research has uncovered all the issues that impact on the areas raised in this study.

Name	Sources	References	Created On	Created By	Modified On	Modified By
Cash Flow	0	0	11/02/2014 14:24	RO	11/02/2014 14:24	RO
bad debt	2	3	12/02/2014 15:27	RO	11/04/2014 09:03	RSO
healthy	31	154	12/02/2014 15:24	RO	12/04/2014 14:03	RSO
loan and repayment	0	0	12/02/2014 15:27	RO	12/02/2014 15:27	RO
Low	19	44	12/02/2014 15:24	RO	12/04/2014 09:57	RSO
Software	19	31	23/02/2014 15:36	RSO	12/04/2014 13:58	RSO
Client Satisfaction	0	0	11/02/2014 14:53	RO	22/02/2014 12:57	RSO
Communication	31	152	12/02/2014 15:26	RO	12/04/2014 14:27	RSO
Repeat Business	23	52	22/02/2014 13:17	RSO	12/04/2014 14:24	RSO
Job Cost Control	0	0	11/02/2014 14:53	RO	22/02/2014 12:57	RSO
Accuracy	29	126	22/02/2014 13:14	RSO	12/04/2014 14:17	RSO
Labour	24	54	22/02/2014 13:08	RSO	12/04/2014 14:20	RSO
Organising and Planning	0	0	11/02/2014 14:24	RO	22/02/2014 12:56	RSO
Administration	19	42	22/02/2014 13:15	RSO	12/04/2014 13:31	RSO
structure -dealing with problems	31	165	12/02/2014 15:30	RO	12/04/2014 14:11	RSO
Point of Interest	15	48	04/04/2014 14:29	S	12/04/2014 14:32	RSO
Views for Respondents own Company Success	0	0	12/02/2014 09:22	RO	19/04/2014 10:51	RSO
Environment	20	69	06/04/2014 12:54	RSO	12/04/2014 14:29	RSO
Individual Company's Critical Success Factors	30	131	22/02/2014 13:10	RSO	12/04/2014 14:30	RSO

Figure 5-1: Thematic Coding Framework

Table 5-1: The most critical factors influencing the development of SCCOS

Factor in order of importance	Score	Order of importance
Control of cash flow	150	1 st
Organising and planning	144	2 nd
Job cost control	143	3 rd
Client satisfaction	143	4 th

5.4. Control of Cash flow

Quantitative Analysis of interview data presented in Chapter 4 indicated that control of cash flow is the most important factor for SCCOs. Cash flow has an important influence on all SCCOs. Numerous factors can affect cash flow and the impact this can have on the viability of a business. Table 5-1 extrapolated information entered to NVivo (2015): the first column identifies the relationship between the factor “cash flow” for example and the associated component “bad debt, healthy etc”. The second and third column identifies; how many times the factors and components have been sourced/referenced. The fourth column confirmed the date entry and the fifth column initialled by the author. The sixth and seventh column identified any modifications.

The information provided from the interviews has been categorized to provide clarity and transparency. Figure 5-2 has been displayed to show: the relevant factor in the left or first column; the associated components in the middle or second column and the sources/references shown in the last or the third column. The information described in Figure 5-2, has been extrapolated from Figure 5-1 above.

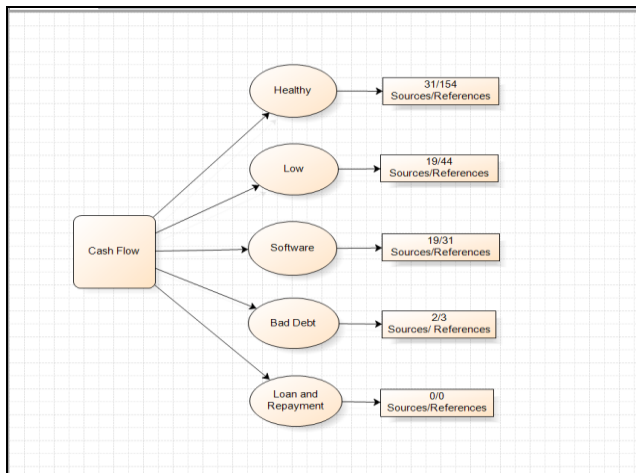


Figure 5-2: Relationship of components to cash flow

Figure 5-3 expands on Table 5-1 to identify the number of components which have been associated with cash flow. Figure 5-2 identifies the factor, “cash flow” the five components “healthy, low, software etc.” and number of sources/references associated with each component.

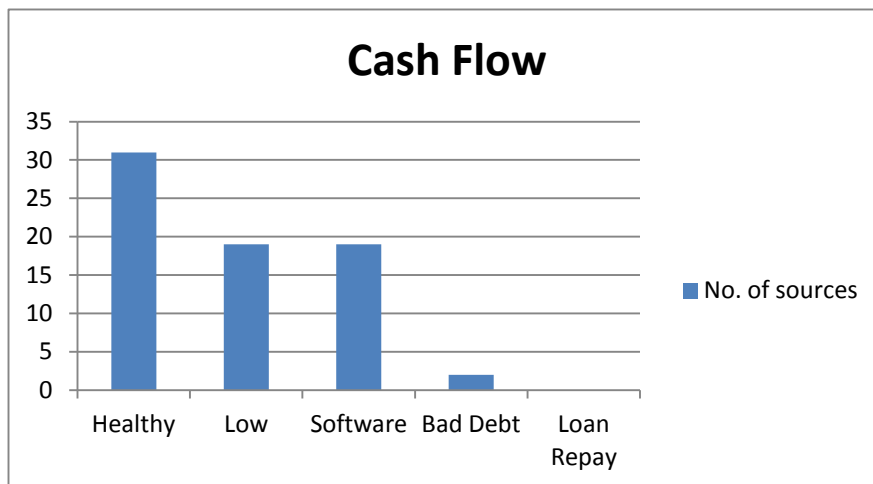


Figure 5-3: Number of sources to each cash flow component

Research Objective being addressed in the Control of Cash Flow category:

The data analysis is nurtured to ensure that research objectives are attended to in each of the stated categories. The first category “control of cash flow”, helps address third research objective of this research i.e.

C. Evaluate the factors affecting the SCCOs against the factors uncovered in (A) and (B), to evaluate the emergent critical success factors (CSFs) found to influence the development of small sized construction contracting organisations (SCCOs).

5.4.1. Healthy Cash flow

The components are ranked as displayed in Figure 5-3 for the amount of times the interviewees have contributed information to each component however, this does not suggest their level of importance or even if the item has not been referenced should not indicate it that it does not have impact on business. The terms of healthy; low; software; bad debt and loan repayment are referred as “components”, as a hierarchical relationship to cash flow which has been drawn from figure 5-1. From the component, further categories or “elements” have been identified to compartmentalise, maximise and draw a logical sequence that can be better understood. The same “tree” has been represented throughout the data analysis section for uniformity and understanding.

The terms used for the hierarchical tree shown in Fig. 5-4 are represented by:

- Factor..... Cash Flow
- Component..... Healthy
- Elements..... Procedures, record keeping client etc.

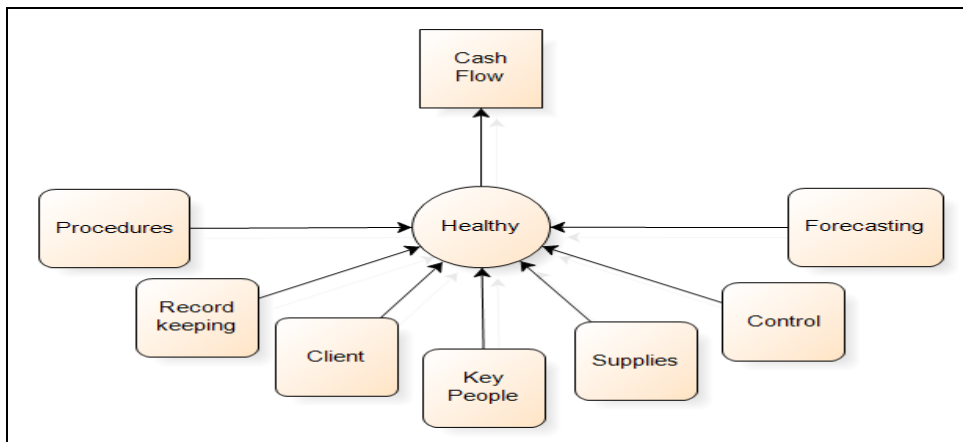


Figure 5-4: Hierarchical relationship of “healthy” component to cash flow

Figure 5-4 shows the relationship between the factor, “cash flow” the first of the components “healthy” and the associated seven elements i.e. procedures, record keeping etc. that make up the hierarchical tree extrapolated from fig 5-2. The “elemental” information is expressed in more detail below. The number of “elements” throughout the data analysis chapter differs according to which component has been represented.

Record Keeping: It became apparent that the respondents have various systems to achieve prompt payment. These approaches are different reflecting differing organisational disciplines, but all are aimed to minimize late payment, examples are varied. In order to achieve a healthy cash flow, it is initially important to produce and send out invoices as confirmed by respondent (i) *“the key is to get our invoicing in fairly promptly”*.

After invoicing, it is vital to monitor cash flow by *“keeping an invoice log showing when invoices are due for payment and chase up if they’ve not been paid when expected”* said respondent (i). This was independently corroborated by respondent (xviii) who suggests that, *“If we have got multiple jobs on at one time, we know exactly where and what we are spending on”*. Record keeping according to respondent (iii) was to have a system in place identifying *“that we are able to see exactly where we are at certain stages of the project without speaking to the relevant people”*. There appeared to be a consistent vein amongst the interviewed parties. Another example was offered by respondent (xxiii) who determined that, *“at the end of each month we have to pay our bills and we’ve got to make sure that we don’t run out of cash in the system to carry us forward”*. However, a more pragmatic view was suggested by respondent (xvi) who consigned his view of record keeping as being *that “we do have kind of spreadsheet cash flows in place that project three or four months in advance where the cash is coming in and where the cash is going out, but like I say, it’s worthless if we don’t get that cash in”*.

Procedures: It became clear from the replies of the participating companies, that they thought it was important to have procedures in place to ensure monies were received in timely fashion as suggested by respondent (iii) *“The key areas are making sure that we have the valuations, accurate valuations, submitted by the dates that are described*

in the contract documents and following it through to getting the payment certificate through from PQS or the architect and then ensuring the invoices are sent out with the correct information on when they are received by the client and backed up by regular statements". Dependent on the client a consistent procedural theme emerged which emphasised the importance to produce and document invoices which can be flagged as a late payment and if the client falls outside the agreed payment terms. Another example was offered by respondent (x) *"we obviously have to ensure that payment applications on projects are undertaken monthly and that we receive that cash and we have our own systems in place to ensure that the bells ring if payment is not received within seven days of putting in a payment application but obviously money is king and we have to a) put in applications in a timely fashion and b) make sure that we are paid. The same with final accounts, you know, submitting final accounts, chasing retention etc., it's all very much part of an important part of what we do and, you know, maintaining a positive cash flow"*.

Procedures are essential to ensure payments are made, as evidenced by respondent (xvii), *"No-one is necessarily going to pay you unless you remind them that the money is due and you need to have a system in place where you are either emailing or writing or telephoning the relevant client to remind them that they need to pay their bill"*. The corroborative evidence confirms the companies interviewed have a procedure to produce and monitor valuations and when/if they appear to become overdue, the overdue accounts will be pursued within the terms of contract.

The final factor addressed by the interviewed businesses which could affect cash flow was payment terms. It is accepted in many industries, in particular when dealing with the general public, that payment is made prior to purchase, for example the food and drink industry, car industry, holiday industry etc. However, payment terms in the construction industry are punitive in comparison. This was recognised by respondent (xxix), *"From the outset we set ourselves payment terms that are fairly unusual for the construction industry, we request... a 14 day payment term and largely our payments are received within those parameters. Having come from a regional contracting background where payment terms would be elongated with 90 and 120 days become the norm we realised from the outset that was crucifying for a small business"*. *So we're very aware of cash flow and its importance in the business"*.

Payment terms were found to be critical among the participants and so-much-so that respondent (v) remarked *“We try to get the best payment terms we can. We will not work for anybody over thirty-five day payment terms full stop. It doesn’t matter if they offer us more money, more discounts”*. This exemplifies the impact that long payment terms can have on a small business where considerable outlay is required for staff, labour, materials and plant prior to the initial payment. It is usual practice within the construction industry for contactors to accept a retention that continues throughout and usually six months after completion which has implications on the continuance, investment and growth of SCCOs who since 2008 have competed in an industry competing in a recession.

Client Related Factors: Where the respondents talked about their client base a consistent theme became evident and this consisted of (a) knowing your client as suggested by respondent (v) *“we’ve targeted user friendly contractors who actually do pay us on time”*. Respondent (xvi) similarly remarked *“we only work for people that we know are going to be paying us on time and generally a lot of that work is through people that we already know and worked with previously”* (b) by building relationships: Respondent (xxxi) thought to *“keep the client happy so we get paid as well promptly”* whilst respondent (xvi) opinion was that *“We rely on relationships that we have built up over many years with people in the industry”* and in (c) client risk respondent (xvi) purported *“that relationships with people that we know is vitally important to us when we decide who to kind of actively pursue for new work. We very rarely go in cold”*. Finally respondent (ix) contemplated the balance between poor payment turnaround against the peace of mind from the client’s credit rating *“our clients’ majority are local authorities. They are probably the worst payers we have got but you know their money is safe”*. It would appear that good business relationship rely on familiarity, consistency and a knowledge that a client’s credit rating is paramount for a good working relationships to flourish.

Key people: The key people within the recipient organisations that contribute to maintaining a healthy cash flow are the individuals who produce the information to identify the cost of the projects for their companies for example respondent (ii) commented *“we have a very good positive attitude by all of our staff which I have engendered into the staff to try and talk to people in a simple form as possible and to*

identify possible probable problems within the process of being paid” another example came from respondent (xxiii) “the surveyor who produces the figures initially for us, is a key person. The contracts manager who produces the plan on which the cash flow is prepared is a key person. The chap who manages it, that’s my son, he’s key and of course I who produces plan in the first plan” and a third example offered by respondent (xvii) “I think the project managers are required to monitor their spending and also liaise with the credit controllers to monitor the collection of the outstanding accounts. So I think that is the key to it really”.

Other businesses felt that the key people within their organisations were the workers whose output is the mainstay that has produced the wealth of the company for instance respondent (xviii) stated that *“The more competent operative you have, you reduce risk and waste which has an impact on the budget because you are saving. You don’t have to do things twice”*. Respondent (i) commented on the importance of the key people within the client organisation *“I think the key person is normally the facilities manager or the client representative, by building a good relationship with them they are more likely to look after your account and not let you down with late payment”*.

Forecasting: It is important that a business should be able to forecast how business can impact on cash flow but their appeared to be wide considerations here initially from respondent (xviii) view-point *“we do cash flow forecasting which monitors cash in bank, when a payment’s due, when a certificate is due for payment etc. We monitor the bank account daily”* this compares to the respondent (xvi) view stating *“you can do all the cash flow projections you like in the world that show money coming in and money going out. The minute the money doesn’t come in then you might as well throw that in the waste paper bin because it’s worthless”*. This shows different management styles suggesting the latter doesn’t appear to have much faith in this discipline and is more concerned about the day-to-day management of the business.

Control: Control of cash flow means to manage the company’s ability to plan and present future projects, determine patterns of business strategy such as training, growth, investment etc. Examples suggested by the interviewed companies range from respondent (vii) who determined that *“cash flow is the life blood of every single*

business and without adequate cash flow you cannot actually manufacture, produce, progress with the business. So control of cash flow is vital to decision-making processes in the business". This compares with respondent (xx) view that *"I've managed my cash flow by making sure that I issue valuations on time, making sure that the appropriate paperwork is in place, agreed the valuations with the surveyors or the clients and then generally, I'm also selective as to which clients I work for"*. Respondent (xiv) approach was more illustrative by stating that *"we won't start a job unless we can resource it from start to finish"*. These examples are of companies who by retaining control are able to manage their financial affairs which by comparison to respondent (iv) commented *"I don't have a system or paperwork in place I just know what it is at all times"*. Although this business owner thinks he has the ability to control cash flow by instinct it would be more difficult to be able to forecast the company's cash flow.

Suppliers

It would appear from the interviewed sample that they recognise the value between having a contractor/supplier dialogue. The bigger savings a contractor can make either go to becoming more competitive and/or boosting profits as exemplified by respondent (xiv) who said that by *"ringing suppliers for some of the bigger projects does, you know, bear fruit"* and gave a couple of examples *"have a monthly target and we have often rang them the last week of the month and they say if you leave it until next week, we'll give you another 10%"*. And finally another instance was offered *"another of our suppliers cannot be beaten at the moment for plasterboard who virtually gives it away as a loss leader. So we buy pallets of plasterboard. You are saving in the region of £1 a sheet"*.

The next related contribution to cash flow as discussed by the participant interviewees was "low" or poor factors that should be avoided to maintain a healthy cash flow. The contributions came from nineteen of the thirty one organisations representing 61%.

5.4.2. Low Cash Flow

The low cash flow component relates to the detrimental factors that impinge on the

well being of a company's ability to maintain a strong cash flow going forward. There are many reasons or causes, both direct and indirect, that has affected the viability of construction organisations which have been addressed in the research programme.

Whilst the interview process was taking place a remarkable and unexpected surprise that was uncovered with one of the business owners who confirmed that he had actually worked with Latham and personally knew Egan, two influential figures within the construction industry of the late 20th century, but it is interesting to hear that publicity they both had to change the working practices within industry the success has been less than expected according to respondent (ii) *"I get very angry with situations that I know we discussed twenty years ago which are still happening today and the construction act designed in many ways coming out of Latham was designed in many ways to get over that situation and it hasn't seemed to work. So Latham has had an impact, the construction act is the impact, the result perhaps but whether its effective or not I'm not sure that it is"*. As the interview continued he went on to say that *"Egan took a very mechanistic approach to it and I've actually had this out with Egan face to face I mean comes from the car industry manufacturing, he has tried to bring in simple principles into construction, construction is not simple in as much that we deal with too many archaic systems that take you round the houses i.e. in terms of payments, valuations too many parties to fragmentation of the scheme, fragmentation of the system. Egan tried to simplify it and I don't think he did, I don't think it worked"*.

According to the statement above it would appear that respondent (ii) who worked with Latham and was personally known to both Egan and Latham has reservations about the success of their work.

The work by Egan and Latham could be viewed as top tier affecting the construction industry as a whole but on an individual basis the things that affect low cash flow can be established by (a) satisfaction (b) upfront payments (c) multiple works (d) Profit margins (e) communication (d) cash (e) banks and (f) poor practices as identified in figure 5-5 these are the elements which have contributed to the "low" component as a hierarchical relationship to cash flow.

The terms used for the hierarchical tree shown in fig. 5-4 are represented by:

- Factor..... Cash Flow
- Component..... Low
- Elements..... satisfaction, upfront payments, multiple works etc.

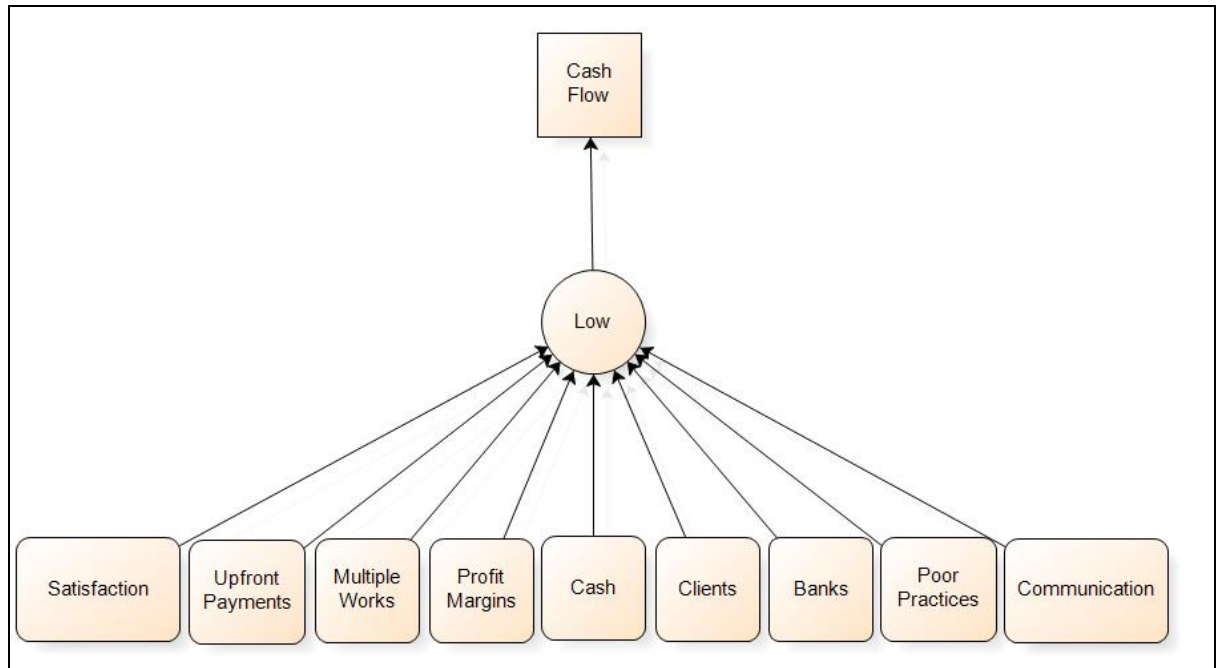


Figure 5-5: Hierarchical relationship of the “low” component to cash flow

Satisfaction: Although client satisfaction is covered elsewhere a statement made from respondent (iii) determined the value of the contractor/client relationship and the affect that a breakdown can have “*if our client wasn’t happy and started placing their business elsewhere that would have a financial effect on our business*”.

Upfront Payments: Due to the punitive payment terms that contractors endure it is vital to negotiate the best credit terms with all businesses within the supply chain. This was recognised by respondent (xvix) who commented “*subcontractor payments and payments for labour only subcontractors need to be paid in advance without ourselves being paid. So that has an effect on cash flow. As well as, pre-payment on products and materials which can also seriously affect cash flow? So you’re actually putting money up front before you receive it*”.

Multiple Works: This is connected with upfront payments as most projects are paid in arrears the contractor's cash flow is impacted when financing multiple works. This was contemplated by respondent (xx) *"The difficulty comes when you start several contracts off at the same time and you are funding those contracts, as we do, on the JCT Minor Works Contract. Those first six weeks you've got to fund yourself before the 28 days when the first valuation goes in and the 14 days payment terms thereafter"*.

Profit Margins: Without adequate profit a business cannot reinvest that money for growth, training, personnel, plant, marketing etc. but on a project level the profit may not be enough to finance the works as recognised by respondent (xx) who stated that *"if you are not making a reasonable return, you are going to be stretched to your limits on fine margins which will in turn reflect on difficulties in cash flow because there won't ever be a surplus left in the bank to finance the work"*.

Communication: Construction works are often complex for example: when dealing with clients or/and their representatives; suppliers; staffing; sub-contractors and their availability; finance arrangements; programming; invoicing; contractual obligations; health and safety. Comments from the participants have been included here. Respondent (xiv) recognises the sub-contractor issue and although repeatedly using the same people cannot rely on their compliance *"we are relying on the sub-contractors that we have used for years so it is making sure they are available"*.

Another problem discussed by the interviewees was identified to communicate accurately the detail for work items described within the invoice offered for payment. Respondent (xxv) remarked that *"if you give a valuation that's woolly or lacking in details it's just going to slow down the process at the other end for the client or surveyor to assess that it's accurate and fair, which means it could delay them issue certificates which it means delays issuing the invoice which delays payment"*.

Cash: This term loosely covers cash or the lack of it and what impact it can have on cash flow for instance respondent (xv) simple states *"Without prompt payments, your cash flow cannot be predicted. It is an industry custom that contractors work in arrears and contractors appear to accept this as standard practice"*, this was

confirmed by respondent (xiv) who accepted that *“there would be an advantage of obviously taking money upfront but it’s not a practice we do here”*. This acceptance of payment terms is fraught with problems for instance: it is more difficult to track down late payment; contractors have limited credit arrangement which can strain available cash to the contractor; it can limit growth as cash is tied up under punitive payment terms, such an example is recognised by the same contractor who confirmed that *“Some suppliers want paying upfront and the full amount”*. Late or non payment can be difficult to pursue where legal costs are expensive and the outcome unknown. Respondent (xvi) recognises the value of prompt payment *“there are that many people, especially in the construction industry, who either have got horror stories or are no longer around because they just can’t cope with not being paid on time”*. Respondent (viii) was able to talk authoritatively in-so-much as *“I’ve been in a failed company. I’ve been in a company in the past which failed where we were borrowing money and if our money wasn’t coming in we tended to think, “oh well we’ll just borrow a bit more money”. And we failed to make sure that we kept our money coming and also we failed to make sure that our jobs were profitable”*.

Clients: Clients have a significant role for the impact they can have an effect on a contractor’s cash flow which has been recognised by the SCCOs interviewed and examples where given by various participants including that of respondent (xxv) who has had difficulties *“One of the biggest issues in the construction industry is major clients”* or that of respondent (xxxii) *“I’ve gone off the major contracting works because the problems with late payments”*. Respondent (ix) suggested that clients are not empathetic to small contractors *“the majority of our work is local authority work. I think the key people in the local authority don’t appreciate how important it is to small businesses how important cash is”*. The ramifications of not being paid can affect the supply chain as commented by respondent (xxxii) that *“if I miss the payment with one of my suppliers they put us on stop”*.

Banks: Since the recession started circa 2008 the banks have been more reluctant to lend money. In order to remain competitive in recession most construction organisations have had to become leaner and cut back what would now be considered superfluous activities within their own businesses. A company operating on smaller profit margins finds it increasingly difficult to operate requiring additional funds to

support business activities. Prior to the recession funds could be readily accessed via business loans and overdraft facilities but the banks have become much more cautious about lending, this have been reflected in comments made by the interviewed CBCs as respondent (xxxix) concluded that *“banks don’t seem to help us anymore”* and respondent (ix) confirmed *“we have nowhere to turn; no support from the bank”*. However a much more positive approach was offered by respondent (xxvi) whose relationship with the bank suggested that *“If we have issues with cash flow at the end of the month that we need to pay somebody but we know we will exceed the overdraft and are waiting for a client who is late paying we have a fantastic relationship with our bank manager that will be covered”*.

Poor Practices: A number of comments about operating difficulties could have been avoided and so categorised as poor practices. In retrospect all of these issues could have been avoided by better management practices for instance respondent (viii) has established that they had underpriced a job but under the terms of the contract found that they were unable to renegotiate a better rate *“I’ve got two or three guys doing some paving for me at the moment and I’m losing money on it, and I know I’m losing money. So I know that if I get offered any more from this particular company that I can’t do it at the rates that I’m doing it at the moment”* and continues *“So I know from the job costing I’ve done that I’m never going to make it pay at the rate I’m on. I’m not going to lose a lot of money but the quicker I’m out of there the better and don’t do any more of it. So if I’m offered more I know I can’t do it at those rates”*.

There are a number of contractors who will price work at cost in difficult market conditions to keep their employees in work as it is well known that there has been a skills shortage in the construction industry for decades. This would appear to be the situation that respondent (xiv) has found himself in *“I am looking at five programmes stuck on the wall now at various stages but you know we can’t have our ground-worker, for example, on three sites at the same time”*. A different opportunity appears not to have been considered by another contractor?

In order to maintain or flourish in the marketplace all advantages available to competitors must be considered by business. If, after careful consideration, it is not found to be of benefit to that business then an alternative could be sourced or even

discarded. However ignorance could not be identified as a positive contribution to success as discovered by respondent (xii) who commented *“I don’t have any technologies and I’m not aware of any that would help me with my cash flow”*.

The examples identified in this category could all be avoided it is much better to have anticipated a situation than to have reflected on what went wrong as recollected by respondent (viii) *“I think the biggest process is the end of year review of where you’ve ended up, your profit and loss. I can remember quite a few years ago now going in with my then business partner to see the bank manager and to put it brutally he said to us “I can do with a couple of lads like you that’ll work for nothing”. Yes it was pretty brutal. We thought we’d done loads of business which we had. I think we’d done about £2,000,000 turnover, but we actually hadn’t made it pay and it was accountant who said it to us. And it chastened us because it made us look at where we were, what we were doing and how on earth could we do £2,000,000 and basically not make much of a profit. So the annual review’s a big thing. Deciding where you’ve been has been worth it or not”*.

Sixty one percent of the interviewees contributed information about the use of software/programmes that have aided SCCOs to monitor cash flow and this is detailed for analysis.

5.4.3. Software

As well as software packages the term “software” as been used to categorise other aids that have assisted organisations to manage their financial affairs. Four of the participants (i), (viii), (xiv) and (xxvii) representing 13% of the populace iterated their reliance for on-line banking.

Software Packages

The most popular software package used by the SCCOs at 26% was Sage where as 6.5% used Quickbooks both being standard software packages used to monitor company accounts. Respondent (xxix) was alone in heavily investing into a sophisticated software package that monitored a more extensive range of activities

undertaken by the business *“when we started the company five years ago and one of the most important outlays and very substantial outlay was a piece of software that embraced all aspects of our business. We found or were aware of software that’s very good in project management terms, in contact terms, but we struggled to find a...previously struggled to find a piece of software that embraced costs control. We were very fortunate at the outset of the business to discover such a piece of software which embraced all of those modules that we’ve spoken about including costs control. So we have lifetime costs control over all of the projects and the business. So if we so choose, which we chose at the end of each day, we could run a year end account for the business. We can also take a snapshot of costs within any particular project at any hour of the day. So that was a fundamental decision early on in the business. One way that we could monitor that cash flow was through the use of this software and that’s proved five years on we’re successful, we’re profitable. It has proved instrumental in maintaining our cash flow”*. In an attempt to describe the package the contractor described the package as being *“construction based. It was produced by a chap who wrote the software. I think he’s brought elemental modules together from various pieces of software and successfully moulded them into one seamless piece of software and embraced feature such as “E-mail, contact database, project management, drawing management, but most essentially costs control”*. There was just one other respondent (vii) who was set aside from other contractors using multiple control levels to monitor the company’s cash flow and was described as operating as both *“micro-level control and macro-level. We have an accounting system which is operated by the financial director and alongside that in parallel for each project which is treated as a business we have cash flows, in: out cash flows, for the project on a weekly basis which is reviewed at the end of every week and compared to projected costs in the project at the tender stage. We then compare the costs that are on the spreadsheets, weekly spreadsheets, at the end of the month against the Sage accounting documentation and through that we’re able to establish if there any anomalies and find out what they are and why they occurred”*.

Bad debts followed as the penultimate feature affecting cash flow where 6.5% of the interviewees thought that this to be an important problem related to cash flow.

5.4.4. Bad Debts

Bad debts can have a considerable impact on cash flow and can drive businesses into bankruptcy if fund levels are not adequate to sustain the level of debt incurred. There are a number of checks that can be undertaken to establish the client's credit rating prior to entering into a project but there are influences that can change the ability of the customer to pay that are less likely to be predicted. This was recognised by respondent (xxiv) who asserted that *“As in all businesses you do get your bad debt provisions and accrue for a percentage of that should it occur. That can be in the way in which the client's position has changed. If that does then often what we do is say to them, talk to us, tell us and share your problem, can we help them overcome the difficulties”*? By recognising or anticipating a problem with the ability of the client to pay there may be a way, through communication, to mitigate the effect that bad debt can have on a company. Legal costs can be punitive, and the process lengthy and the outcome cannot be guaranteed it is therefore, where circumstances allow, desirable to open a communication channel to explore the reasons behind the bad debt. This was recognised by respondent (i) who said that *“this information is key and we need to know what's coming in when and to obviously you know control our payments out to people”*.

5.4.5. Loan and repayment

The last area that impacts cash flow is “loan and repayment” and although this was not directly addressed as a topic by the interviewees this can influence cash flow and growth for a business. On analysis of the participants comments associated with the area of loan and repayment, there became two areas which affect both cash flow and potential growth of SCCOs. A concurrent theme that borrowing was thought to be a drain on the financial resources or cash flow was supported by respondent (viii) who emphasised this point by stating that *“I make sure that I don't borrow money and so I work in the black all of the time. We're a micro-company, we've been going seven years and I've not wanted to borrow money. I use direct access to my bank account, control my payments out directly. And by not borrowing money it concentrates my mind on making sure that my payments come in”*. Respondent (xvi) corroborated this view in saying that *“We don't rely on borrowing from the bank or anything like that*

to maintain how we control cash flow". The above statements suggest that overdrafts, or loans are not beneficial and the bank costs a drain on company profits.

Another approach was viewed by respondent (xxiv) who suggested that it was the reluctance of banks to provide loan facilities that has curbed growth within their own geographical area for SCCOs by stating that *"Where one has in the past looked for support from the funding managers whether it is the high street banks or so on, they are still very slow. They are still not receptive to the building industry and certainly we do find that many contractors and developers are still finding life difficult to expand and move forward who want to employ other people as the market demand for conversion regeneration is on the increase in the Hampshire and Surrey areas. It is certainly the case that some of the contractors just can't get the forward funding in order to give them that lift to move forward financially"*. These diametrically different views demonstrate the opposite influences that financial aid can have on a business and it would appear that an organisation should be clear as to what affect a loan can have for either a financial drain on cash flow or continued prosperity of the company.

Cash flow allows an organisation to operate and compete in the market place. It is influential on financial decisions and determines the direction a business may follow. There has been both a national and international recession that has continued since 2008. The effects of the recession have made it harder to borrow from banks and customer confidence has shrunk. The construction industry has suffered with reduced orders and tighter profit margins. Organisations operating in the recession have to be more resourceful to compete and stay in business. The second highest ranked sector judged from the returned questionnaire was found to be organising and planning. The importance and relevance of this area to a company's management strategy will be reviewed next.

5.5. Organising and Planning

Organising and planning determine how a company is structured. It was determined through the interview process that the participants broadly implemented organising and planning into two components as illustrated in Figure 5-6. Whilst discussing this

topic all of the interviewees contributed their understanding of the importance that structure has on the business. A further 61% of the businesses related contributions that administration impacts on organising and planning. Figure 5- 7 illustrates an alternate view of the number of sources that have contributed to organising and planning issues. The research objectives are depicted below for the second category “organising and planning” and are stated below.

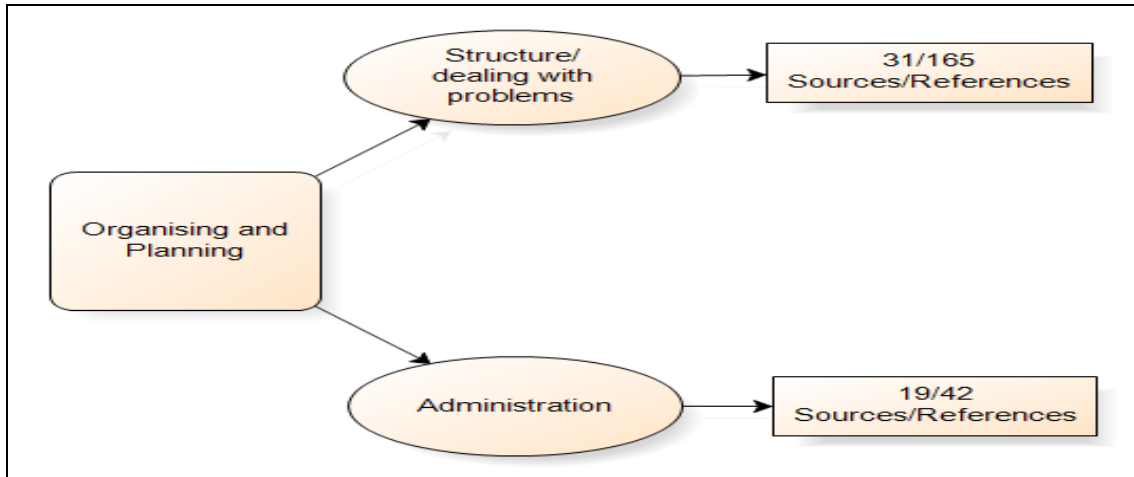


Figure 5-6: Relationship of components to organising and planning

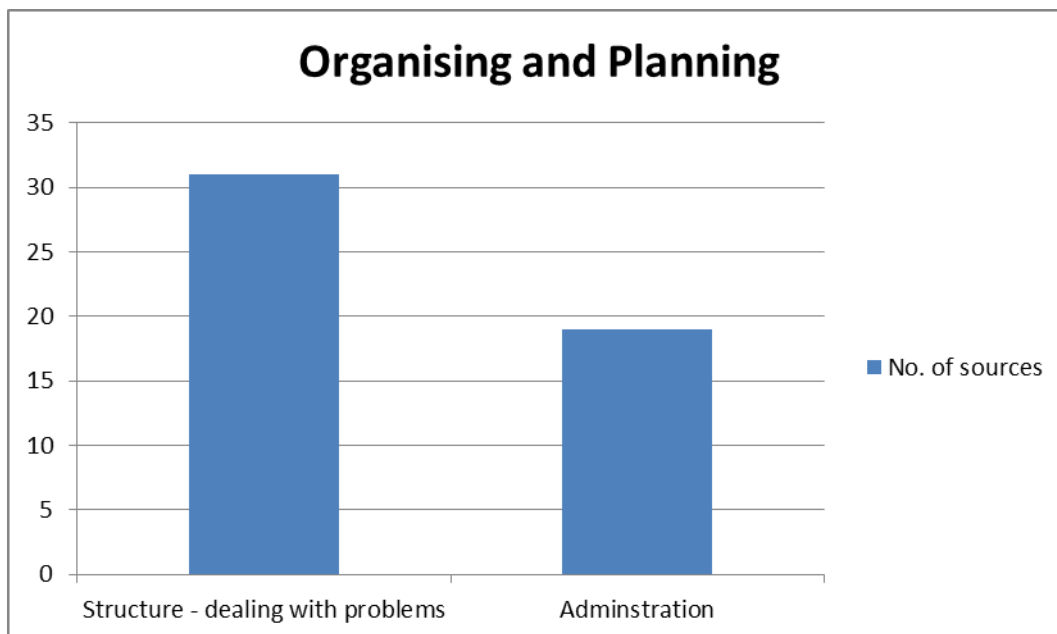


Figure 5-7: Number of sources contributing to organising and planning

Research objective being addressed in Organising and Planning category:

C. Evaluate the factors affecting the SCCOs against the factors uncovered in (A) and (B) to evaluate the emergent critical success factors (CSFs) found to influence the development of small sized construction contracting organisations (SCCOs).

5.5.1. Structure - dealing with problems

The participant’s points of view have been represented as a relationship of the elements within a hierarchical relationship to organising and planning as shown Figure 5-8 which identifies the relationship of the elements as a hierarchical relationship to organising and planning. From the interviews eleven elements have been identified that contribute differing aspects toward the component described as “structure – dealing with problems” and are subsequently detailed. The terms used for the hierarchical tree shown in fig. 5-8 are represented by:

- Factor..... Organising and Planning
- Component..... Structure – dealing with problems
- Elements..... programming, client, labour, pre-build planning etc.

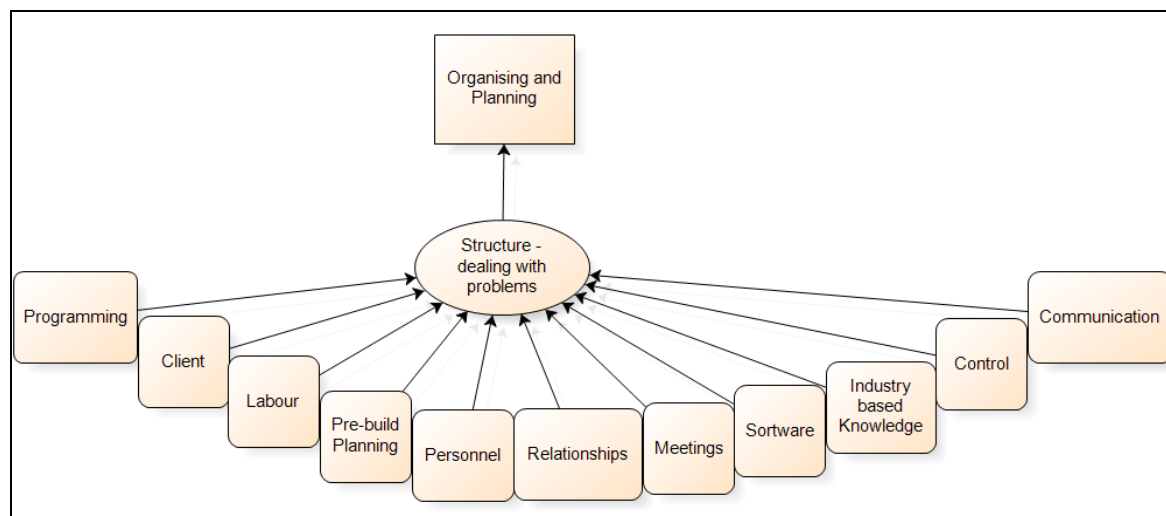


Figure 5-8: Structure - Hierarchical relationship of components to organising and planning

Programming: The first element reviewed has been to establish how or what methods have been adopted to record the work packages that produce turnover. The answers although diverse can be attributed to the size and complexity of the organisation, respondent (i) owner/manager of a micro organisation stated *“As a fairly small organisation I haven’t got much to delegate to people, I have a basic weekly to do list and mark up on calendars any projects I know are coming up and trying to assign start dates for them”* but recognised that larger organisations would not be able to operate in this way *“it would cause confusion in any other business, if there were other people trying to work out what was going on”*. This indeed has been corroborated by respondent (ix) from a larger organisation who contributed the following *“For the amount of men employed we need to know be able to predict what is going to happen three or four months down the line if there is to be a shortfall of labour or an excess of labour on certain jobs. It also helps your cash flow because you need to be able to predict what reserves of cash are needed to cover the projects. If you’re extremely busy, it puts a strain on some of your cash flow so there is a lot of hinges around the forecasting planning so it’s a key to success in any business”*. After further consideration further contribution was offered by suggesting that by forward forecasting the company was able to *“secure contracts at the right time and at the right price. So if you are very busy and you are pricing jobs, we need to increase margins and if you do pick the jobs up it makes it worth your while and when we find it a bit quieter, you can maybe keep things a bit tighter to make sure you pick up certain jobs to keep the men employed but also helps your cash flow as well”*.

It was apparent from the responses that whatever sized organisation there still is a requirement to establish a system of programming to record the diary requirement of a business operation. This was confirmed by respondent (xxix) who has adopted a system for the company but tailored it for its requirements *“We still implement a quality assured system. What we’ve done at the outset of the business is come up with a QA system that suits the size and shape of our business, so it’s not wieldy. We’ve scaled it to a size that’s very practical and hands on approach. So, for example, we have an ongoing project review. It starts...way before we start with a job ownership is assigned to various aspects of the project and those actions are carried forward right way through the project through to completion and beyond”*.

Client: For every industry that includes a supplier and a customer it is important that a good relationship is forged. This will encourage confidence which could result in repeat business. It is therefore desirable to understand who the client is and what they want. This was clear from respondent (xviii) who generalised that *“Commercial clients are much more focused on the finished product but residential clients perhaps are more concerned with costs”*. But in saying this it was recognised that *“there’s so much variety to be honest. No two clients are the same”*. However by understanding the client it is possible keep an open dialogue as respondent (xxxi) suggested *“I can at least get back to the client and discuss any problems and matters that could be then be dealt with”*.

Labour: The use of employed and sub-contracted labour has been widely used in the construction industry for many years. Irrelevant of the choice of labour a concurrent theme emerged from the interviews that the quality and reliability of the contractor’s preferred choice directly mirrors the clients impression of the SCCO. This was recognised by respondent (viii) who valued these attributes by commenting the value of the *“competency of your people, and training of your people”*. Further values were suggested by respondent (vi) who thought that *“availability of skilled employees, the availability of skilled sub-contractors and their availability and their ability to do the jobs”* were crucial characteristics. The use of labour is a fundamental requirement and as this represents the company’s image of the contractor it would be folly not to take seriously as respondent (vii) commented *“Being able to manage people that are the biggest part of any job really is the people management and time management”*.

Pre-build Planning: It is most important to understand the implications that can unfold once a project has started as supported by respondent (ii) *“you have got to have the ability and the skill to think your way through a particular project the people that do the planning have got to be able to build it in their head so to speak. We have just started a big job today as a result of several weeks of planning and understanding the likely threats we are going to encounter and how to overcome them and how to overcome them from a pre-contract stage as it was then”*. Respondent (v) holds similar views and went on to say that *“We plan it all the way through and we prepare for when we go on to the site. So once we’re on there, we’ve pre-planned it. We’ve talked it. We’ve gone through the drawings, specifications, the measurements, the*

management team, so health and safety. So we've hit the ground running rather than floundering on site". Whatever preparation is made there is likely to be faults and mistakes as found in contract stage as this was recognised by respondent (xiii) *"the post-contract staff have to be fully briefed on the faults of the pre-contract staff"* but a system that is in place to: pre-empt problems; ensure lead-in times for materials; resource labour; funding the works to name but a few issues to be contemplated mitigates these and other situations that if not addressed can affect the progress, profit and contractor/client relationship.

Personnel: The personnel of a business are the people who contribute to the operational aspects of the business. For the purpose of this study the personnel excludes site based tradesmen and labourers. The larger firms tend to be more complex in nature and therefore require more personnel to run the business as described by respondent (xxix) *"Having worked in big organisations where nobody really takes ownership of any particular problem or challenge that problem only grows in size. Here we haven't got that luxury of more people. The few people we have all have very succinct responsibilities for the aspects of the business and those largely are operations, design, and cost control and finance. The more people involved in personnel the less clear, less obvious, where the ownership lies"*. Having capable staff requires careful nurturing and cannot be presumed as respondent (xviii) acknowledge that *"it goes back to training and skills level so its picking the right people for the right staff which hopefully we have got right"*. Other personnel issues were reflected by respondent (v) on the roles of junior, middle and senior management responsibilities within the company *"The area we suffer most of the time, is not the senior management and not generally the site managers. It's generally the middle management that's been a problem for us, in respect of...they've got plenty of qualifications but yet they haven't got the experience or they're not financially aware. We don't have as many issues with the site managers because they've brought up through the company but they can't quite make the grade as for contractual...because you've got to be everything to every man, middle management, the middle management is the key to us. That's where we've always suffered. Not the senior management and not the lower management. It's always been the link between the two"*. A distinction between key personnel for different disciplines was made by

respondent (xiii) who determined that *“the estimating team won the contract, the production team build the job and the financial team get paid for the job”*.

Relationships: There are many types of relationships that exist between the various people and organisations that form a liaison within a working environment and examples have been offered by the interviewees. The first is an example of a contractor/client relationship as put forward by respondent (iii) *“we have built up a good working relationship and it’s nine times out of ten it’s very non adversarial and there’s a lot done on trust, obviously with these big blue chip companies if there is additional costs or variations there is a bureaucratic process to go through to get variations approved and if we sat there to wait until the end of that process in order to get the order to continue something the job would never get completed. So we do sort of put ourselves out on a limb sometimes to undertake works without the proper instructions but that’s the working relationship we’ve built up with our client”*. This type of understanding suggests a longstanding relationship where trust has developed between the two parties in-so-much that the bond of trust has allowed the contract to run without interruptions for variations to be considered. But by ignoring contract instructions there lays a risk that the variation do not meet with the client’s requirement or budget, this should not be undertaken lightly as the contractor may fail to get paid. This is an example of a contractor working within the commercial industry. The development of a good working relationship has found to be true of contractors working in the residential industry also as supported by respondent (xxvi) who affirmed that their *“client is paramount. We are carrying out a project for our client. The client comes first. So everything else fits into place like dominoes. We always introduce our labour. Nobody comes along to a job that is not introduced”*. Another example of developing a good relationship by communication has been offered by respondent (xxix) *“We like to think our clients are delighted with what we give them. We record additional labour and costs and keep the client informed of these extras and by doing so we keep the client happy”*.

Other forms of developing good relationship have been forged by the company’s policy toward their own staff. Respondent (v) accomplish this by having *“an internal profit share”* or another way for a different situation was as respondent (xxvi) commented *“We do have a big family network and if they need time off for whatever.*

...They know that I think investing in the business is their investment in the business and is an investment for their own future as well”.

Finally it was recognised from the participants that attributes which individual staff members have can be cultivated and by doing so can develop better working relationships within the company. For instance respondent (xi) thought *“the key people issues is to all of the people involved in your organisation, you need to understand them, that you can see their strengths and weaknesses so you can help with their weaknesses, encourage their strength and monitor most importantly where things are so it’s very much a people based industry”*. This closely reflected respondent (xxx) views that *“Skills, availability, manner and professionalism, who works best with whom”*. By encouraging and developing these characteristics can be seen to develop working relationships that benefit staff morale.

Meetings: The purpose of meetings according to the comments received from the interviews is communication and to record information. Respondent (xxiv) suggested that *“The more we have what we call effective planning and meetings together, the more we stay focused to the end objective”*. The information gleaned from meetings was used as respondent (vii) not only to establish conversion rates but to target the client *“we have an analysis meeting in place to establish conversion rates, from enquiries to conversions to tenders and then from tenders to success in terms of on target, on time, on budget. We then have an analysis meeting with the client representative to find out what they thought about the company, how we operated, what we did right; what we did wrong; what individuals they felt made the biggest contribution to the success of the project; how successful they felt the project was on a score of 1 – 5 and what they felt we could do better and we also feedback what we think the client could contribute to doing to make the project better as well”*. This data could be used over a period of time to identify: conversion rates; views on the business; viability of staff members; company success and by analysing the client assists the business to develop generic and individually focused issues that could be used to enhance business development into the future.

Respondent (ix) uses weekly meeting to instruct senior management and develop a work strategy *“We have weekly meetings for different departments which go through*

as an organisation so that we are on top of it, you know, at a board level when we know exactly what the departments are doing what and when and how each part is doing the business and the contracts department who plan all the projects that we've got on the go so we know how far ahead. What work we need to pick up and whether we don't need to pick up work so we can keep, you know, forecast exactly where we are in six months' time and what we need to do is a strategy of business”.

Another business uses meetings to determine the company's performance against their programme. Respondent (xvix) affirmed that *“every individual contract is programmed for a definite sort of time period. And you need to monitor your performance against programme. Usually that's carried out prior to major site meetings, so you can report at the site meeting with the progress of the project. In our business we also hold weekly planning meetings with all the managers at which we discuss performance, labour requirements, etc”.*

Software: The requirement and reliance for computer technology has become much more fundamental to the construction industry over the last generation which has been testified by the interview sample. Respondent (xi) suggested that *“computerised technology is probably the most important one to our general control”.* Another two examples of how computerised technology can assist with organising and planning come from two other respondents (xviii) and (xx) *“we have planning to all software, like for instance a Microsoft project. We can plan out project duration, labour for the time they are going to be on a task and assign that to a cost and...But I think without those computerised tools I think the project probably would have run over. It was complicated. It required all sorts of input from engineers and architects as the work progressed into some areas were unforeseen and it just helped managed everybody's time”.*

Control: Organising and planning issues require control. Business strategies and the framework of company management are determined at this top tier level. These principals should determine how then the company exercises organisation and planning issues throughout the all levels of its day to day activities. Many contributions to this topic were offered by the SCCOs and a sample has been included here. Respondent (xviii) was very clear that *“It's all about control so the more you*

plan and forecast, the more you are in a better position to succeed". Another respondent (xxiv) purported that *"you have got to have all your acquisitions of your key elements in place, your services, your infrastructure, the planning and the costing of that and any associated works relative to"*.

A second element of control was found to recognise how to manage errors or weaknesses within the organisation, respondent (v) was acutely aware of the cost that the business may incur by covering up a mistake *"if you make mistakes, tell us about any areas, we can deal with it. If you don't tell us and it gets covered up and we carry on it'll cost you four, five times as much to rectify"*. Whereas respondent (vi) recognised the importance of the strength and weaknesses and how this could impact on the business *"the simple answer is you use your experience, your vast experience of business. You know your capabilities of your men. Your capabilities of your sub-contractors and your financial resources, and that's how you plan ahead. By appreciating the capabilities of your firm you know the strengths and you know the weaknesses and you use that then to forecast what you can and more importantly what you cannot do"*.

A third element was found to recognise the capacity of the business i.e. what could or could not be achieved as identified by respondent (xiv) *"we had three tenders on our desk and we had to make a decision on which one we weren't going to go with because we just didn't have the time, not only to actually prepare it and put it together and return it but actually if we were successful with more than one, we would be struggling to actually deliver certainly on the dates that we would give. Alternatively if we were scratching for work we would do all three but fortunately enough we were busy enough that we could turn one away"*.

A fourth element the contractors felt contributed to organising and planning were their clients, as an integral part of the work package, who it was felt were required to be involved to prevent alienation, mistrust and late or non-payment. Respondent (xxix) *"There are no surprises, we don't get to the final accounts or finish the job and then prepare final accounts like we've done in the past where a big surprise comes out of the woodwork. We keep our clients informed as the job progresses as to where the financial outcome will be and they see that as a real positive for their own budgeting"*

purposes". A similar approach to customer relationship was offered by respondent (xxviii) who suggested *"it's trying to pre-empt the client coming to you with problems"*.

The final contribution was made by respondent (xv) who identified the impact the general market affects how a business should plan its workload *"to actually plan the direction of the company, you must assess the market at the time, you must look at the types of work that are available to you, look at the types of work that are coming out to you and plan to be as available to anybody within the industry that you can possibly be"*.

Industry-based knowledge: The area dedicated to giving a company an advantage to sustained business development. There are many ways that potential leads can be identified to procure works for instance looking through planning application in the local press to identify potential clients. In the case of respondent (xv) who commented that *"we subscribe to an advance building information service that printout actual projects at which stage of inception to completion of the contract and from there we look to chase leads down and basically get ourselves onto as many tender lists as possible"*. However an organisation should identify its limits. Respondent (xx) understood the problems of over-expansion and stressed *"We only take on what work we can manage"*. Once the tenders or quotations have been accepted a business must have the staff to complete its portfolio of works. In order satisfy customer requirement it is essential that the right calibre of staff members are recruited and placed for their particular skills. To maximise this potential a blend of education, experience and skills are the requirements for key positions. This was recognised by respondent (v) who identified the severe shortage that the labour market has to offer *"We have people who qualified up to, you know, as many qualifications as you want but they haven't got the people skills or financial skills what they've said they got, you know"*.

Communication: For a company to be effective, efficient and economical their needs to be good communication to prevent the problems as stated by respondent (xxx) *"Poor understanding of the abilities and personalities of team members leads to inefficient work, bad relationships, wasted time, de-motivated team, and ultimately unhappy clients"*. Communication is not restricted to employees however it is the

prime objective for a business to make a profit, all potential risks should be mitigated to prevent maximum profit respondent (xxv) recognises the failure of lost information by saying *“It’s clear communication. It’s minting and it’s being able to draw on accurate information to draw into those meetings to make decisions”*. Another respondent (xx) is aware of poor communication with the client *“we’ve got to notify clients if there is any reason we have given a start date and we get delayed on a job and don’t have the resources to start their contract on the date we have given them. We have to notify them because we’ve got a reputation not only for quality of work but for reliability and not doing which is a major criticism at our level of work”*.

5.5.2. Administration

The participant’s points of view have been represented as a relationship of the elements within a hierarchical relationship to organising and planning as shown figure 5-9. In order to represent the views of the participants in this study, figure 5-9 has identified the relationship of the elements as a hierarchical relationship to organising and planning. From the interviews three elements have been identified that contribute differing aspects toward the component described as “administration” and are subsequently detailed. The two components comprising (i) structure – dealing with problems and (ii) administration have been found to be at the core of organising and planning which was deemed the second most important critical factor influencing the development of SCCOs as detailed in Table 4-6. The terms used for the hierarchical tree shown in Fig. 5-9 are represented by:

- Factor..... Organising and Planning
- Component..... Administration
- Elements..... process, knowledge and experience, management

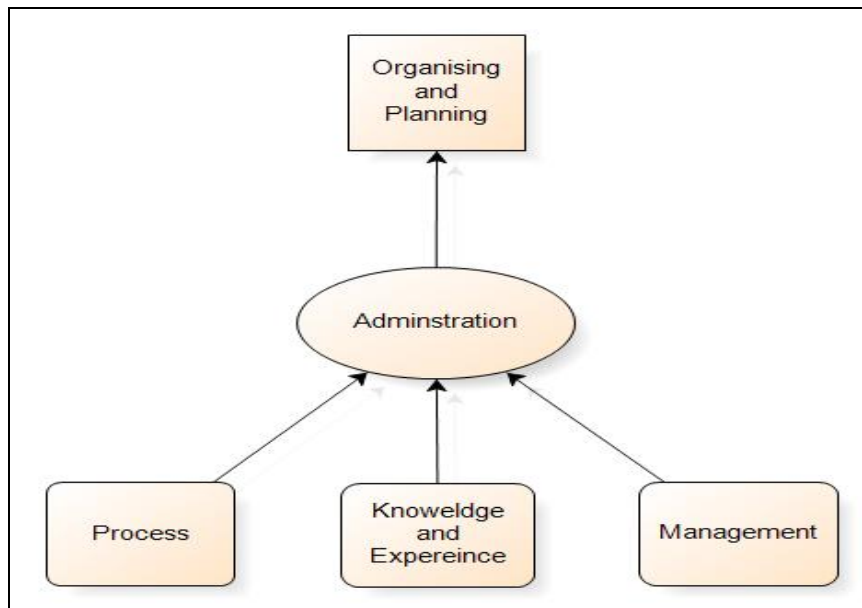


Figure 5-9: Administration - Hierarchical relationship of components to organising and planning

Process: The component identified with administration has identified the three differing elements the interviewees have contributed toward the first termed process which included various contributions as described below.

Computerisation has become a more important tool for most businesses and the software packages available are more sophisticated than was available to organisations a generation ago. Many of the interviewees appreciated the benefits that computerisation could offer as respondent (xxiii) suggested *“It’s the accuracy is very better than doing it by hand and it, as you say, cuts down on the number of staff you need to employ because you can get through a lot more work. The computer has helped me considerably”*. An example of how computers can aid a business was offered by respondent (xvii) who suggested that *“The central technology or process that is in place is our computer programme. We have a system in place where on a weekly basis we enter the job costs relating to labour, materials and plant and that then feeds back into the works programme for each particular project. So that really is the central core of how we control our business”*. There became a consistent theme amongst the participants which was summed up by another respondent (vi) who said that *“the Sage package we’ve got we can look at a particular job and with the press of one or two buttons and we have exactly what the job has cost to date, what valuations we’re able to make to date and that gives you a good idea then as to whether it’s flowing in the right direction. We could not work without computerisation”*. As

popular as computerisation has become for businesses it is not unanimous as respondent (i) concluded that *“I am still paper based”*. It was established that there are other aids that are available to SCCOs and these have been included for identification.

Company (xviii) thought that having a contract in place was an important aspect of organising and planning *“Most of our business comes from residential clients we do a small works contract which ties the parties in on both sides”*. Although most contracts tend to be generic they are used to establish the framework of the project and the responsibilities that are required of both contractor and client. It is then incumbent on the contractual parties to heed to the terms of the contract. Where there were to be a transgression of the contract then the breach would be more clearly identifiable and recourse could be taken by either of the parties under the terms of the contract. A contract reminds each party of their obligations to the contract which can be provided as a deterrent to deviate from those terms.

Yet another aspect of organising and planning came from respondent (xx) who recognised the value in pre-planning and remarked on its significance as *“it is so important to plan and that’s why it’s been successful for us and it’s worked well for us over the years”*. Planning was also recognised as an important feature of business activity by respondent (xiii) who determined that *“Before implementation of the contract is in place there’s a process we go through which involves health and safety; which involves production, the buying, management and it’s a particular format we would have so to ensure that once the job goes on site it’s ready to run”*.

Another aspect that could be associated with planning is programming, this again has been recognised as an important tool by the interviewees as respondent (x) commented *“Without programmes, you basically have no structure to a project. You’ve got no ability to monitor without monitoring the elements of design and procurement. You have no control over the third element, the main element, which is construction work on site. So without those elements, you have no structure whatsoever and a company couldn’t possibly be successful without those systems in place”*.

The processes around organising and planning as discussed by the participants have been determined to include the importance of (i) computerisation; (ii) contracts and (iii) planning and programming which allow a business to administer their business activities in pre- contract; contact and post contract stages. The importance of these business tools has provided regularisation and method establishing a framework that a business should adopt to be more effective. The next component is knowledge and experience and how this impacts on organising and planning issues.

Knowledge and Experience: This can be determined as tacit knowledge and how this has affected decisions made within the business to access business leads determine staffing levels and determine the location of business activities. It is vital for the continuance of an organisation to recognise what type of work should be undertaken and develop business leads to achieve those ends. Respondent (xvii) has recognised this by saying that *“we have a system where we are in touch with our client list on a regular basis to ensure that we are made aware of any potential and we are given the opportunity to price the schemes and provide tenders”*. By adopting their own client list ensures that they already have a relationship with their clients and that quality control, payments and working practices have already be defined and accepted and previous knowledge can be sourced as confirmed by *“looking back at previous jobs that we may have done for the same client to see what our pricing structure was like”*.

Once a contract has been awarded it is important to implement key staff to ensure that the contract runs to budget. Respondent (xvii) again offered a contribution in saying *“Well I think it’s the project managers that are key people. They take the initial tender document and the pricing that has been carried out and they break that down into the various elements and they are responsible for making sure that those projects are executed efficiently and within the budgetary limits that the quotation puts them in”*. It is more likely that the job remains profitable if a good client relationship can be established which can be achieved by the implementation of key staff at the start of the project. Respondent (v) has identified this working practice but acknowledged budgetary compliance *“We sit down collectively as a company and we programme the works and then we allocate what manager is capable of running that job or not as the*

case may be. So we look from experience, we know who can actually run those projects and then we look at the measurement side of things before we start”.

One of the participants (xxiii) being a house builder determined location as an economic factor *“We don’t build more than twenty minutes, or oddly we’ve now listed up perhaps to half an hour, but more than twenty minutes from our base because we believe that our talents are best spent building houses and not driving cars”.* This company also felt this was good for customer relationship *“We have an advantage there because, you know, we not only build houses, we don’t walk away we live with our customers, you know, we live amongst them”.* Their local reputation and knowledge was also deemed to be an asset *“So we’ve also got advantages too. If a site comes up, a potential site comes up, people think of us because we’re local. We’re dealing with local planners. We know the local rules and regulations so again they have confidence they come to us. So, you know, this local involvement I think is our strength”.*

Knowledge and experience have been determined as key factors for organising and planning for procuring work, putting in place key staff to ensure budget control and to develop good customer relationship with the contract and the advantages of working locally. The last component has been assigned to management and its influence on organising and planning issues.

Management: There are key decisions that can affect how a business arranges its business affairs. There is a marked difference between micro and small companies to that of large businesses in the way that the businesses are administered and the relationship between senior management and staff which was eloquently described by respondent (xxvi) *“I deal with most of the internal administrative operations and financial, the personnel, all of that side of the business”.* A further measure of the contractor’s relationship with their staff was shown that *“Any of our operatives can come to us or come to me with any of their administrative issues. Any problems with the tax office or whatever they may have, sick pay whatever”.* This relationship was found to extend to sub-contractors as determined by respondent (xxi) *“We use the same sub-contractors all the time and in addition it’s got to the point where they will re-organise work so they can meet our own timeframes”.* Where a relationship can be

developed to a point that an organisation can rely on sub-contractors or their own staff to put the organisations well-being before their own agenda resembles the philosophy of a continuing process putting the emphasis of communication and trust between management and workers as set out by “Kaizen: The key to Japan’s competitive success” and developed by Imai (1986, 1990) who introduced the use of continuous improvement (CI) as a means for process improvement to the west.

5.6. Job Cost Control

Controlling job costs are imperative to maintain profit or mitigate loss. Job costs are related to the original budget sum. Out-going costs should be anticipated and set against incoming revenue to establish a healthy cash flow. Figure 5-10 identifies the relationship between job cost control and their component parts. As previously described the sources/references are ranked in order of the amount of times the interviewees have referenced their view-points. Job cost control featured as the third most important factor to influence the development of SCCOs as identified in Table 4-14. Figure 5-11 illustrates a bar chart showing the number of sources that have contributed to job cost control issues. The terms used for the hierarchical tree shown in Figure. 5-12 are represented by:

- Factor..... Job Cost Control
- Component..... Accuracy
- Elements..... procurement, estimating, client, control etc.

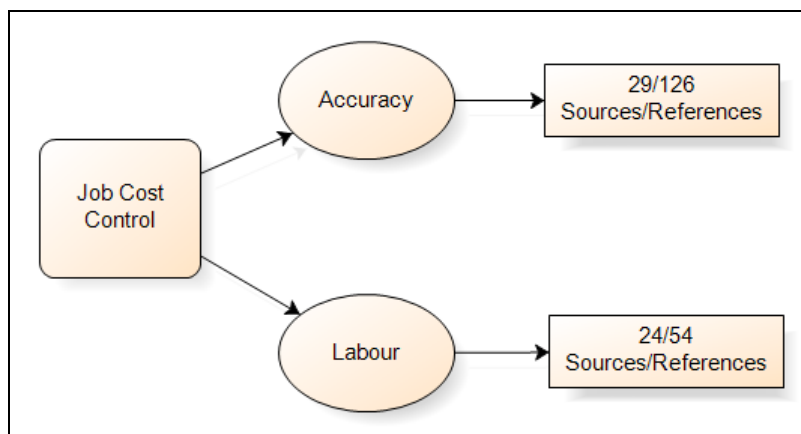


Figure 5-10: Relationship of components to job cost control

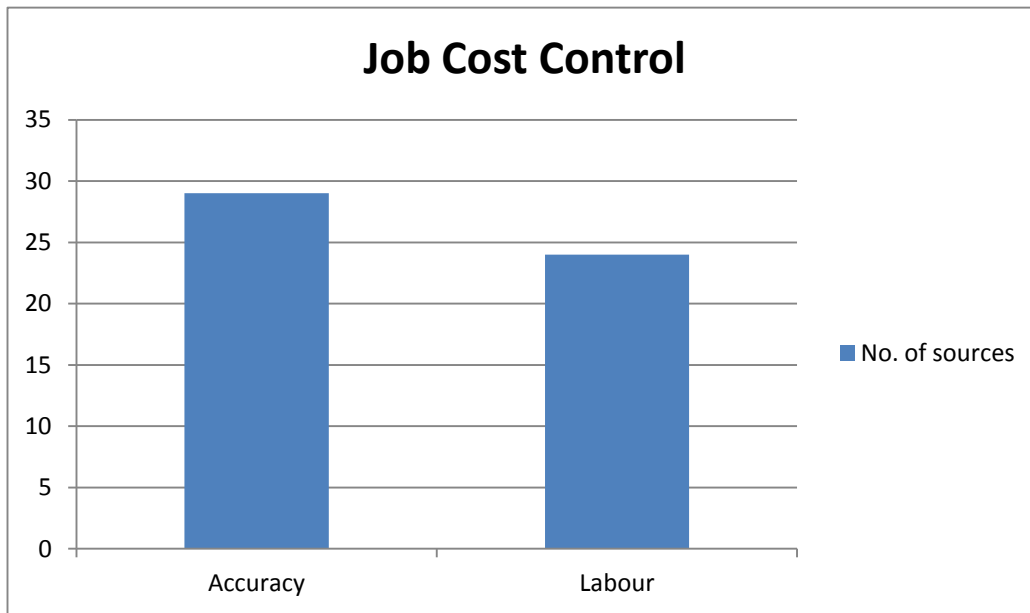


Figure 5-11: Number of sources contributing to job cost control

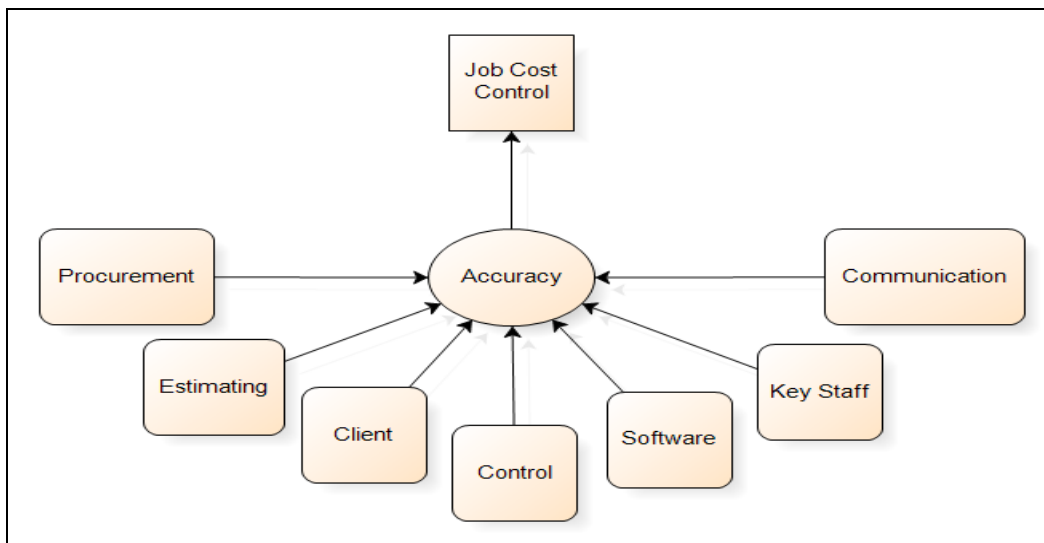


Figure 5-12: Hierarchical relationship of the “accuracy” component to job cost control

The participant’s points of view have been represented as a relationship of the elements within a hierarchical relationship to job cost control as shown Figure 5-12. From the interviews seven elements have been identified that contribute differing aspects toward the component described as “accuracy” and are subsequently detailed. The third category to have been studied was “job cost control” its stated research objective has been described below.

Research objective being addressed in Job Cost Control category:

- A. Critically analyse relevant literature to develop an initial conceptual framework of factors thought to influence the development of small sized construction contracting organisations.

5.6.1. Accuracy

Ninety four percent of the participants contributed information that has been termed under the umbrella of “accuracy” within the sector of job cost control. The seven elements have contributed a wide area of knowledge for scrutiny and analysis.

Estimating: Accurate estimating forms the framework around which job costs are controlled respondent (x) *“the estimating part of the process is critical because if you don’t get your estimating right then you are not going to be able place orders within your budgets simply because you haven’t made proper allowance in the first place. So you know the very first thing is getting the estimating right and then following that through to monitor the cost”*. A similar response was made by respondent (ii) who analysed the difference between pre-contract, contract and post contract to identify the accuracy of the original estimate *“Well my job costs are simply down to comparisons all the time, comparisons between what was anticipated, estimated or identified in the first place and what actually happened, so you have got a before and after. I have a process whereby I can compare reality with estimated and from that I can learn because, every job is different, but there are certain lessons to be learnt out of this i.e. what would be the case if identified targets were not met; why hasn’t it and where has the money gone”*? In this case the contractor is only able to carry out this in-depth analysis because *“I work on analytical type estimating whereby every rate is broken down depending on the job. I know everything’s been taken into account at the point you start to analyse the rates”*. Despite the amount of effort placed in the estimating process the contractor appears to be resigned to the fact that unforeseen factors can affect job costs *“you have to be extremely lucky in this business you know you just have to hope that everything will go well, all you can do is check and check and recheck again”*. There appeared to be a wide range of abilities from the participants from micro management techniques as testified by respondent (xvi) *“One of our team*

of three is our commercial guy who prices all our work. He prices work and we win the work. He then produces a target bill of quantities with target costs for the site manager to adhere to. So when the site manager is buying materials or procuring subcontractors, the manager refers to the target bill of quantities all the time. Sometimes they go up and sometimes they go down but there is a system in place to monitor projected profit and overheads against the target bill of quantities". Respondent (ix) uses a piece of software to identify job costs *"We use Sage job costing which each job gets allocated a number and all labour gets allocated onto that single job. All the materials get allocated to that single job and all the plant and any sub-contractors so we know we can monitor cost weekly against the value on that when we do our valuations and accounts so we know exactly how much money we are making".*

The rather careful attention to accurate estimating is a marked difference to that as identified by respondent (xxi) *"I'm not an estimator and I find doing the quotes for projects terribly difficult. I find that the process of working on a rate per square metre for an extension on the assumption it's a basic assumption then adapting that for complexities has usually fared me relatively well in the past. We have had projects that have not ended up being profitable and it's not usually a case that something went wrong on the project. It's almost always a case that I got the pricing wrong in the first place, which is a slapped wrist for me but it's a case of living and learning".* A similar casual approach was offered by respondent (i) *"I have got just a basic sheet of costs or for rough estimating purposes".* The comparison between the micro management techniques to control job costs and the latter more casual efforts are quite marked but both approaches have their places. Despite this the lack of estimating experience has proved to be at the expense of job cost control as testified by respondent (xxi) above.

Software: Software has been found to be a valuable tool in assisting with job cost control as attested by respondent (xxv) *"To do it manually these days would be almost impossible and it's a very accurate way of tracking your costs and monitoring your costs. All invoices and all expenditure is entered onto an accounts system which is coded to each individual job".* Respondent (iv) typifies the participants' reliance on computers. *"We have got computer software that completes a cost analysis of every*

project". Different types of programmes were identified to have been used for example respondent (i) confirmed the use of "a sage book keeping system, and as invoices come in from supplies or subcontractors they are issued with job numbers and costs are allocated to separate folders so we can monitor at any time what the costs have been on a particular contract". Respondent (iii) commented "In addition to our sage system we keep a separate job costing sheet on excel for every job where every invoice for a project is entered onto the excel sheet and every labour cost, every subcontractor cost so we always have an up to date running total figure for what the job is costing". Further examples for the reliance on computers to establish job cost control came by respondent (xxiii) "Right, back to computer, pretty essential. When we place an order for our work to be carried that's order is tagged and given a number which is recorded. When the people execute their work or deliver the materials or whatever they put an invoice to us and it's only when we've sort of checked order against invoice would we actually make a payment". Respondent (xxv) extols the virtues of Excel which is a computerised generated spreadsheet "We use Excel spreadsheets, when we used to do valuations every month, as part of that valuation is a current contract value that lists all the current known variations, if they're fixed costs, there's the fixed costs with the breakdown or any back-up information they need. If we haven't got that far yet we'll put a budget in". This was testified by respondent (viii) who said that "Excel is a wonderful tool as far as I am concerned". However respondent (xxix) preferred the use of a specific software package "We've Office Net, the software programme we use, with its costs modules very key to our success".

Client: The client or the client's agent will fund the works or project and have a marked influence on job cost control. It is helpful to have established a business relationship with the client so that valuations can be presented in a manner that is acceptable and payment can be anticipated in a timely fashion. This example would be preferential but there are many cases where the client is unknown and the works may be undertaken for a one-off project. It is therefore important to tailor the quotation to provide detail, contractual and payment terms to identify to the client what is expected. Respondent (xvii) mused "I think that once the client these days has given you the go ahead on a project, they have a fixed idea of what it is going to cost. There is always a bit of latitude of variations but generally speaking, once you've

struck the deal with someone, they expect you to deliver the project at the given price". However this was not found to be unanimous as respondent (xvix) suggested "Well where do you start with clients really they're a law unto themselves. Again every client is different. Some change their minds all the time and it has a massive effect on programming and performance really". A similar thought was shared by respondent (xiv) "But clients are notorious for changing their mind. We do at the pre-start, explain that to them that the project is based, you know, on the drawings and on the information we have got and obviously if any of that changed then that will have an impact on the end date".

Control: It is imperative to control job costs. By monitoring the inventory of business on a continual basis will mitigate losses, identify extra over works and establish an historical record of known values that can be used for future projects. Many references were offered by the participant SCCOs to emphasise this point initially by respondent (xxii) *"Job costs sheets are constantly updated so that if a client asks for a change then we write out a job costs sheet so I know exactly how much the job should be worth. That means that I know how much we should be spending and how much we have spent. This is accomplished by making sure everything is recorded from the first quotation through to the final accounts so there's a paper trail there and I can understand where the costs have been allocated. The benefits of recording these details will identify where we should be on a job and help establish when we should be finished"*. A further contribution on the way that respondent (v) monitored job costs was *"When we set the job up we look know from experience where we should earn money or should break even. We've have costs values reports. So everything that comes into this office is logged and costed on a daily basis. We have our costs values which are produced every week we sit down once a week to go through them. We know at what stage our projects are at over a month period. If something doesn't feel quite right on a weekly basis we will look at that job in isolation. Where we've got jobs that are making phenomenal profit we want to know why we're making it. There's must be a difference, why are we making that much profit against another similar project, same rates that is not doing as well. It could be the management. It could also be the main contractor for us or the client who's actually more attuned with working and making us earn money. You know you've got similar projects. One will make good money and one will lose and generally you will find it's who we*

actually working for can make all the difference. By micro-managing the projects and by keeping close control we know where every penny's gone. We know where we've lost money, why we're losing money".

Monitoring job costs is not just about finding whether they have been profitable or not it can be used as a learning curve as remarked by respondent (xv) *"to be aware of losing money on a project is imperative but without conducting this exercise you could not use that as feedback; (a) for future projects and (b) for methods to remedy the problems and to itemise where you are actually losing money"*. Job cost reviews can be taken over a longer period of time enabling a business to take an overall summation of the company's profitability as noted by respondent (xxiv) *"assessing on a six monthly basis how that last six months and market movement has worked, did our anticipated turnovers work, what is our projection for the next six month period or plan period and can we effectively afford to feed us"*.

There are other factors that can impact on job cost control and in the case of respondent (vii) consideration for risk factors as an implication for pre-contract consideration *"We would look at the beginning of the project before we even take the project on, to establish where are the major risks to costs over-run within the project and would, as it were, magnify those areas and pay particular attention to those areas because in generality 80% of the risk lies within 20% of any particular project"*. By identifying the risks prior to taking at pre-contract stage may inform the contractor as to the worthiness of entering into such a contract.

The amount of works involved producing the information of "risk value" conflicts with the comments made by respondent (xxvi) who commented *"Construction is such a precarious industry that nothing ever goes according to plan. There is no such thing as a plan. There is an indicative outline but there's no, nothing is cast in stone. So being very aware of that in construction that you will never, ever complete on that date. It just doesn't happen. There are too many influential factors and predominantly the weather is one of those"*. These comments are shared with respondent (xii) *"Well in my view and experience, control and job cost is the most difficult part of any job. In my view the reason why it is difficult is that estimating the cost of building projects is a guess. I mean you have to know whether you are over*

spending or under spending on the elements and the only way of doing that is compare what you have put in for the price and what it is actually costing". The marked difference between the respondent's comments and their ability to analyse the risk could be due to: the contractors ability to control job costs; the type of work the company undertakes; the client, for example whether the client is known to them; is the business within the commercial or residential sector; is the type of works outside the company's expertise.

Procurement: The following section identifies the impact that procurement has on job cost control. Prices, availability and skills are pre-requisites that need to be established prior to moving into the project stage as confirmed by respondent (xv) *"Correct utilisation of labour, material resourcing and effectiveness and up-to-date use of plant and equipment. The purchase of materials within the budget cost, the materials control, the correct ordering and prevention of waste is a factor. It is obviously cost control of materials ordering"*. Similar views were expressed by respondent (xiv) who commented *"We have a number of suppliers in the local area and we will calculate what we need on each site at an early stage and we will send a list to all of our suppliers and we have a rule, not to negotiate. So the supplier who is most competitive will be awarded the work and we generally do that on most of our larger projects. When we price the job we have a good idea of the material costs and we cross reference that with what we have allowed in the project. If there is anything different to our calculated pricing structure then we have the opportunity then to look elsewhere for a supplier. Whoever is the best on the day, they will get basically the whole of the job. On some of the smaller projects however it's not always cost effective to do that"*.

Key Staff: From the interviews conducted it became clear that the key staff members are directly correlated to the size of the business. Micro and small sized businesses retained family members in key positions but small sized businesses were found to be more likely to have employed staff to undertake specific roles. Examples were to be found from two organisations as respondent (xxiv) stated *"The key people are the family members. We all have our functions"*. Again this was to be repeated by respondent (iv) who explained *"it's my wife that does the book keeping"*. Responsibilities were found to be delegated to key staff in employed positions by

respondent (vii) *“The tender conditions have to be discussed with both the site and head office. We find it an absolute nonsense to have the estimator produce an estimate without the involvement of those that are going to produce the product. So it’s imperative that the people who’re going to produce the product at site level are in constant communication with the people who are actually providing the tender. We look at how it’s been priced up and discussed with the site manager what his opinion is. We also use feedback from some other projects. If we have similar projects where we’ve had challenges, how we’ve overcome them and were they effective. So we would then look to those projects to provide us with information to make the job more cost-effective. A spreadsheet is compiled to identify all the costs with the projects including projected costs for the project. These are analysed on a weekly basis and where there are variances we would then sit down and analyse those variances to find out why they occurred whether it has had an impact for increased profitability or decreased profitability for that element of the project. At the end of the project there’ll be a final assessment with everybody involved in the project to assess how much profit has been made on the project”.*

Communication: Communication has an important role to aid job cost. It may be verbal or written, generally available or specific to either company staff or the client but should that information not reach the pertinent party it could have severe consequences. Respondent (xxv) illustrates the point in providing a scenario *“A lot of builders go wrong through not communicating with the client about variations. For example a builder is on a job for twelve, thirteen weeks. The original price was £100,000, when they get to the end of the contract they want £140,000 to include for additional works but they’ve not advised the client about it. They haven’t passed on the variation costs for approval. So there’s big fallout. That’s a classic thing in the industry”.* Generating information and notating the data into a file system is not only good practice for ongoing works but can be a useful tool for post contract works as identified by respondent (xx) *“Yes. I am a firm believer in communication and I do generate a lot of paperwork. I am a stickler for having a good file I can give you a really good illustration where that good level of documentation has won us adjudication”.*

Accuracy has been identified as an important component contributing to job cost control issues. Figure 5-13 has also defined labour as the other contributory source. Important elements were identified by the participant SCCOs and together give a broader outline of the issues that were found to be of particular significance.

5.6.2. Labour

The participant's points of view have been represented within the hierarchical tree to job cost control as shown figure 5-13. From the interviews six elements have been identified that contribute differing aspects toward the component described as "labour" and are subsequently detailed.

Seventy seven percent of the participants contributed information that has been termed under the umbrella of "labour" within the sector of job cost control. The six elements have contributed a wide area of knowledge for scrutiny and analysis. The terms used for the hierarchical tree shown in fig. 5-13 are represented by:

- Factor..... Job Cost Control
- Component..... Labour
- Elements..... experience/training, key staff, work packages etc.

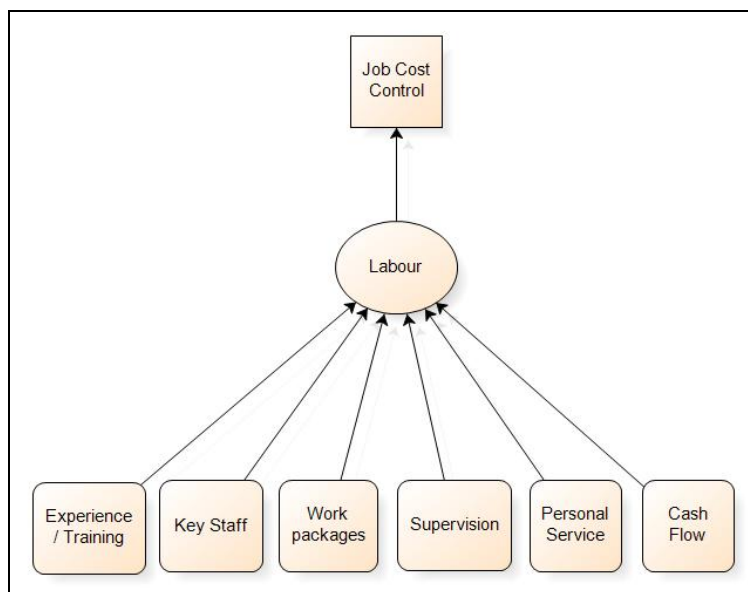


Figure 5-13: Hierarchical relationship of the "labour" component to job cost control

Experience/Training Issues: It was evident from the interviews that experience was a significant element. For instance respondent (ii) suggested that their staff *“have got to be practically experienced, they have got to have the experience on the ground and they have got to know what they are doing, that’s why I say I couldn’t, I don’t take anybody on that doesn’t have previous experience. I have always taken people that have had experience. I haven’t taken people that are going to be trained up for it because it is too expensive to train them”*. The skills shortage that has dominated the construction industry has resulted in less people coming into the construction industry. High running costs for apprentice courses, perceived and more lucrative career prospects into others industries and the rise of students entering higher education have all affected recruitment levels into the construction industry which has made it more difficult to recruit skilled labour. For a SCCOs training costs can be too expensive to consider. Another observation was recalled from respondent (xii) *“the things that impact on job costs are things like the weather, the availability of materials, the enthusiasm of the guy you have got doing the work and the site manager”*.

Key Staff: Again a similar theme was identified for key staff as was found in the “Experience/Training Issues” discussed above as ratified by respondent (v) *“The actual labour costs can be quite high for skilled men. We pay above average for our skilled labour, and therefore need fewer men. For example it’s no use having three semi-skilled workers on cheap rates. We may as well have a small number of skilled workers on a higher rate. We pay over the average in this area for skilled workers because it pays us dividends”*. Training and skills were also important to respondent (vii) *“You have to have people who are extremely knowledgeable or alternatively trained to meet the criterion of the particular position that they hold within the company. That applies from the apprentice to a senior site manager, contracts director and so forth”*. Communication was an important factor for respondent (x) between key staff as an impact on job cost control *“Unless the estimator is aware that he got it wrong because of feedback from what happened subsequently, then he can’t put it right and it applies all the way down the line. The site manager should know and understand costs and be part of that costs value reconciliation that happens once a month. He has got to basically know what is going on. He is the guy spending the*

money or controlling costs on site by the way he does his job. So it is keeping everyone aware by giving a share of that responsibility for getting jobs out on budget". Respondent (xiii) gave a more comprehensive view of key staff responsibilities to job cost control *"the key people that I've highlighted are the estimator, contactor director, contracts manager, the post-contract quantity surveyor who's the financial guy on the site and accountant. The input from these key staff will ensure that the information will be produced into weekly and monthly printouts to monitor the job's financial performance. We also have our standards manager to ensure that standards are maintained across all our projects"*.

Work Packages: For a micro or small sized contractor who does not have access to large capital funds it makes good business sense to offload the financial risk as confirmed by respondent (xviii) *"we may choose to get somebody in. It's easier sometimes because our guys may take three weeks to complete a section of work which is a drain on our finances whereas if we chose to sell the whole package through a roofing contractor for a lump sum then we already know what our mark-up will be. Our subcontractors form part of our network and are small enterprises like ourselves and are very reliable"*. A small contractor does not have the resources that a larger organisation can offer it is therefore important to maximise labour. This was reflected by respondent (xxi) *"I was getting fed up with doing maintenance work and it dawned upon me gradually. I realised I wasn't making any money on it and it's because I spend my whole time zooming around in the van, going to look at projects. Although I've got a team I can direct to do the various aspects of works, almost without fail I have to go and show the lads what needs doing and it's just not cost-effective"*.

Supervision: Supervision has a positive impact on progress to ensure time keeping; keeping order; maximising labour productivity and to answer questions. This had been found to be true as respondent (xxi) remarked *"It is remarkable actually on the days when I work at home doing quotes the dip in productivity compared to when I'm there. And it's not because anybody's slacking or anything like that it's just when the boss is there the guys just are more driven. And I got a good team"*. It was also highlighted that the labour force is representative of the company and the right level of supervision is placed to ensure the company's image is maintained as respondent

(xxii) maintained *“to have the right people but also train them in the procedures of the company and clearly company procedures are going to be the same for each person”*.

Personal Service: The company image has a cross-over with supervision as discussed above as exemplified by respondent (xxi) *“I think that personal level of control again is the primary thing that makes us the most money. Keeping it small, keeping the quality high as we go along, not leaving bits behind and making sure that people are there when I want them or fit together and increase your productivity”*. The comment suggested a productivity theme however respondent (xxvi) discussed personal service in connection with dress code and manners *“It’s paramount for us that our staff is courteous, dressed well, polite, and helpful to their clients. They don’t spit, don’t swear or smoke on site. Obviously health and safety issues are invoked. They wear their hats, safety boots and hi-vis. jackets but that they are polite, courteous and helpful at all times. That is hugely important to us and that we don’t have some Neanderthal that turn up on site, tattooed from earlobe to ankle. Courtesy and politeness are paramount for all our clients and regardless of what work they are, whatever jobs they are working on. It is important because they are the forefront of our business. They are our representatives”*. The interviewed CBCs emphasised that by having high standards of service improved the company image and client/contractor relationship. And as resulted in improved job costs as exemplified by better relations between the contractor and client alike. An unruly workforce would be unproductive and antagonistic resulting in increased costs and productivity time.

Cash Flow: Cash flow and job cost control have been found to be intrinsically linked as respondent (xxviii) confirmed *“We pay the site staff on a monthly basis. They invoice at the end of the four/five week cycle which are then paid within seven days. I’m able to match the revenue with the outgoings and obviously over the number of years I’ve been doing this we’ve been able to build up a reasonable cash flow so that we’re able to cover the gap between the monies going out and the monies coming in”*. Another respondent (iii) offered an example of how they maintain job cost control *“Each month we have a valuation on the project and during that process all the subcontractor costs, labour costs and material costs are evaluated to see where we*

are on what we've spent, what we should have spent, the quantities involved, really that's the main control of it".

It has been established that job cost control is critical to the prosperity of business and the interviewed SCCOs have generated a number of ways to ensure jobs match their projected targets. In the next section the topic moves towards the client and the importance that a good relationship is fostered to avoid disputes and generate repeat business.

5.7. Client Satisfaction

Without exception of the SCCOs who were interviewed it was thought that it was vital to maintain a good working relationship with the client despite the contractor's reticence of their client's sincerity, ability to understand the project, and commitment not only to the works but to the contractor as well. Client satisfaction is paramount to a business where the client is the pay master and can be a lucrative source for future and repeat business. In this section a wide variety of information has been extracted from the interviewed CBCs to identify the importance placed on a good relationship between contractor and client.

Client satisfaction was judged to be the 4th most important factor of the thirty eight factors, as returned by the questionnaire, developed by Arslan and Kivark (2008) which were adopted to understand why a business would find it desirable or necessary to implement them. Figure 5-14 shows the connection between client satisfaction and communication/repeat business and how many times this had been referenced to by the interviewees.

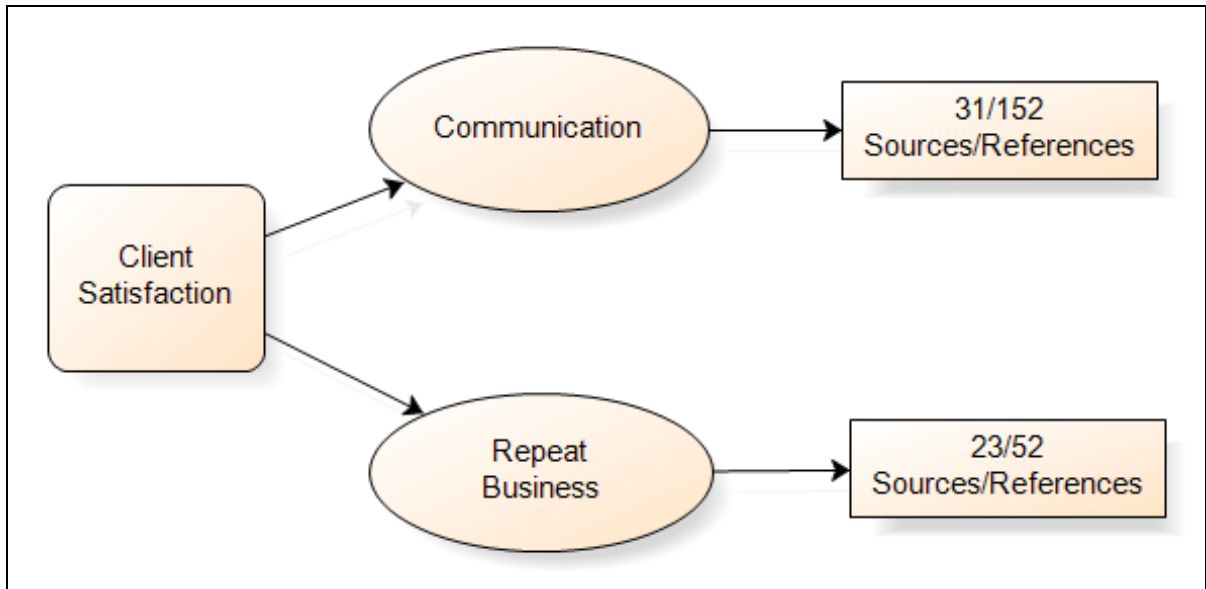


Figure 5-14: Relationship of components to client satisfaction

Figure 5-14 identifies the relationship between the two sources which have contributed to client satisfaction.



Figure 5-15: Number of sources contributing to client satisfaction

The SCCOs views have been characterized for comparison between the components of communication and repeat business as identified in Figure 5-15.

5.7.1. Communication:

Communication is one of two components that categorise the factor of client satisfaction. Figure 5-16 has shown the 9 elements that have contributed toward the component “communication” as a hierarchy tree of the factor client satisfaction.

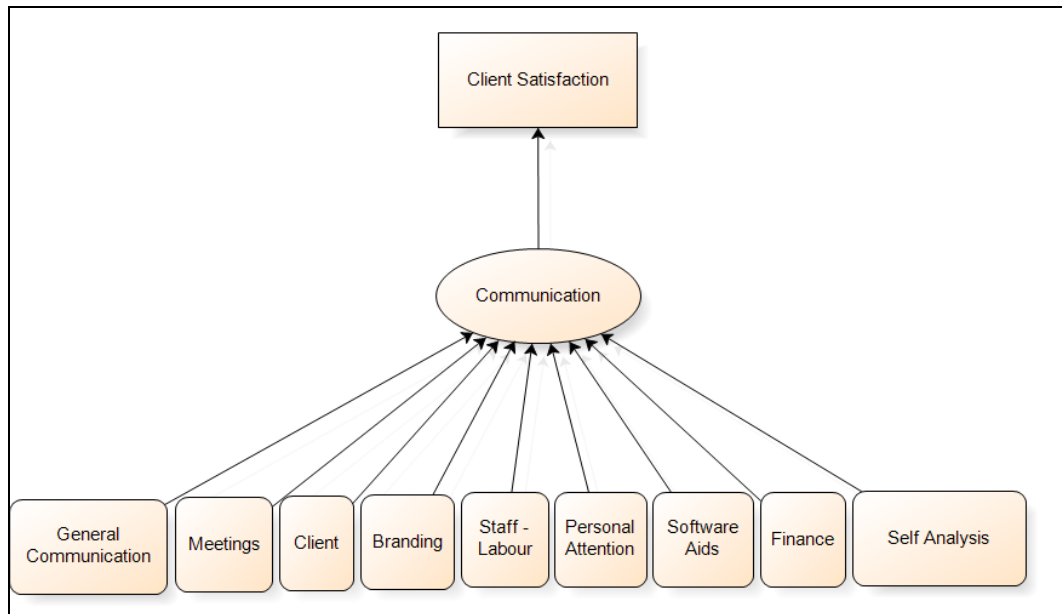


Figure 5-16: Hierarchical relationship of the “communication” component to client satisfaction

The terms used for the hierarchical tree shown in fig. 5-16 are represented by:

- Factor..... Client satisfaction
- Component..... Communication
- Elements..... general communication, meeting, client etc.

The fourth category to be reviewed “client satisfaction” has its research objective stated below.

Research objective being addressed in Client Satisfaction category:

- D. Rigorously analyse critical factors thought to influence the development of small sized construction contracting organisations (SCCOs) and evaluate

against the emergent factors found to influence the development of interviewed Chartered Building Companies;

General Communication: Communication between the contractual group, clients and their agents, suppliers and regulatory bodies is extremely important to ensure all parties are encouraged not only to play their part but to encourage good working relationships as respondent (ii) denoted *“you’ve got to communicate with people, you’ve got to communicate with whoever you are dealing with, you’ve got to tell them what you are doing, why you’re doing it or when you’re going to do it, how you’re going to do it, why you’re doing it, keep people in the picture because I find that people appreciate that, the problem is always that people don’t communicate”*. Respondent (iv) suggested that by encouraging a good working relationship complaints are less likely to escalate *“Regular communication is absolutely essential. People will tell you about something a lot sooner verbally than they would putting it into writing and it gives you the opportunity to nip any problems in the bud”*.

Meetings: From the interviewed responses it became apparent that the most important reason for arranging meetings was to judge the sentiment of the client and to be given the opportunity to react quickly for any situations that may manifest into something that could be more costly to resolve. Respondent (v) *“We have meetings where we try to resolve problems, whether it’s on the site, whether it’s their problem, our problem. We look to build up a rapport with the clients to give them confidence that we can deliver 90% of the projects on time and in budget, and to show that we’re not out to fleece them. We have meetings on every project to see how we’re going. If the jobs not gone too well for either party we’ll have a discussion and say where do you think this went wrong”*? Another of the respondents (xxviii) used the opportunity to glean the client’s view to the contractor’s performance after the works had been completed *“We hold post-completion interviews with the client and his team to gain feedback, particularly about the services we’ve provided and the nature in which we’ve provided them so we can glean any lessons learnt and hopefully put them into the next contracts we get. We identify the key movers within the client organisation and ask questions such as how did we perform? Were you happy with what we did? Is there anything we can do better?” We want repeat business from these individuals and these organisations”*.

Client: For a well-run business the organisation should be aware of its customer's needs and requirements and to ensure that the structure is in place to ensure customer satisfaction. Respondent (xvii) addressed those issues within the business and commented *"If the client is dissatisfied then the chances are you won't get paid or you certainly won't get paid what you expected to get paid and that will impact immediately on the profitability of the project. By addressing or anticipating problem areas dissatisfaction can be avoided. Regular communication should be maintained with the client either by telephone, email or letter to ensure that they are happy with progress on site. The client has to have confidence in you and that is all about the contractor's staff demonstrating that they are performing as would be expected by the client. If you understand the project that you are trying to build then that's how you develop the timescale that you expect it to take. For example this time of year, the weather has a major impact on some of the projects that we carry out and it's important that you make the client aware of the factors that could create delays. Taking foreseen delays into consideration and preparing the client for them ensures a more realistic programme which is less likely to cause friction from the client"*.

Respondent (vii) felt it important to identify the problems prior to commencement of the project and by establishing the problems then they were able to address them prior to starting the works. This not only goes to addressing potential problems but helps build trust and confidence *"What are the hurdles that the client has at the outset? In other words what is the specification telling and what are the conditions telling me about the client's problems? What is the issue for the client? And if you can identify those which are usually price and time. However this is not always the case, sometimes there are other issues involved. For example, we designed and built a pathology lab and time was obviously of the essence. Cost was, but the biggest problem they had was the area in which the building was going to be built was criss-crossed with high voltage cables and they didn't know the exact locations. So in terms of client satisfaction it really is about identifying, as everybody has, they have a problem that they need resolving. It's getting to the crux of the problem, finding the resolution and giving them that, general achieves 50 – 70% of client satisfaction. If you can get behind the curtain and understand the client then you really can impact upon client satisfaction"*.

Branding: This is the way to project an image of the business or organisation. Professional builders have to cope with a generic public image which was recognised by respondent (xxv) who stated *“People think builders are rogues. Attempts have been made to redress this reflection of builders and respondent (xxxi) by recognising this issue has invested in the company’s workforce by issuing “uniforms and as such we giving professional approach. Image is the wrong word to use, but there is a certain professionalism that must be carried out at all times”*. Respondent (xxvi) followed a different tactic to promote a positive impression on potential clients by reflecting that *“Most of our clients are brought to us via recommendation from work already carried out. We do pride ourselves on our staff who are expected to be very polite and helpful. We are a professional company. We’re chartered builders. We have our own professional reputation to adhere to, and we want to promote a positive impression when meeting the client”*.

Key staff/labour: A number of SCCO’s commented about the importance of having key staff/labour in place that were thought to be compatible with the client either through familiarity or having characteristics that suit the clients’ sensibilities. These were felt to be a critical asset in forming a good working relationship as respondent (xxix) suggested *“You have to understand that the relationship at ground level is all important and we’ve had to replace some of our people in the past with others simply because initial relationship hasn’t gelled for whatever reason. Not necessarily a failure on anybody’s part but you have to be honest enough to recognise that some human relationship simply don’t work for whatever reason and that isn’t the right person in place to develop that relationship. I can quote you an example where we had to remove somebody because his style and technique wasn’t suited to a particular client. We replaced him with another person who we considered a better candidate to form an improved relationship with the client which proved to be the case. That relationship has gone forward whereas previously we detected that there was a clash of personalities. We stopped it really early on but there was no fault of the characters involved just they were totally different characters to each other”*. This is an example of what can be achieved on a project of some longevity but an another example was offered by respondent (xxii) whose clientele or market was based on one-off short term works where there was insufficient time to form any type of relationship *“The*

people that we use are all CRB checked. So yes this is good I can send Harry the installer to their house on day one and say “this is his CRB check. Just to qualify CRB check is to ensure that or to identify any criminal activities”? This was felt to be an important marketing tool by the contractor and also to inspire confidence to customers who may have felt nervous about letting in unknown workers into their home.

Personal attention: It was interesting to have appreciated the difference of how small sized and micro sized organisations have implemented their own ways in providing personal attention to the client. It is valuable to an organisation to form a good relationship with the client and one of the ways of promoting this is by giving a personal service whereby the customer has lasting positive thoughts of their own financial and personal investment into a contractual organisation. Respondent (x) a small sized organisation arranged company procedures to promote client satisfaction through personal attention by *“The most important thing for this company is to define the project in the first instance and ensure that definition of the project which comes by way of a specification and drawing, is and represents what the client wants so that’s the first fundamental issue. Secondly, it’s obviously maintaining quality throughout the job and that’s really quality control and we’ve got several guys. We tend to use another site agent who often snags another site agent’s work if you like. So that’s the second thing and the third thing is post completion, it’s customer care and we are huge on customer care and you’ve got to follow it up and make sure that the client will always remember the job at the end, not the beginning. You’ve got to make sure that you put right any defects that occur so it’s a process all through. The client who is king, the site managers and site people often lose track of that altogether. They are looking at the process rather than being client focused and understanding what the client wants. Often the client is uninformed in matters of building but you’ve got to understand what they want to see and give them satisfaction. So it is all about the customer, throughout the whole process you must focus on the customer, despite the thoughts which may be held by many of our site managers who consider them to be a bit of a pain. Customers want to come to site and although they have to make an appointment to do so, so if they come to site you’ve got to look after them. You’ve got to understand that they don’t understand our processes and you’ve got to give them time and patience but always focus on their satisfaction and if you get that right in the end then you’ll get repeat business”*. There

is a marked difference between the complexities of personnel, size and scope of the projects between the above example and that of a micro sized organisation as testified by respondent (xxi) but the attention to defect resolution was found to have similar priorities in both organisations *“I think clients are never happier than knowing the boss is on site. Even if they don’t know what I’m doing but the fact that I’m there and I turn up at eight o’clock in the morning before they go off to work just gives them great comfort. It is important to live up to your reputation it ensures high levels of client satisfaction. For example we were doing the rendering on the outside of the building in the dead of winter and actually we were doing some of the rendering in temperatures below freezing. Approximately two years after we did the job there was one area of render that started falling away. It was just that one patch, so we put that right at no cost. We’re all fallible and I think clients can respect that as well. If there are any faults we put them right straightaway. I do often also ask the clients to do regular inspections on site and if there’s anything they’re worried about they can raise them with me straightaway”*.

Software aids: The popularity of email not only in the commercial world but used by the general public and the speed that the information can be transmitted has transformed the way business can communicate. This is evidenced by respondent (viii) *“I think e-mail, out of all the technologies, has been brilliant. It’s so easy to deal with things. So although I say I don’t use technology; I’m face-to-face. Most of my face-to-face is via e-mail and I think e-mail has definitely changed the way that you interact with your client”*. This is supported by respondent (xvi) who confirmed that *“Every bit of business these days is done by email. There is very little paperwork around now”*.

Finance: Where goods or a service is provided for a customer for a sum of money by a business it is important both parties have in place some form of structure or contract that can be referenced. This mitigates any obscurity that could lead to friction. Respondent (xxv) recognised this in saying that *“financial information is critical”*. However, frailties and limitations had also been recognised *“confirming that instruction, pricing the difference, getting their agreement. Actually under the construction laws it’s very, very hard for the contractor, because under the contract you have to proceed anyway without necessarily agreeing costs”*.

Self analysis: It is essential for a business to understand its strengths, weaknesses and competition in the market place. This can be accomplished by a SWOT analysis which is an acronym that stands for Strengths, Weaknesses, Opportunities, and Threats. The point of a SWOT analysis is to help develop a strong business strategy by making sure aspects of business are considered for its strengths and weaknesses, as well as the opportunities and threats it faces in the marketplace. Respondent (x) achieved this by *“identifying a sector of the market...specialist sector of the market that you can gain a good reputation for. Don’t try and spread yourself across all sectors of the market, buildings, commercial and industrial and retail and residential. There are so many construction companies around in this area and every area and you’ve got to set yourself apart from the rest and that’s fundamentally it”*. Respondent (xiii) had in place a system to analyse continued business performance *“We have developed a series of key performance indicators and valued from one to ten. One would be a red, if any factor of a job is red then that’s highlighted to the managing director right away. It goes from red to amber. Amber, two ambers equal a red. If a job was found to be in this situation then the contract director would liaise with the quality and standards manager and the production manager on site and also the project tiers and they have to table a paper indicating what proposals that they have in place as corrective measures to get this job back on track again. If the project then progresses from amber to green then that’s an improvement and the works are progressing favourably. Better still is if we go from green to very green, okay. The target is to maintain the first green and with the ultimate goal to maintain everything in the dark green We want to make sure that the service we’re giving to the client is the best we can offer because in today’s marketplace we have to work for the customer’s money. And it’s important that we value our client’s satisfaction”*.

5.7.2. Repeat Business

Repeat business is the latter of the two components that categorise the factor of client satisfaction. Figure 5-17 has shown the 3 elements that have contributed toward the component “repeat business” as a hierarchy tree of the factor client satisfaction.

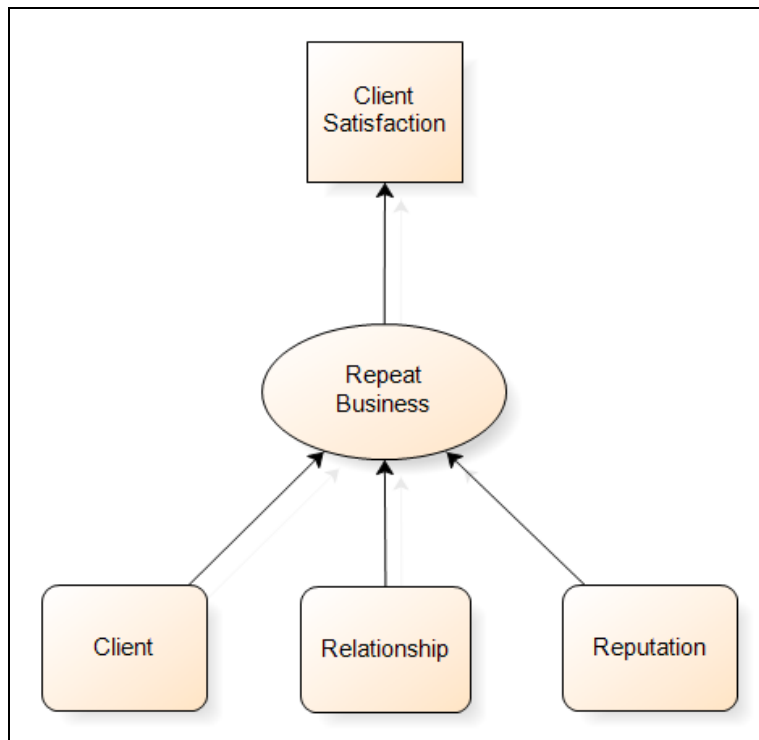


Figure 5-17: Hierarchical relationship of the “repeat business” component to client satisfaction

The terms used for the hierarchical tree shown in Fig. 5-17 are represented by:

- Factor..... Client satisfaction
- Component..... Repeat business
- Elements..... client, relationship and reputation.

Client: It is in the contractor’s interest to ensure customer satisfaction where the client is more likely to recommend the contractors services or request additional works. Respondent (x) illustrates this point in saying that *“It’s fundamental to getting new business so that’s why it’s important. You know, without customer satisfaction, we wouldn’t have a business. People come to us we don’t have to do much marketing because the projects do the marketing. You know, we’ve got a very high customer satisfaction level and that becomes your best marketing tool so that’s why it is fundamental to get it right.* Another thought was offered by respondent (ii) who suggested that *“If you don’t deliver client satisfaction then you are not going to have a business for very long. So one of the things I do is I offer a long term warranty I offer a ten year warranty for work irrespective and thereby keep the relationship going if you like. If they come back to me and know they can come back to me, then*

my view is that they then understand that they don't have to go anywhere else but just talk to me and I will help them sort it out whatever the reason is".

Relationship: Respondent (iii) operates through a client's agent for a good proportion of their work but did show awareness of fostering a good relationship for repeat business and to glean information about their competitors by stating *"For ourselves it's about getting repeat business. If you're tendering for a project and there's three companies bidding for it that are all roughly the same price then a project engineer could influence the clients decision on who they work with. For example if they find it much easier to work with ourselves than another contractor whose they know will keep throwing up problems and claiming for extra works and so forth. Then by experience they're probably going to side with the easiest route to be honest. We know this because we speak to project engineers from the client's side that are not happy with who's been awarded the contract because they're going to get aggravation throughout the job. It can be complicated for the client because some companies are very claims orientated and obviously that doesn't make for a smooth running of the project".* Respondent (xvi) emphasised their commitment to a good working relationship with the client in saying *"It's down to relationships that we as a company promote that connectivity with the client and through that we get repeat business. If we get repeat business then it tells us that the client was satisfied on the previous job. We have worked for certain companies who ask their clients to complete client satisfaction questionnaires but we don't do that, we just build on the relationships that we've got and if we get repeat work then that tells us straightaway that they were happy. We only employ subcontractors from one job to the next if we are happy with them on the previous job. If we weren't happy with them, we don't re-employ them. It's all about continuity of work. It's all about the next job. If we do a good job on this one then it's fairly certain that we will get an opportunity for the next one. It matters to us that we are just doing a good job for our clients and we can get that repeat work".*

Reputation: A reputation is gained from the contractor by the way he conducts business and standards of workmanship. Respondent (xx) has invested time into tailoring a good reputation by investing work ethics into the staff *"We have educated our site staff and our subcontractors no matter whether they are working in a*

domestic, commercial, or office environment that they have got to look after the client and invariably the most important things are to maintaining security and keeping the site clean and tidy. We have a saying; don't find a problem find a solution. And all of that has led to us getting good feedback from our clients. If we are working in an occupied property, we ensure we cause the minimum amount of disruption. This attention to detail has a positive effect with our workforce who gets a lot of praise because they are deemed to be user friendly". Respondent (xxi) discussed how they ensure client satisfaction by building a good reputation in a different way "On the odd occasions I have had defects they are of such low cost that I go back, I do the work and I don't quibble about money. I don't even raise money with the client and they find that so impressive that that just helps them sells you again to the next customer. It is my clients that bring me my next clients. All of our clients come to us through our previous clients or through contacts, and the only way we can achieve that is by making everybody happy and gaining a good reputation".

5.8. Views for Respondents own Company Success

Views were taken from the participants on what they thought were factors that contributed to their own company success. This was not taken from any of the factors raised in the questionnaire developed by Arslan and Kivark (2008) but it was important to establish what identifying factors practicing practitioners thought contributed to their own business. The views were collated and split into two components firstly environmental issues where the interviewees emphasised elements around the business that impacted on success factors and secondly the individual company's critical success factors (CSFs) which were found to be determinant factors that could be unambiguously compared for consistency.

Figure 5-18 shows the connection between the views of respondents on their own company success and component issues of environment and individual company's CSFs and determined the number of times each have been referenced to by the interviewees.

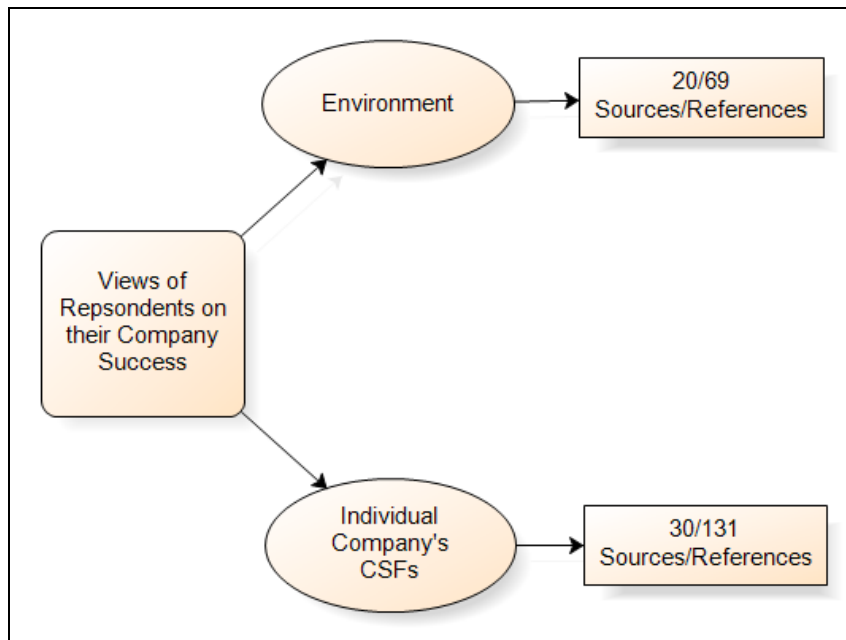


Figure 5-18: Relationship of components to the views for “respondents own company success

The fifth category to be reviewed was of the “views of the respondent on their own company success” and its research objective is stated below.

Research objective being addressed in the Views of Respondents on their Company Success category:

E/F. Develop initial framework of factors thought to influence development and improved success for small sized construction contracting organisations.

Figure 5-19 identifies the relationship between the two sources which have contributed to client satisfaction. The SCCOs views have been characterized for comparison between the individual company’s CSFs and environmental components.

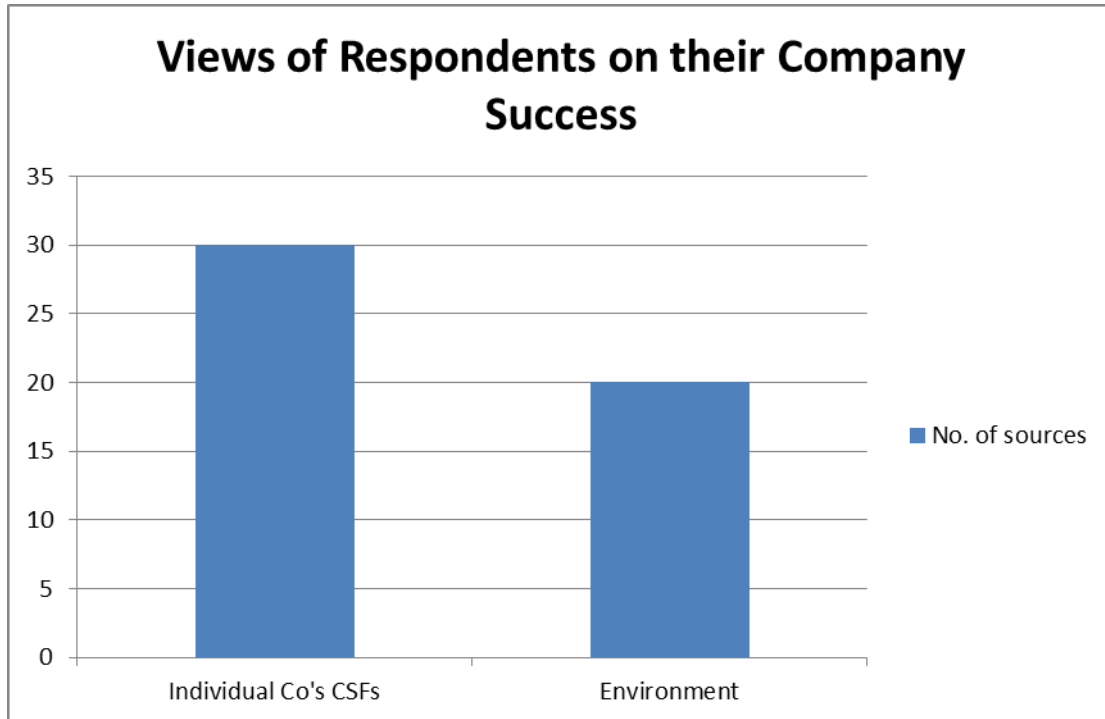


Figure 5-19: Number of sources contributing to the views of respondents on their company success

5.8.1 Environment

Individual company's Critical Success Factors is one of two components that categorise the factors of the views of the respondents on their own company success. Figure 5-20 has shown the 5 elements that have contributed toward the component "environment" as a hierarchy tree of the factor of the views of the respondents on their own company success.

The terms used for the hierarchical tree shown in Fig. 5-20 are represented by:

- Factor..... Views of Respondents on their Company Success
- Component..... Environment
- Elements..... size of business – control, standard, cash etc.

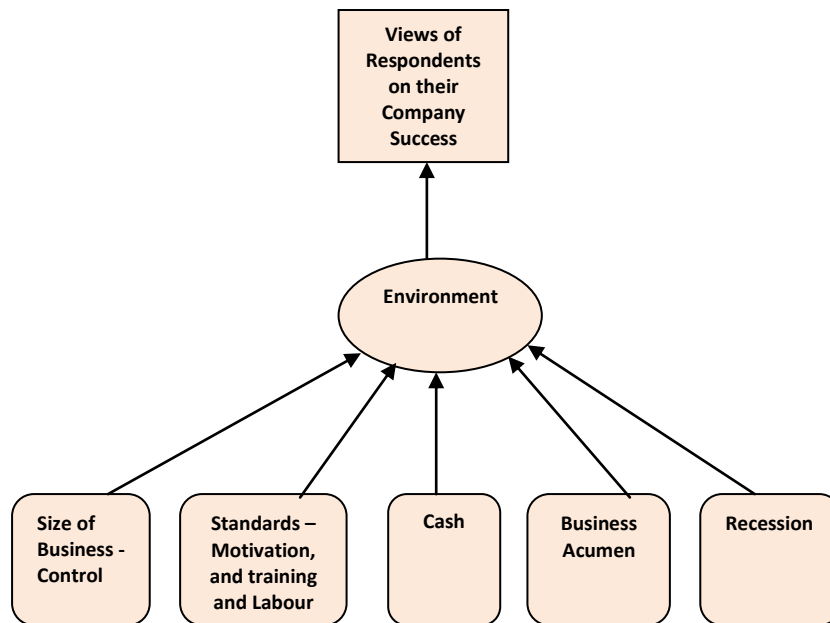


Figure 5-20: Hierarchical relationship of the “environment” component to the views of respondents on their company success

Size of business including control measures

The size of a business can affect its potential for procuring work packages. Financial limitations and managerial structures are restricted accordingly. Without sufficient capital branding or company image is more difficult to promote business. Respondent (xxviii) reflected on issues pertaining to be a smaller sized organisation *“Because we are a small organisation certain clients’ teams feel they are able to manipulate us more so than a big organisation. They know full well that we haven’t got the might and strength of a huge legal team so you do have to be flexible and accommodating, but also keeping an eye on your risk exposure”*. Later on in the interview the interviewee seemed to recognise the limitations that size impacted on the organisation *“We don’t have a marketing team. We don’t have a sales team. As I’ve previously said I am generally all things to all men when it comes to running my business”*. Another respondent (xviii) recognised the limitations size had on the business in saying *“Although every company needs processes and procedures but for the size of my company what I do it is controlled by me. I am not big enough to have huge processes in place, it just wouldn’t work with the amount of paperwork required to be*

processed. It is adequate for me to carry out these operations mentally. The processes are still worked out and everything is in place”.

Standards including Motivation, Labour, Training

In this section standards upheld by business have been detailed to show the respondents views of how this has impacted company success. Motivation, labour and training all contribute to the standards of a business and examples are included. Respondent (xxii) suggested that standards were attained by *“Personal attention: When a job is finished I will go round to see the client to make sure that everything’s okay, to make sure I am happy with the project before it’s signed off by them and then I’ll make sure that they are happy with it. People know exactly what they’re getting when they come to us. It is important to make sure that you don’t over-promise and under-deliver on a project. We’re trying to be the best in the business”.*

To raise and maintain standards according to respondent (xxiii) is to motivate staff *“by being open and involve the people that work. This means they feel they’re getting something out of it. To be able to say, well done occasionally is a good thing. You can’t do it all on your own, so your success or otherwise is in the hands of others really”.*

Respondent (viii) implied appropriate training was an important factor to raise standards but was critical of generic government based training programmes *“The more your labour force are educated the more confident they are. I’ve paid out considerable funds for courses with guys who I thought would benefit. I’m sure it has paid off generally because they’ve been better people out on the job so I think training counts although government training is an absolute waste of time. Construction Industry Training Board (CITB) is a total waste of time. I wouldn’t want to be paying any levy but I’m quite happy to pay people to do courses. The guys, who’ve got an aptitude for management and supervision, should be provided with the right training. I think training does count especially towards professionalism but as for the CSCS cards; they are a total waste of time. Lads can get those when they’re not capable of driving a digger. They can get a digger driver’s ticket by doing a one day course but not actually be very good on a digger. So I’m not totally convinced that the CSCS*

card system has been beneficial. I think it's ill conceived where we have found that matters of health and safety have not necessarily been improved from the lads that have gone on the course”.

To have a motivated, loyal and skilled workforce were found to be important to respondent (xiv) which is achieved by communication, supervision, respect, loyalty and prompt payment *“Our project manager visits all our sites every day. He is a working project manager but is our eyes and ears on site. We have our own directly employed staff so I would like to think that all of them enjoy working for us. They get a steady work flow. They work on some nice projects. They get paid when we say they are going to get paid. We also have a very loyal longstanding group of sub-contractors that work regularly and if they invoice us on Friday will be paid on that Friday. So I would like to think from the guys’ point of view, they would say we are fair, decent and pay them when we say we are going to pay them”.*

Cash: By getting better terms from suppliers and ensuring prompt payment from the client give better control and increases cash flow as indicated by respondent (ix) *“if you manage your cash and improve your cash position by getting money earlier and getting better terms with suppliers, you’ll improve your position so it is critical to do that”.*

Business Acumen: The reflections of how business owners philosophized over increasing turnover and profit have been found to be from diverse perspectives but the adopted strategies have proved to work for the individual companies. Respondent (xxix) understood the importance of forecasting to predict the growth potential of the company *“Our software package identifies where you are and forecasts where you will be. We’re able to react very quickly to those trends, you know. We keep our overheads to a minimum. We know, if necessary, we can see where we’ve projected to be at the year-end that we need to curtail or trim our overheads in order to reach the profit levels we want and the software’s given us those answers. We’ve been very careful and keen to grow the business so year on year incrementally the turnover’s nudged up nominally but the profit level has started to build. By design we’ve monitored that and ensured that continued growth albeit fairly conservative growth”.* Instead of forecasting respondent (ix) tested the business against the competition to

position its growth potential *“Well it is important to understand how you are doing against your competition. It is important to understand that you are doing the right thing for the business and your strategy is working and continuing trying to improve year upon year against previous year’s budgets”*. A quite different approach has been developed for business growth from respondent (xxiii) *“Well if you’re in purely for money that soon becomes apparent to everyone around you and you don’t get the same support from people who are either from the purchasers or from the people you employ. If I’m choosing things, making decisions on the product, if I can find something just slightly better and costs a bit more I’ll say “Oh well never mind”, rather than some people that will say, “look at the costs of that” and down it goes. I think over the years it’s proved worthwhile because we probably get 5% more than other people because this must reflect in what we’ve been doing”*. The views of respondent (xxv) reflects on the conditions of the labour force in order to promote better performance by saying *“If they’re subcontractors they want to come a site that’s safe, clean, organised so they can earn their profit as well. You know, contracting is very, very tough. Contractors make out that they don’t care about everybody else they just focus on their own profit. We try not to be like that. The site is a team, everybody’s happy in the team, it’ll perform better. It’s not about us being the main contractor bashing everybody and earning their profit and moving on”*. It is interesting that respondent (xxv) is the only micro sized business out of the four organisations above. It would appear that the welfare of the company staff have been ranked highly in this organisation rather than just a commodity. As a micro sized organisation it is much more likely that the business owner is on closer personal terms with the sub-contractors which have been reflected in the views presented.

Recession: The current national/international recession has been prolonged and has impacted on a wide array of all sized companies across the business sector. Most SCCOs are reliant on a thriving economy but since 2008 potential clients both in the private and public sector have less capital and those who have are less confident to spend. The majority of small sized construction companies would recognise that there are “peaks and troughs” throughout their turnover but with reducing work-loads makes it difficult even to sustain business levels. The recession had been raised by the interviewees and the effect that it has had on their businesses. Respondent (viii) said that *“If I’m surviving one year to the other in a contracting situation in the middle of,*

*or on the edge of Lincolnshire, and next to the North Sea then I've done okay. It's been a tough, fairly the toughest recession in my period of employment, the last few years, the last three or four years. Clients will start spending again in a bigger way than they have been doing. So you're looking to still be placed in a market when it does start to kick again". Respondent (xvi) appeared to be resigned that the recession would control the business moving forward and commented *I think my view of that is it's down to the wider economy. We can only do so much as a small company. If the market conditions out there are such that there is no work or the work is very tight and everything then there is not a lot we can do about that. We can try and keep working but if the wider economy takes a turn for the worse like it has done then it's pretty much outside of our and everybody else's control".**

There were a couple of business owners however who have appeared to have bucked the trend and have been able to withstand the worst of the recession. Respondent (vi) *"When we hit the downturn as it were, about four or five years ago, we were extremely cash-rich and we've lived off that ever since. Respondent (ix) suggested despite the recession the business has prospered over this period. "The business has grown over the last three years despite the recession and we are still making money that is because we know what we are doing and that demonstrates to me we are moving in the right direction".*

5.8.2. Individual company's CSFs

The second of the two components on the Individual Company's Critical Success Factors categorises the respondents' views on their own company success. The second component shown in Figure 5-21 has just one element. The figure has been displayed as a hierarchical tree of the factor surrounding the views of the respondents on their own company success.

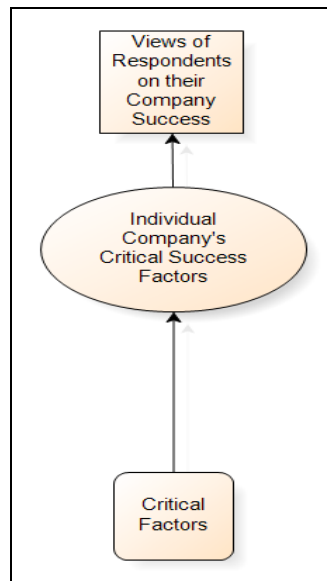


Figure 5-21: Hierarchical relationship of the “Individual Company’s Critical Success Factors” component to the views of respondents on their company success

The terms used for the hierarchical tree shown in fig. 5-21 are represented by:

- Factor..... Views of Respondents on their Company Success
- Component..... Individual Company’s Critical Success Factors
- Elements..... critical factors

The critical factors came from a set of questions but the answers were unsolicited and offered by the interviewees. This differed from the questionnaire where the results of the quantitative research was based around the critical factors developed by Arslan and Kivark (2008) as described in Table 4-14. The factors were identified by the CBC recipient audience who placed those factors thought most critical to the success of their organisations. The factors offered in Table 5-2 were from the participants who were not supplied a choice of factors but offered their views on what they thought were the most pertinent to the success of their organisation. The most important of the critical factors according to the CBCs that were identified in table 5-2 have been shown against the critical factors associated with the Arslan and Kivark (2008) survey in table 5-3. There are some factors that have not been shown as they were not identified in the original survey by Arslan and Kivark (2008).

Table 5-2: Individual Company's Critical Success Factors

Factor in order of importance	Score	Order of importance
Client satisfaction	11	1 st
Teamwork and harmony	10	2 nd
Communication skills	9	3 rd
Quality control	9	3 rd
Profit margin	8	5 th
Company reputation	6	6 th
Trust	5	7 th
Performance	5	7 th
Control of cash flow	4	9 th
Fair pricing	3	10 th
Completion of jobs on time	2	11 th
Having a business plan	2	11 th
Company image	2	11 th
Honesty	2	11 th
Reliability	2	11 th
Repeat business	2	11 th
Management	2	11 th
Timely payment of bills	2	11 th
Company experience in the market	1	19 th
Organising and planning	1	19 th
Unique selling point	1	19 th
Self-criticism	1	19 th
Avoid over-expansion	1	19 th
Integrity	1	19 th
Have a web-site	1	19 th
Overheads	1	19 th
Have a contract	1	19 th
Conflict avoidance	1	19 th
Continuity of work	1	19 th
Motivation	1	19 th
Qualified staff	1	19 th
Job cost control	1	19 th

Give the limitations and differences between the data between tables 5-2 and 5-3 i.e. thirty eight factors in Arslan and Kivark (2008) work but just thirty two in Table 5-2. The premise between the factors could be open to interpretation for example a factor in Table 5-2 has been identified as “continuity of work” but in Table 5-3 one of the factors has been described as the “country’s economic condition”.

Table 5-3: Critical Factors from Arslan and Kivark (2008) work but matched in order of importance from selected CBCs

Factor in order of importance	Score	Order of importance	Identified from table 5-2
Control of cash flow	150	1 st	9 th
Organising and planning	144	2 nd	19 th
Job cost control	143	3 rd	19 th
Client satisfaction	143	4 th	1 st
Honesty	136	5 th	11 th
Company image	130	6 th	11 th
Quality control	127	7 th	3 rd
Good sub-contractors	126	8 th	
Leadership	125	9 th	
Experience	124	10 th	
Timely payment of bills	123	11 th	11 th
Communication skills	123	12 th	3 rd
Fair pricing	121	13 th	10 th
Capital/financial strength	120	14 th	
Teamwork and harmony	120	15 th	2 nd
Profit margin	118	16 th	5 th
Use of good quality materials	116	17 th	
Competitive pricing	116	18 th	
Company experience in the market	116	19 th	19 th
Completion of job on time	115	20 th	11 th
Good record keeping	112	21 st	
Qualified personnel	110	22 nd	
Have a web-site	107	23 rd	19 th
Risk management	106	24 th	
Qualified technical staff	104	25 th	19 th
Country's economic condition	102	26 th	
Qualified consultants	96	27 th	
Level of competition	96	28 th	
Determine public needs	89	29 th	
Follow and adopt new technologies	89	30 th	
Usage of software programmes	84	31 st	
Good advertisement	82	32 nd	
Education level	81	33 rd	
Low interest rates	78	34 th	
Innovative products	62	35 th	
E-marketing	62	36 th	
Sales offers	51	37 th	
Political connections	45	38 th	

There could be an argument that due to the recession in this country with less available work whereby continuity of work has become more critical. The factor

described as “motivation” from Table 5-2 could be categorised under “leadership” in Table 5-3 or having a unique selling point described in Table 5-2 could come under several categories in table 5-3. Despite these intangibles there are similarities between the results of the two research programmes which can be viewed with the addition of a forth column in table 5-3 linking the results from this independent research to that undertaken by Arslan and Kivark (2008).

5.8.3. Points of Interest

This section has been added after reviewing the transcript where a number of comments raised were found to be of particular interest which was perhaps unforeseen but has enriched the study from the comments raised and offered by the participants involved. Unexpected remarks give a flavour of how and where the participant business owners have developed their organisations and how they may have influenced the operational running or style of the company. There were nine elements contributing to Points of Interest as shown in Figure 5-22. This figure has also been displayed as a hierarchical tree.

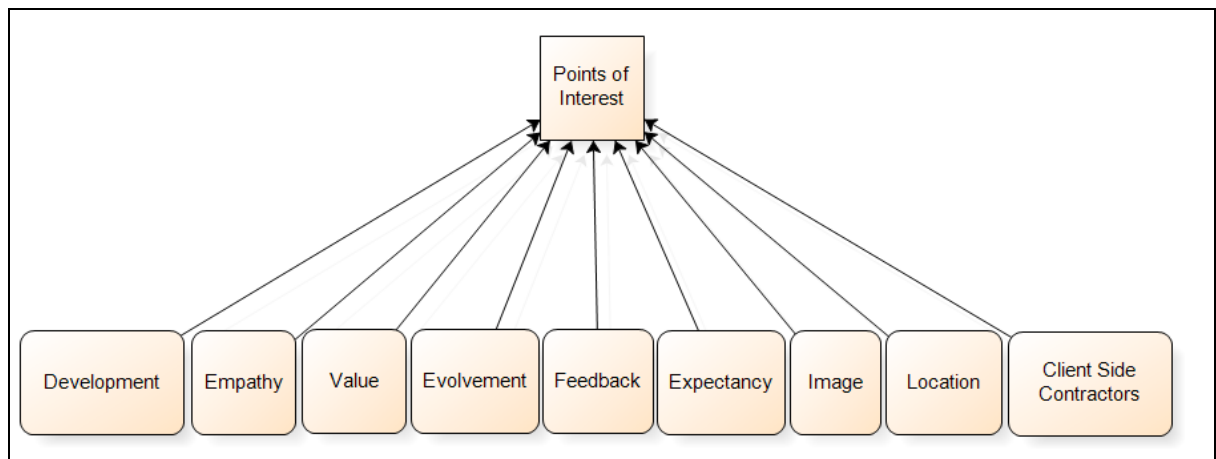


Figure 5-22: Hierarchical relationship of the elements toward “Points of view”.

The terms used for the hierarchical tree shown in fig. 5-22 are represented by:

- Factor..... Points of Interest
- Elements..... development, empathy, value etc.

Feedback

It was remarkable to have uncovered a completely unexpected personality from a micro sized organisation who had worked with influential figures shaping the construction industry. These people are perhaps some of the most well known individuals to construction of the late 20th Century. Respondent (ii) discussed the fraternisation and close relationship by identifying that *“I actually worked with Sir Michael Latham years ago on construction and theme and indeed one of the things that we had then was about pay clauses and about trying to create an environment whereby smaller subcontractors or contractors within the business got paid regularly and this has been going back now to 1992/3. I worked with him very closely in fact he was chairman of a company that I was managing director of at the time...*

I get very angry with situations that I know we discussed twenty years ago which are still happening today and the construction act designed in many ways coming out of Latham was designed to get over that situation and it hasn't seemed to work. So Latham has had an impact, the construction act is the impact but I'm not sure however how effective the results have been.

Egan however took a very mechanistic approach to resolving industry issues, I've actually had this out with Egan face to face I mean he comes from the car manufacturing industry, he tried bringing in simple principles into construction industry, construction is not simple in as much that we deal with too many archaic systems that take you round the houses i.e. in terms of payments, valuations too many parties that result in fragmentation of the system. Egan tried to simplify it and I don't think he did, I don't think it worked. That's why I was interested in your paper”.

The perception of micro sized organisations would be alienated to influential VIPs in the construction industry due to their size, location, industrial fragmentation and education. These comments offered by the business owner offer weight by association.

Value: It has been problematic in the past for organisations within the supply chain to be treated fairly by main contractors who often offload their contractual risk and alleviate cash flow problems. Respondent (v) operating as a sub-contractor has

experienced main contractor principles and observed the following *“Some contractors are only interested in the lowest price. Some are not interested in your procedures. They’re only interested in a job. But we need repeat business because we’re a subcontractor, over the past few years a lot of subcontractors have gone bust and we have found that the main contractor is becoming less and less obnoxious with us. They’re valuing us a little bit more than they used to. I’m not saying we’ve been cherry-picked but we’re getting to the stage we have become more selective about who we work for and have turned work down with people we’ve had trouble with before”*.

Evolution: Two of the interviewees have been involved in the construction industry for many years and decided to continue past state retirement age. They have shown quite different thoughts on embracing technology as the first respondent stated *“I think the computer is a brilliant piece of technology. I mean let’s put it this way, I’m 76 and going strong, but when I first started in the industry of course they hadn’t really been invented. And it’s made a fundamental change to our industry as the computer”*. The second respondent (vi) continued on a different vein *“The problem at the moment is that you’re speaking to somebody who’s yesterday’s man. I know my company’s an efficient. Were’ all computerised and things like that. I don’t have that much to do with it. But I mean I did my final exams in building back in the mid-sixties. So when you talk about the managerial, shall we say, nuances and things that happen these days it just go over my head. What you’ve got to bear in mind with this company, this is a company that’s been in existence for eighty years. We’re a very well thought of company”*.

Development: The comments made by respondent (viii) show an industry change to relationship management echoing the confrontational era of the 1970s *“I’m not one for confrontation. I think confrontation is a bad way to deal with issues. I think when I started confrontation was how it was all done. Blokes were treated like dogs, you know, forty years ago, it was an extremely confrontational industry. I think it has become much more of a team game that you’re trying to involve the client in the issue as much as you can and the client’s professional team. You’re all trying to swim the same way and I think that’s been a good thing for the industry that clients hopefully get a better job and a cheaper job or a less expensive job. And also the builder*

himself has more input. I think I, compared to where I was twenty years ago, I have much more input in what the job's going to be and how we're going to do it, what materials we might use. And that's...I'm much closer to the client than I used to be when I first started out in this game”.

Expectancy: Expectancy can be an expensive error, in the case of respondent (xxi) did not take enough time to think what image the client made of the organisation by the contractor making the wrong choice *“We were approached by a client who wanted a new house £300,000 house built we showed him a £50,000 extension we were building. Although we could have built this for him he felt that we were not big enough and eventually passed the work to someone else. This made me realise that I needed to head off situation like that in the future”.* The second respondent (xxvii) distinguishes the difference between the rich and not so rich clientele that approaches the business *“I find that most people that live over here like to keep up with the Joneses and if someone's got a certain type of kitchen a lot of other people want the same kitchen. We carry out work for some very rich clients but other people who may be stretched to finance a project get very worried when they get to the point where they run out of money so they start looking for faults. It's about knowing what's going on in that situation. We tend to try and avoid those clients but sometimes you can't. Another example of this can be found in house values. In the two years to three years house prices were going up some who were spending £500,000 on their house found that their house went up in value by say £750,000. They could boast to all their friends how much their house was worth. Now if they spent £500,000 on that house the value is not expected to rise that much. So the economy has affected people's aspirations. People worth £100,000,000 on the other hand don't give a damn about those things”.*

Client side Contractors: It was refreshing to hear the comments of small sized companies who were much more involved with their clients and the distinction that prevailed from that position. Respondent (xii) commented that *“We are a chartered building company. We are also a chartered architectural practice and it's that that's the primary driver I think in what we do here which I would be surprised if you ring any other chartered building companies that have that relationship”.* Respondent (xxviii) too purported that *“because of the nature of the service we provide we're very*

much working for the client so we are part of the client's team. So we tend not to get into that adversarial sort of conflict. We leave that to the contractor and the client's team to pick the bones out of, so we're very much outside of that potential conflict".

Location: Another of the interviewees (xxvii) moved from the mainland to an island of the south coast and commented that *"My attitude's changed because you have to be island-sympathetic. No one can run a construction company over here as if it was in London or anywhere else in the world. On a one-off job we could go to England and say "this job I want to employ that man from England" but you'd have to get a licence from the government to employ that same man over here and obviously we're in a recession at the moment so they're not giving any of those licences out. So you've got to account for that as well".*

Image: There is an image problem that is well recognised by the construction industry around small sized building companies which has been commented on by respondent (xiv) who said *"I think we get a bad press if I'm honest. I mean programmes on the TV don't do the small builder any good at all".* Further observations were made by respondent (xxvi) who recognised potential or even expected notions from potential clients *"We're educated. We're both qualified in the construction industry. It's not a business that was started on the back of a weeding or gardening business, and now all of a sudden we've, you know gardening has slacked off so we'll now fix roofs and tiles. We are a professional business. We do take it very, very seriously".*

5.9. Conclusion

Wide ranging topics were raised with CBCs to identify their opinions on pre-determined various issues that have impacted on organisational management. Their contributions have been expressed to show agreement or otherwise. It was important to have asked open ended questions to ensure the participants were not influenced in any way to skew their responses. CBCs were used across the UK and therefore not known to the researcher. The dialogue of the owner/managers was directly expressed. to mitigate bias or misinterpretation and was accomplished by delivering the opinions of the owner/managers of their specific views on questions from telephone interviews

and linked together by prose to gather and analyse valuable information and give an insight into the current organisational structure of micro and small sized Chartered Building Companies. It was intriguing to establish that professional building companies are subject to problems, issues, failings and successes that are to be found in the wider SCCO and therefore it can be concluded that micro and small sized CBCs are representative of the much more common non-chartered small sized UK construction companies.

Chapter 6 Framework Development and Validation

6.1. Chapter Introduction

This chapter presents a framework to support strategic decision making within Small and Micro Sized Chartered Building Companies. The framework development process was guided through a comprehensive review of literature. Results from the qualitative research were also drawn upon. Criteria used for developing framework are elaborated upon. These are then related back to seminal literature for inference assessment, validity, and application. It was anticipated prior to the validation process that the results would be largely positive as the factors had been drawn from literature and from former interviews and this has subsequently be borne out in the results.

The quantitative questionnaire was used to identify questions surrounding the characteristics of the company and participant. The CSFs identified by Arslan and Kivark were placed in order of importance along the horizontal axis and elements from the qualitative survey results were identified along the vertical axis.

6.2. Strategic Framework Development

A wide range of tools, techniques and strategic paradigms were consulted, in the strategic framework development process. A key consideration was to develop an approach suited to the needs of small and micro-sized construction contractors and which was simpler to implement and operate.

The following steps were undertaken in the development of the analysis framework.

1. Input from qualitative analysis was used to populate vertical axis of the framework matrix, that could help addressed how identified problems/issues can be addressed;
2. Input from the quantitative analysis using insights gained from Arslan and Kivark (2008), highlighting the ten most important CSFs as determined by the interviewed CBCs (table 4-14) determining the needs for improvement for SCCOs;

3. Mapping the relationship in a detailed analysis with Case Study Company. Mapping relationship between critical areas of improvement and how it will be addressed helps to establish relationship between areas of improvement and potential solutions, serving as a tool to support key decision making.
4. Identification of the areas of strategic improvement and devising plan for improvement.

The framework approach taken is inspired by Quality Function Deployment Methodology (QFD). QFD has been around for past three decades, however, only recently, its potential to be used as a tool to enhance company's corporation position has been realised. Methodology of development of House of Quality (HoQ) is generic and can be adapted to wide range of situations. Literature review indicates that HoQ method has been employed in wide range of industry sectors including healthcare sector (Dijkstra and van der Bij, 2002), software industry (Barnett and Raja, 1995), construction industry (Abdul-Rahman *et al.*, 1999), and in education or pedagogical applications (Hwarng and Teo, 2000). QFD provides a systematic method to prioritise strategic needs of a company. Even though approach has primarily been used in product development, it is equally applicable in strategic planning and analysis of needs of SCCOs. Mapping of high level business objectives and measures could lead to value generation and attainment of customer satisfaction.

6.3. Framework Validation Process

The analysis framework was validated with 5 Chartered Building Companies (CBCs) to determine its relevance for SCCOs. Issues had been encountered from previous requests for participation in the research with less than favourable response rates, despite reminder emails, telephone calls etc. It was anticipated that by sending the framework out to micro organisations where their credentials could not have been established the response rates would have been much lower. By using CBCs it was determined that these organisations were professional and competent and had already shown willingness to take part. As the work is aimed at SCCOs it would not have been acceptable to have the framework validated by any other group. Although the framework has been developed as an aid for SCCOs without any sense of competence

or credibility the reliability of validation would have been more difficult to guarantee from unregistered organisations. Major problems had already been associated with response rates, given the restricted research time limits the response rates could have taken this beyond of time line of the research.

The respondents had given positive comments, with a general perception that such an approach could help better understand direction of company, to enhance better interface with customers and to help prioritise resources in areas with maximum impact.

6.3.1. Validation with Chartered Building Companies and Key Conclusions

In reviewing the validation data from the questionnaire, the following information emerged. Three of the interviewees were Managing Directors and two Directors. The five organisations were randomly picked from the previous thirty one earlier chosen Chartered Building Companies interviewed and were geographically spread across the United Kingdom, from the South West, London, the South and North West regions. Four of the businesses were micro sized and one a small sized organisation.

Table 6-1: Validation results from Company A including accompanying legend

Row #	Max Relationship Value in Row	Relative Weight	Weight / Importance	D demanded Quality (a.k.a. "Customer Requirements" or "Whats")	Direction of Improvement: Minimize (▼), Maximize (▲), or Target (x)															
					Quality Characteristics (a.k.a. "Functional Requirements" or "Hows")	Key people	Business acumen	Client - relationship	Monitoring and control	Multiple works	Communication	Personal service	Upfront payments	Software	Industry based knowledge	Profit margin	Banks	Suppliers	Estimating	Recession
1	9			Control of cash flow	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2	9			Organising and planning	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3	9			Job cost control	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4	9			Client satisfaction issue	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
5	9			Honesty	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
6	9			Company image	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
7	9			Quality control	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
8	9			Good sub-contractors	○	○	○	○	○	○	○	○	▲	○	○	○	○	○	○	○
9	9			Leadership	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
10	9			Experience	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Legend		
⊙	Strong Relationship	9
○	Moderate Relationship	3
△	Weak Relationship	1
++	Strong Positive Correlation	
+	Positive Correlation	
-	Negative Correlation	
▼	Strong Negative Correlation	
▼	Objective Is To Minimize	
▲	Objective Is To Maximize	
X	Objective Is To Hit Target	

Table 6-1 initially identified the correspondent factors along the horizontal and vertical axis and the completed results entered from the validation process. From Table 6-1 the findings have been allocated in table 6-2 to recognize the most critical factors from both the horizontal and vertical axes.

Table 6-2: Factors in order of importance from Company A

Horizontal Axis Customer requirements or “Whats”			Vertical Axis Functional requirements of “Hows”		
Factor	Score	Ranking	Factor	Score	Ranking
Client satisfaction	135	1	Key people	90	1
Honesty	135	1	Business Acumen	90	1
Leadership	135	1	Client - relationship	90	1
Organising & planning	129	4	Estimating	90	1
Job cost control	129	4	Communication	90	1
Company image	129	4	Personal service	90	1
Experience	129	4	Profit margin	90	1
Good sub-contractors	115	8	Banks	90	1
Quality control	111	9	Suppliers	90	1
Control of cash flow	111	9	Multiple works	84	10
			Upfront Payments	82	11
			Software	78	12
			Monitoring and control	72	13
			Industry based knowledge	72	13
			Recession	66	15

It can be observed from table 6-2 that all scores are relatively strong. The criticality of the “what” factors highlighted on the horizontal axis are affected by the “why” factors along the vertical axis. The first nine factors identified in the vertical axis shared the highest score, the next 5 closely followed and the lowest scoring factor was found to be the recession which has had the least effect to the ten most important factors as identified by Arslan and Kivark (2008) on the horizontal axis.

Table 6-3: Validation results from Company B

Row #	Max Relationship Value in Row	Relative Weight	Weight / Importance	Demanded Quality (a.k.a. "Customer Requirements" or "Whats")	Direction of Improvement: Minimize (▼), Maximize (▲), or Target (x)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Quality Characteristics (a.k.a. "Functional Requirements" or "Hows")	Key people	Business acumen	Client - relationship	Monitoring and control	Multiple works	Communication	Personal service	Upfront payments	Software	Industry based knowledge	Profit margin	Banks	Suppliers	Estimating	Recession
1	9			Control of cash flow	○	○	○	○	○	○	○	○	▲	○	○	▲	○	○	○
2	9			Organising and planning	○	○	○	○	○	○	○	▲	▲	○	○	▲	○	○	○
3	9			Job cost control	○	○	○	○	○	○	○	○	▲	○	○	○	○	○	○
4	9			Client satisfaction issue	○	○	○	○	○	○	○	○	▲	○	○	○	○	○	○
5	9			Honesty	○	○	○	○	○	○	○	○	○	○	○	▲	○	○	○
6	9			Company image	○	○	○	○	○	○	○	○	▲	○	○	▲	○	○	○
7	9			Quality control	○	○	○	○	○	○	○	○	▲	○	○	▲	○	○	○
8	9			Good sub-contractors	○	○	○	○	○	○	○	○	▲	○	○	▲	○	○	○
9	9			Leadership	○	○	○	○	○	○	○	○	▲	○	○	▲	○	○	○
10	9			Experience	○	○	○	○	○	○	○	○	▲	○	○	▲	○	○	○

Table 6-3 identified the factors shown along the horizontal and vertical axis. The findings have been allocated in table 6-4 to recognize the most critical factors from both the horizontal and vertical axes. With the exception of software and banks there is only one result that bears a weak relationship.

Table 6-4: Factors in order of importance from Company B

Horizontal Axis Customer requirements or "Whats"			Vertical Axis Functional requirements of "Hows"		
Factor	Score	Ranking	Factor	Score	Ranking
Honesty	119	1	Key people	90	1
Job cost control	119	1	Business Acumen	90	1
Company image	119	1	Client - relationship	90	1
Experience	119	1	Estimating	90	1
Quality control	119	1	Personal service	90	1
Leadership	113	6	Profit margin	90	1
Good sub-contractors	113	6	Suppliers	90	1
Control of cash flow	113	6	Multiple works	90	1
Client satisfaction	113	9	Industry based knowledge	90	1
Organising & planning	96	10	Monitoring and control	84	10
			Communication	78	11
			Recession	78	11
			Upfront Payments	76	13
			Banks	10	14
			Software	10	14

Two elements along the vertical axis identified in table 6-4 are scored significantly lower than the remaining results. At the time of interview it came apparent that a pattern had emerged from the completed framework which prompted a question with regard the two elements: use of banks and software whereby it was confirmed that the company did not rely on an overdraft facility nor were they computer literate. This reluctance to fully engage with banking facilities could limit business growth as identified by Gibb (2000) who determined that by limiting the funds available to the business would have a negative effect on growth and ensure the business remains small.

Table 6-5: Validation results from Company C

Row #	Max Relationship Value in Row	Relative Weight	Weight / Importance	Demanded Quality (a.k.a. "Customer Requirements" or "Whats")	Direction of Improvement: Minimize (▼), Maximize (▲), or Target (x)															
					Quality Characteristics (a.k.a. "Functional Requirements" or "Hows")	Key people	Business acumen	Client-relationship	Monitoring and control	Multiple works	Communication	Personal service	Upfront payments	Software	Industry-based knowledge	Profit margin	Banks	Suppliers	Estimating	Recession
1	9			Contort of cash flow	○	○	○	○	○	○	○	▲	○	▲	○	○	○	○	○	○
2	9			Organising and planning	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3	9			Job cost control	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4	9			Client satisfaction issue	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
5	9			Honesty	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
6	9			Company image	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
7	9			Quality control	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
8	9			Good sub-contractors	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9	9			Leadership	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
10	9			Experience	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

The findings from table 6-5 have identified all but two of the results either having a strong or moderate relationship been used to populate the most significant critical factors identified in table 6-6.

Table 6-6: Factors in order of importance from Company C

Horizontal Axis Customer requirements or “Whats”			Vertical Axis Functional requirements of “Hows”		
Factor	Score	Ranking	Factor	Score	Ranking
Honesty	123	1	Key people	90	1
Experience	115	2	Business Acumen	90	1
Quality control	111	3	Monitoring and control	87	3
Job cost control	105	4	Recession	84	4
Leadership	99	5	Client - relationship	79	5
Organising & planning	93	6	Industry based knowledge	78	6
Company image	93	6	Profit margin	72	7
Good sub-contractors	93	6	Banks	65	8
Control of cash flow	83	9	Multiple works	65	8
Client satisfaction	81	10	Upfront Payments	65	8
			Communication	65	8
			Personal service	63	12
			Suppliers	54	13
			Estimating	36	14
			Software	34	15

Key people and business acumen played an important part for this business but again software has been determined as the least important. From the earlier quantitative research analysis usage of software programmes was found to be of low priority as confirmed from tables 4-16, 4-17, 4-19, 4-21 and came very low in the summation of critical factors table 4-23.

Table 6-7: Validation results from Company D

Relative Weight Weight/Importance	Quality Characteristics (a.k.a. “Functional Requirements” or “Hows”)	Column #																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	Control of cash flow	○	○	○	○	○	○	○	○	○	○	○	▲	▲	○	○	○	○
	Organising and planning	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Job cost control	○	○	○	○	○	○	▲	○	○	○	○	○	▲	○	○	○	○
	Client satisfaction issue	○	○	○	○	○	○	○	○	○	○	○	▲	○	○	○	○	○
	Honesty	○	○	○	○	▲	○	○	○	○	▲	○	▲	○	○	○	○	○
	Company image	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Quality control	○	○	○	○	○	○	○	○	▲	○	○	○	○	○	○	○	○
	Good sub-contractors	○	○	○	○	○	○	○	○	○	○	○	○	▲	○	○	○	○
	Leadership	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Experience	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Table 6-7 shows a wider range of strong, moderate and weak relationships results than from the previous Companies and the results have been identified in table 6-8. The results of table 6-8 show that the top three elements from the vertical axis are based around relationships and control where as the bottom four are linked to finance. This would suggest that the emphasis of this company is based around building and maintaining connections.

Table 6-8: Factors in order of importance from Company D

Horizontal Axis Customer requirements or “Whats”			Vertical Axis Functional requirements of “Hows”		
Factor	Score	Ranking	Factor	Score	Ranking
Company image	135	4	Key people	90	1
Quality control	111	9	Monitoring and control	90	1
Good sub-contractors	115	8	Communication	84	3
Leadership	105	1	Suppliers	78	4
Control of cash flow	105	9	Recession	78	4
Job cost control	101	4	Multiple works	76	6
Organising & planning	99	4	Business Acumen	72	7
Experience	99	4	Client - relationship	69	8
Honesty	99	1	Personal service	67	9
Client satisfaction	97	1	Industry based knowledge	64	19
			Software	58	11
			Estimating	58	11
			Upfront Payments	52	13
			Banks	50	14
			Profit margin	48	15

Business owners of micro and small sized organisations are more likely to be client focused with shorter chains of command than larger companies (Flamholtz 1986; Hanks *et al.*, 1993 Kazanjian and Dranzin, 1990). According to Pinho (2008) the perception of quality observed by the customer takes priority over the firm’s own ability to improve quality.

Table 6-9: Validation results from Company E

Row #	Max Relationship Value in Row	Relative Weight	Weight / Importance	Quality Characteristics (a.k.a. "Functional Requirements" or "Hows")	Key people	Business acumen	Client relationship	Control	Multiple works	Communication	Personal Service	Upfront Payments	Software	Industry based knowledge	Profit margin	Banks	Suppliers	Estimating	Recession	
1	9			Control of cash flow	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2	9			Organising and planning	○	○	○	○	○	○	○	○	○	○	○	▲	○	○	○	▲
3	9			Job Cost Control	○	○	○	○	○	○	▲	○	○	○	○	○	○	○	○	○
4	9			Client satisfaction issue	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
5	9			Honesty	○	○	○	○	○	○	○	○	▲	○	○	○	○	○	○	○
6	9			Company image	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
7	9			Quality control	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
8	9			Good sub-contractors	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9	9			Leadership	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
10	9			Experience	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Table 6-10: Factors in order of importance from Company E

Horizontal Axis Customer requirements or “Whats”			Vertical Axis Functional requirements of “Hows”		
Factor	Score	Ranking	Factor	Score	Ranking
Quality control	129	1	Key people	90	1
Control of cash flow	129	1	Business Acumen	90	1
Experience	116	3	Client - relationship	90	1
Company image	115	4	Monitoring and control	90	1
Job cost control	109	5	Communication	90	1
Good sub-contractors	107	6	Multiple works	84	6
Client satisfaction	107	6	Industry based knowledge	84	6
Organising & planning	101	8	Personal service	82	8
Honesty	85	9	Estimating	70	9
Leadership	81	10	Profit margin	66	10
			Suppliers	62	11
			Software	54	12
			Recession	46	13
			Banks	42	14
			Upfront Payments	36	15

Again Key people and business acumen are scored highly in table 6-10. It must be emphasised that none of the respondents thought that the elements linked to the vertical axis were of no importance. Weak relationships have been identified but this is more to do with the individual organisational structure of the business. For example in the case of Company E upfront payments scored the least but the company always insists on deposits or upfront payments on residential works which are an extremely important aspect of company policy, this mitigates bad debt and promotes cash-flow

as confirmed in the framework, but by not paying sub-contractors up-front also improves cash flow. Although the provision for extended credit is deemed an important factor for the business as upfront payments are not provided to sub-contractors it was determined to be a weak relationship. By reflecting on the scores or outcome of the framework an organisation will be able to identify the relationships and correlate the findings and their meaning/importance to the business. In the case highlighted in Company E the business owner had established the link between upfront payments and sub-contractors as a weak relationship but adversely it was deemed to be important to extend credit terms. As such this could be seen through an interpretation of the identified relationship as a weakness of the framework because of the score value. To monitor the framework this analogy would have been interpreted and understood by the respondent. If the table were to be used by multiple users then further explanation would need to be provided to ensure uniformity.

Table 6-11: Collated factors from surveyed Companies

Horizontal Axis Customer requirements or “Whats”			Vertical Axis Functional requirements of “Hows”		
Factor	Score	Ranking	Factor	Score	Ranking
Company image	118.2	1	Key people	90	1
Experience	115.6	2	Business Acumen	86.4	2
Quality control	113.4	3	Monitoring and control	84.6	3
Job cost control	112.6	4	Client - relationship	83.6	4
Honesty	112.2	5	Communication	81.4	5
Good sub-contractors	108.6	6	Multiple works	79.8	6
Control of cash flow	108.2	7	Personal service	78.4	7
Client satisfaction	106.6	8	Industry based knowledge	77.6	8
Leadership	106.6	8	Suppliers	74.8	9
Organising & planning	103.6	10	Profit margin	73.2	10
			Recession	69.2	11
			Estimating	68.8	12
			Upfront Payments	62.2	13
			Banks	51.4	14
			Software	46.8	15

Using the results from all of the companies interviewed to validate the framework the information has been collated to provide the most critical factors as shown in table 6-11. It must be emphasised that the results from the horizontal and vertical axes are not independent but are the product of the relationship between “x” and “y” axes.

Comments provided by the recipients after using the template were that: (i) it made them think about the organisational structure of the company and that; (ii) the framework was found to be clear, simple and user-friendly and thereby encouraging and promoting use to identify strength and weaknesses. By completing the framework at consistent and regular intervals of time the framework could be analysed and any changes could then be implemented and monitored for improvement.

6.3.2. Comparison of Results

The validation process taken to the selected individuals was split into two parts. The framework template and a set of questions were sent in advance of the interview. The interview was conducted by telephone and the results were taken from the respondents and then filled in by the researcher. The results from the interview were confirmed and sent back to the respondent. The second part of the interview comprised questions about the framework and the answers have been set out to include all respondents for clarity and comparison.

Table 6-12: Relevance of Framework

Question: <i>In your view, did you find the framework to be relevant?</i>	
Company	Response
Company A	Yes.
Company B	Yes, most of the questions were highly relevant.
Company C	Yes.
Company D	Yes.
Company E	Yes, the factors from the horizontal and vertical axis meshed in well.

All the comments in table 6-12 were positive and additional commentary confirmed that the framework was seen as highly relevant. The factors that populated both axes of the framework were found to be inter-connected and meaningful. All of the factors were either sourced from literature and from the results of the earlier qualitative

research. It has been borne out that the outcome of the resultant factors have inter-connectivity because they are embedded in the research conducted in this study.

From the results of table 6-13 three of the respondents thought the framework useful, Company C would have liked to use the programme and monitor the results before commenting and Company B thought the business too small to be pertinent confirming Hari *et al.* (2005) findings that small companies do not have the luxury of time to acquire new knowledge and embed it through a structured approach.

Table 6-13: Usefulness of Framework

Question: <i>In your view, did you find the framework to be useful?</i>	
Company	Response
Company A	Yes, very stimulating.
Company B	The usefulness to our business would be limited due to size and structure of organisation.
Company C	Too early to comment would need to monitor programme.
Company D	Yes.
Company E	The framework focuses you to think about issues that could be missed. The framework could be used on a regular basis to see whether patterns emerge and the information produced could provide impetus to increase the company's effectiveness.

The resounding response from table 6-14 was that the framework was adaptable. Company E elaborated further to suggest that the factors could be changed to be more applicable to an individual company. For example pertinent factors to a speculative house builder are likely to be different to a firm specialising in home improvements and a business could easily review the factors to suit.

Table 6-14: Adaptability of Framework

Question: <i>In your view, did you find the framework to be adaptable?</i>	
Company	Response
Company A	Yes.
Company B	Yes, the framework is definitely adaptable.
Company C	Yes.
Company D	Yes.
Company E	The factors illustrated in the framework could be changed to align the business more specifically.

The factors used have been applied to fill the size of the framework but should a company choose to apply more factors then there is no reason to apply them to a spreadsheet for instance and use the numeric values instead of the symbol format if preferred.

Table 6-15: Application of Business Strategy

Question: <i>In your view, does the framework challenge the business strategy activity of the organisation?</i>	
Company	Response
Company A	Yes, it gives the key elements.
Company B	Yes.
Company C	Could do, would need to see results of programme in the medium term.
Company D	Yes it would if we were to use and monitor the framework. This could be used for staff, supply chain and the client for their comments and analysis. The framework would be useful also for training and recruitment purposes.
Company E	Yes.

Company C continued to take a cautious approach but indicated approval. All the remaining companies gave a positive response. Company D thought that the framework could be used for a much wider audience and applications, although no indication was given whether the factors would need to be changed to remain relevant it is clear that the respondent identified the potential for the framework application in table 6-15.

It can be observed that from table 6-16 four out of the five answered to confirm that the framework did challenge the human resources strategy of their organisation. Company C was more reticent by indicating that a comment could only be offered after using and analysing the results of the framework.

Table 6-16: Application of Human Resource strategy

Question: <i>In your view, does the framework challenge the human resource strategy of the organisation?</i>	
Company	Response
Company A	Yes, it triggers strategic thinking.
Company B	Yes.
Company C	No I would have to see the result to make worthwhile comment.
Company D	Yes it would if we were to use and monitor the framework. This could be used for staff, supply chain and the client for their comments and analysis. The framework would be useful also for training and recruitment purposes.
Company E	Yes.

Table 6-17: Application of Organisational culture and structure

Question: <i>In your view, does the framework challenge the organisational culture and structure of the organisation?</i>	
Company	Response
Company A	Yes.
Company B	Yes.
Company C	No I would have to see the result to make worthwhile comment.
Company D	Yes it would if we were to use and monitor the framework. This could be used for staff, supply chain and the client for their comments and analysis. The framework would be useful also for training and recruitment purposes.
Company E	Yes.

The results from the question posed in table 6-17 “*In your view, does the framework challenge the organisational culture and structure of the organisation*” are similar to the results found in table 6-18 with all but one indicating that the framework had challenged the organisational culture and structure of their organisation.

The responses given for improvement to the framework in table 6-18 have indicated not only how the framework could be improved but demonstrate a positive resolve to use this framework for their own organisation. Company A felt that being able to review numerical values would be more meaningful than symbols although the symbols represent a numerical value. Companies B and C felt that the factors could be expressed with more detail commentary, this could be in part because they were unfamiliar with the framework and they were being asked for their response at the time of interview. It could be argued that should they use the framework repeatedly or that the factors were changed to represent their organisation more closely then this would mitigate the value of their comment. However one of the advantages of using this framework is that the amount of detail can be added or changed to suit the users preferred choice.

Table 6-18: Suggestions for improvement to the framework

Question: <i>Could you offer any suggestions for improvement to the framework?</i>	
Company	Response
Company A	Identify answers with numerical value i.e. between 1-10 to give more scientific result rather than subjectivity.
Company B	The framework could incorporate a facility to comment or qualify questions.
Company C	More detail required to describe headings.
Company D	The framework would benefit an introductory statement to show/identify the purpose of the framework. Should the framework be widely distributed to a multiple recipient audience then instructions should be printed on how to fill in the framework.
Company E	No, by keeping the framework simple and easy to use will make it less of a task to fill in and review.

Company D appeared to be very positive about the framework and already was thinking of its applications. The comments raised have identified how multiple and wider ranging recipients would complete the questionnaire. This raises an interesting quandary as this organisation saw the value of the framework to make a difference to its organisational level by involving all those in its supply chain. The flexibility of the conceptual framework lends itself for use to other organisations and with careful consideration of the axial commentary complemented by further validation could be used not only by SCCOs but adopted for use by medium sized organisations within the construction sector. Company E took an opposite view from Companies B and C and thought by keeping the framework simple would make it more “user friendly” to use. Company A (table 6-1) and Company E (table 6-9) both appreciated the simplicity of the table.

Table 6-19: Any other comments

Question: <i>Could you offer any comments concerning the contents of this questionnaire or wish to express an opinion regarding a related topic for the framework?</i>	
Company	Response
Company A	The framework was found to be stimulating and simple enough to evaluate to use as a management tool.
Company B	No comment offered.
Company C	No comment offered.
Company D	No comment offered.
Company E	No comment offered.

6.4. Conclusion

All of the interviewees had positive comments to the questions posed around the validation of the framework. The companies were randomly chosen from the previous interviewed Chartered Building Companies but there was no consensus to geographical, or specialism given other than the firms falling within the scope of an SCCO. The results and feedback from the framework supported its relevance, its simplicity making it user friendly and the factors may be changed to reflect an individual organisation’s business activities. The most sceptical comments came from Company C who appeared to reserve committing an opinion until running the programme within the organisation and then having time to analyse the results. The overall positive comments endorsed the framework as an organisational tool to determine a company’s strengths and weaknesses and a process in place to monitor and implement change. The flexibility of the framework can be adopted to be used and its findings analysed for a number of users to assist the potentiality and increased company success.

Chapter 7 Summary and Conclusions

7.1. Chapter Overview

This chapter summarises the key findings, contributions and recommendations of the outcome from this study. In this chapter the key findings to the research objectives have been reviewed and findings discussed. The major contributions to knowledge, academia and practice have been determined, and finally recommendations for practice and further research have been proposed.

7.2. Key Research Findings Related to Objective 1

In order to analyse the key research finding to the stated research objective “*To critically review and analyse relevant literature in the area of small sized organisations generally, and construction contracting organisations (SCCOs) specifically*” it has been most important to have understood through the literature review (i) what constitutes an SCCO; (ii) what key factors influence the current complex composition, mix and juxta-positioning of supply chain and (iii) what is meant by success and development within the limitations of small sized organisations. In an attempt to analyse the research, it was important to establish some of the significant events and changes that have affected the evolution of SCCOs. It felt prudent to consider the changes from the 1970s, drawing upon author’s personal work experience within the industry, coupled with exploration of the literature, covering significant events from this era. This review is important for many reasons, including the impact that developing processes had on the Construction Industry at that time comprising, for example quality systems such as TQM, WCM, partnering etc. in the same way the current systems are affecting the industry such as the Building Information Model (BIM), working toward the generation and management of digital representations of physical and functional characteristics of places. By reviewing the literature from earlier decades embeds the literature within the turmoil and change and revisited the development of practices of that time. *‘We have learned from past experiences that we need a new approach to how government and industry work together’* (Department for Business Innovation and Skills, 2014).

It has been determined from the literature review that the Construction Industry is one of the largest UK economic sectors, employing approximately 10% of the work force. 99.9% of all firms within the Construction Industry are SMEs and of that figure, 83% employ no more than one person. It is somewhat of a dichotomy therefore to associate “small” with the government statistics proving the significance and contribution that micro and small sized organisation have on the Construction Industry. SCCOs however, are impeded due to their individual organisational size to wield the impact that their combined influence has on the industry and UK economy alike. This is due in part to the way small sized firms are organised to contribute and compete ensuring that they remain isolated and fragmented to avoid giving away competitive advantage. Although there have been significant figures that have endeavoured to change the way tenders are awarded i.e. from a “competitive base” to that of “value for money”, this has had little influence on the way companies are awarded business.

There has been many strategies that have impacted the Construction Industry that has been influenced by political change; academic research; supply chain and the economy and although small sized organisations are better able to react to change, due to their size, they remain slower to adopt management strategies due to their lack of resources. This identifies a marked difference between small and large firms, where large businesses can and need to keep pace with current changes to ensure compliance, confidence and market advantage as opposed to small firms, whose priority is to maintain cash-flow, the right amount of work to sustain viability and profitability which ensures that the owner/manager is kept involved with the process of day-to-day management activities of the business. As identified, the barriers that ensure small businesses are likely to remain small can be attributed for a need to remain flexibility and autonomous, which combined with a lack of time and knowledge inhibits growth potential to the SCCO.

There are many such examples of strategy and progressive business models, but due to lack of resource, adaptability, relevance, awareness and commitment the majority of SCCOs would not commit to such entrepreneurial management aids as their relevance would appear to take a low priority to technical advances of tools, plant and

machinery, where the change in production could be assessed much more readily and more easily and quickly understood.

Due to the immediacy of management commitment, work order book and cash flow, failure rates remain to be at approximately 20% and success of a small organisation cannot be taken for granted. There have been a number of academic studies on factors contributing to company's failure. The current long term recession has affected population confidence, where a reluctance to invest or spend within the domestic market has had a marked effect on business opportunities in a decreasing market share.

7.3. Key Research Findings Related to Objective 2

Research Objective 2: *“To ascertain and document the characteristics of (SCCOs) and how these impact on the way they conduct their businesses and their development”*. SCCOs comprise micro and small sized organisations and their size, turnover and balance sheet total have been defined in Table 1-1. In order to study a meaningful sample, 204 micro and small sized UK based CBCs were identified to be approached, from the thousands of available SCCOs across Great Britain. This process of selection of SCCOs has been previously identified in Figure 3-8.

There are many instances determining the characteristics of SCCOs which identify the way they conduct business and development in both the literature review and interview process. Micro and small sized firms are much quicker to respond to circumstances and events due to their size and management structure than their more cumbersome medium and large sized organisations. As previously identified the vast majority of firms are drawn from micro and small sized organisations offering a wide ranging service as can be viewed from Table 2-1. The inability to turn-over large amounts of cash limits small enterprises in numerous ways. Investment into training, key staff, and research restricts growth and embeds firms to operate within boundaries of operational comfort. This is further exacerbated by fragmentation distrust and open competition between businesses. Day-to-day management takes up the majority of

time for owner/managers and restricts their capacity to emerge business into other activities that could be beneficial for sustainability, viability or growth.

Apart from trade focused certification schemes such as gas safe, schemes like National Inspection Council for Electrical Installation (NICIEC) and Construction Skills Certification Scheme (CSCS) exist in UK context. There is no registration scheme for UK builders, therefore there is no governing body which determines entry, skill, or qualification levels required in order to trade. Much of domestic related work is awarded on price only basis, encouraging unskilled and ill-equipped sole traders to flourish at the expense of the remaining businesses. Building control is not involved with domestic building maintenance and where the client is unqualified to monitor the quality of service can lead to work packages that can be dangerous to the occupier, neighbours and public alike. Unless the remaining construction businesses compete, they are unlikely to attract this business with the effect that the uncontrolled unqualified traders drive down profit and standards.

7.4. Key Research Findings Related to Objective 3

Research Objective 3: *“To establish the factors which have influenced the development of SCCOs, and document their relative importance”?* Organisation development for SCCOs is markedly different from that to be found in medium and large sized organisations due to financial resource. Even if this was not found to be an issue it has been identified that owner/managers of small enterprises find it more difficult to delegate responsibility for a business that they have started and built up and would find it uncomfortable to participate with a third party body to freely offer restricted information. However there are alternative ways that small sized enterprises’ can participate with ways to develop their business. These undertakings have been undertaken by all micro and small sized CBCs whose directors are required to have Chartered Status. Members of the Chartered Institute of Builders like the majority of professional institutes are required to participate in Continued Professional Development (CPD) and log details to maintain their eligibility for continued membership. A number of CBCs were found to sub-contract or be involved as principal contractors requiring them to hold a Construction Skills Certification

Scheme (CSCS) card which identifies a proven standard of safety awareness prudent to working on construction sites. Other trades within the construction industry associated with CBCs are required to hold certifications schemes that regulate working practices such as Gas Safe for heating engineers or National Inspection Council for Electrical Installation Contracting. (NICEIC) required for the electrical trade. CBCs or/and any general contractor should ensure that relevant sub-contractors such as described above must hold the required certification to operate within the regulatory requirements of the particular schemes.

Other undertakings that CBCs would recognise would be to develop risk assessments and method statements that may contribute to their own Health and Safety Quality Company Assurance Manual or a more formally recognised accreditation such as ISO 9001. There are numerous other development processes such as dress code; telephone logs; handling complaints; vehicle maintenance etc. that together build up and contribute to Organisational Development (OD). Larger organisations would have these processes in place and may look to explore/expand OD to make their companies more efficient.

7.5. Key Research Findings Related to Objective 4

Research Objective 4: *“To identify and evaluate the critical factors affecting the success of SCCOs to be evaluated against the emergent factors found to influence the development of the interviewed Chartered Building Companies (CBCs)”*. The survey carried out by Arslan and Kivark (2008) was undertaken to arrange the factors of importance as highlighted in Table 7-1 under seven different headings of: Business management; financial conditions; owner-manager characteristics; quality of work and workmanship; sales and marketing; market selection and used of technology. Each of the tables was scored individually but in Table7-1 all categories from research have been identified in order of highest score.

Table 7-1: The most important critical factors which influenced the development of SCCOs (CBCs)

Factor in order of importance	Score	Order of importance
Control of cash flow	150	1 st
Organising and planning	144	2 nd
Job cost control	143	3 rd
Client satisfaction	143	4 th
Honesty	136	5 th
Company image	130	6 th
Quality control	127	7 th
Good sub-contractors	126	8 th
Leadership	125	9 th
Experience	124	10 th
Timely payment of bills	123	11 th
Communication skills	123	12 th
Fair pricing	121	13 th
Capital/financial strength	120	14 th
Teamwork and harmony	120	15 th
Profit margin	118	16 th
Use of good quality materials	116	17 th
Competitive pricing	116	18 th
Company experience in the market	116	19 th
Completion of job on time	115	20 th
Good record keeping	112	21 st
Qualified personnel	110	22 nd
Have a web-site	107	23 rd
Risk management	106	24 th
Qualified technical staff	104	25 th
Country's economic condition	102	26 th
Qualified consultants	96	27 th
Level of competition	96	28 th
Determine public needs	89	29 th
Follow and adopt new technologies	89	30 th
Usage of software programmes	84	31 st
Good advertisement	82	32 nd
Education level	81	33 rd
Low interest rates	78	34 th
Innovative products	62	35 th
E-marketing	62	36 th
Sales offers	51	37 th
Political connections	45	38 th

Table 7-2: The most important critical factors which influenced the development of SCCOs

Factor in order of importance Arslan and Kivark (2008)	Scores	Order of importance
Client satisfaction	97.80	1 st
Control of cash flow	97.30	2 nd
Organising and planning	97.00	3 rd
Leadership	95.50	4 th
Experience	94.75	5 th
Communication skills	92.50	6 th
Use of good quality materials	92.50	7 th
Teamwork and harmony	92.30	8 th
Honesty	92.25	9 th
Job cost control	89.50	10 th
Qualified consultants	88.30	11 th
Completion of job on time	88.30	12 th
Education level	87.75	13 th
Qualified personnel	86.30	14 th
Good sub-contractors	85.00	15 th
Capital/financial strength	84.30	16 th
Country's economic condition	83.80	17 th
Quality control	83.00	18 th
Political connections	83.00	19 th
Company image	82.80	20 th
Profit margin	82.30	21 st
Timely payment of bills	81.80	22 nd
Company experience in the market	76.25	23 rd
Good advertisement	74.80	24 th
Determine public needs	73.50	25 th
Follow and adopt new technologies	71.25	26 th
Qualified technical staff	71.00	27 th
Competitive pricing	70.50	28 th
Fair pricing	69.50	29 th
Low interest rates	68.50	30 th
Risk management	68.25	31 th
Level of competition	68.25	32 nd
Good record keeping	64.50	33 rd
Sales offers	63.00	34 th
Usage of software programmes	58.50	35 th
Have a web-site	58.25	36 th
Innovative products	52.00	37 th
E-marketing	45.30	38 th

Table 7-3 shows the difference between the order of importance of stated factors between the research undertaken in this study from micro and small sized Chartered

Building Companies and that from Turkish small and medium sized construction firms undertaken by Arslan and Kivark in 2008.

Table 7-3: Comparison between surveys undertaken by Arslan and Kivark and this research study

Factor in order of importance	Order of importance from CBCs	Order of importance from Arslan & Kivark
Control of cash flow	1 st	2 nd
Organising and planning	2 nd	3 rd
Job cost control	3 rd	10 th
Client satisfaction	4 th	1 st
Honesty	5 th	9 th
Company image	6 th	20 th
Quality control	7 th	10 th
Good sub-contractors	8 th	15 th
Leadership	9 th	4 th
Experience	10 th	5 th
Timely payment of bills	11 th	22 nd
Communication skills	12 th	6 th
Fair pricing	13 th	29 th
Capital/financial strength	14 th	16 th
Teamwork and harmony	15 th	8 th
Profit margin	16 th	21 th
Use of good quality materials	17 th	7 th
Competitive pricing	18 th	28 th
Company experience in the market	19 th	23 rd
Completion of job on time	20 th	12 th
Good record keeping	21 st	33 rd
Qualified personnel	22 nd	14 th
Have a web-site	23 rd	36 th
Risk management	24 th	31 st
Qualified technical staff	25 th	27 th
Country's economic condition	26 th	17 th
Qualified consultants	27 th	11 th
Level of competition	28 th	32 nd
Determine public needs	29 th	25 th
Follow and adopt new technologies	30 th	26 th
Usage of software programmes	31 st	35 th
Good advertisement	32 nd	24 th
Education level	33 rd	13 th
Low interest rates	34 th	30 th
Innovative products	35 th	37 th
E-marketing	36 th	38 th
Sales offers	37 th	34 th
Political connections	38 th	19 th

There are key differences between the research undertaken by Arslan and Kivark and that undertaken in this study as identified in table 7-4. Yet despite the differences it can be determined from table 7-3 the first three most important factors are shared among the top four places. This indicates that it is the factors that are universally recognised as degrees of importance and not necessarily persuaded by the key features some of which have been highlighted in table 7-4. Further evidence of this is reflected throughout table 7.3 where most of the factors are similarly placed between the two surveys.

Table 7-4: Key Differences between surveys by Arslan and Kivark and this research study.

Key Features	Undertaken by this research	Undertaken by Arslan & Kivark
Size of organisations	SCCOs	SMEs
Country of origin	United Kingdom	Turkey
Date of interview	2014	2008
Interview resource	CBCs	General Builders
Factors	General questionnaire	From seven headings

7.6. Key Research Findings Related to Objective 5

Research Objective: *“To develop an initial conceptual framework of factors thought to influence the development of small sized construction contracting organisations”*. The conceptual framework was developed to use factors that been developed by previous academic research that had been undertaken by Arslan and Kivark (2008). These factors identified in table 7-2 have been used to populate the horizontal axis and those along the vertical axis have been drawn from the qualitative analysis obtained from the results of this study.

contributions to knowledge. The conceptual framework could be used as a tool for business management forums as a reference to support small construction contracting organisations (SCCOs).

7.7.1. Academic Contributions

This study has used the contributions from micro and small sized Chartered Building Companies as being representative for the values of micro and small sized organisations. There has been little research surrounding Chartered Building Companies but their valued contributions have identified important factors that have contributed to organisational values and working practices associated with SCCOs.

- The critical success factors were based around the works carried out by Arslan and Kivark (2008) but has been updated and contextualised for UK SCCOs representing 99.9% of all firms within the Construction Industry (Department for Business Innovation and Skills, 2013).
- The conceptual framework was based on the qualitative and quantitative research that was undertaken. The descriptions plotted within the horizontal or “x” axis was based on Arslan and Kivark (2008) survey but the CSFs placed in order of importance through the findings of the quantitative research from the questionnaire posed to the CBCs. The descriptions plotted within the vertical or “y” axis were elements identified from the interview process adopted from the qualitative research undertaken.
- The conceptual framework has been validated and peer reviewed by randomly chosen CBCs and their comments recorded therefore it is proposed the conceptual framework developed to aid the success of small and micro sized UK construction contracting organisations can be cited in its own right as an academic contribution.

- The conceptual framework could be used as a basis to further develop formal and informal taught programmes within academic schools, colleges and universities.

7.7.2. Contributions for the practice

The most important critical success factors have been identified from the literature review and by the participant organisations who have contributed to this research. Much of the findings have been used to develop a conceptual framework which can be used as a tool to identify, monitor and evaluate the strength and weaknesses of the end user. Although the framework was intended to be used as a functional aid to promote organisational culture and help focus on the strengths and weaknesses of the participant organisation one of the company's who validate the framework identified a much wider audience including: staff; workforce; suppliers and clients to input their feedback into the framework to promote their organisational focus. The framework has been developed as an aid for small companies and the established success factors can be referenced by many other small sized construction contracting organisations. The simplicity and flexibility of the framework has been confirmed which will promote the use and the factors can be changed as required that are more pertinent to company values.

7.8. Recommendations for Practice

A considerable time owner/managers of micro and small enterprises is spent on managing the business which could be detrimental to other influences affecting the potentiality of organisational development. To avoid this it is important to set aside time to think how to improve business practice, this may be achieved by becoming more aware of opportunities which could influence or improve success factors. Wide ranging topics have been reviewed in this study some of which have included: the "Kaizen" approach to business; self assessment; the influence of technology; partnering; training; the value of repeat business and organisational development.

In order to continue in business it is important to think how to avoid business failure by recognising weaknesses in the business or how other enterprises have overcome these limitations. It is interesting to see how big businesses operate and how other organisations within the supply chain manage or inter-relate with each other. In order to maximise the value of these approaches the owner/manager of a micro or small business must be and remain aware of influences that might affect the business outside the day-to-day management of their organisation.

7.9. Recommendations for Further Research

This study has reviewed wide ranging topics that have affected the business community within the construction industry. It would be naive and incorrect to suggest that all areas of influence have been discussed or how these have impacted industry such as the Building Information Model (BIM) which is currently gaining recognition and momentum. However it is thought that this work can be used as a basis for further and future research in this field of work whilst reviewing new aspects that affect the SCCOs community. The research has culminated in developing a conceptual framework to be used for micro and small businesses. It would be interesting to assimilate the findings and results of pre-determined and selected businesses who have all used the framework over defined dates and set over a specific time in order to identify pattern changes and how by recognising the strengths and weaknesses of the company have improved organisational success.

The flexibility of the strategic framework has the potential to encourage other users. Feedback as already established application for the supply chain, clients and staff but the framework has application for SMEs and even organisations that operate outside the construction industry. Further research could be used to analyse the results for comparison and establish patterns that may exist across the commercial society.

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Appendix 1: Questionnaire for Quantitative Data Collection

Postal/email questionnaire

Ref.

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SURVEY QUESTIONNAIRE ON CRITICAL SUCCESS FACTORS AFFECTING THE DEVELOPMENT OF SMALL SIZED CONSTRUCTION CONTRACTING ORGANISATIONS (SCCOs)

Return Address

R. Ozols

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Notes about the questionnaire

As is the case with many questionnaire surveys, there may be some questions which appear irrelevant or impertinent. However, it is necessary in this study that all questions are answered; as the questionnaire is designed to achieve particular research objectives, and it is hoped not to offend respondents in any way. If there are any questions which you are unwilling or unable to answer, then it is our wish that you continue to answer the remainder of the questionnaire.

Remember that both your identity and that of the company you work for will remain strictly confidential.

SECTION A: General Information. In each of questions 1-4 please tick one box only [✓].

- i. How long have you been in your present job?
- [] Less than 1 yr [] 1 – 5 yrs
[] 6-10 yrs [] 11-15 yrs [] 16-20 yrs []
11-15 yrs [] More than 20 yrs
- iii. How long have you worked in the construction industry?
- [] Less than 1 yr [] 1 – 5 yrs
[] 6-10 yrs [] 11-15 yrs [] 16-20 yrs []
11-15 yrs [] More than 20 yrs
- ii. Please state your present job title?
- [] Director [] Contract/project manager
[] Site agent/foreman [] Other (please specify)
- iv. Career structure: In the space provided below, please list in chronological order, the positions you have held in the construction industry since you have first joined it, and how long you have held the post for. E.g. Site Foreman (5 years)

- | | | |
|----|----|-----|
| 1. | 5. | 9. |
| 2. | 6. | 10. |
| 3. | 7. | 11. |
| 4. | 8. | 12. |

1. Please list below which of the listed qualification you have obtained to date: by entering in the appropriate box, the year of achievement. Also, state in full, your main area of study in the adjoining box (e.g. Building, Civil Engineering, Quantity Surveying).

Qualification	Year	Main Area of Study
O level or equivalent		
A level or equivalent		
Ordinary National Certificate (ONC) or equivalent		
Ordinary National Diploma (OND) or equivalent		
Higher National Certificate (HNC) or equivalent		
Ordinary National Diploma (HND) or equivalent		
City & Guilds		
B. Tech		
First Degree		
Higher Degree (MSc, MA, MBa, PhD)		
Diploma in Management Studies (DMS)		
Membership of a Professional Institute (by examination)		
Other(s) please indicate		

- v. Please write your year of birth 19 [_ _]
 What is your gender [] Male [] Female

SECTION B: Factors influencing the development of small sized contracting construction organisations.

Section B seeks your views on questions on “Development of small sized construction contracting organisations (SCCOs)” and on “Critical Success Factors”

“Critical success factors” in this questionnaire means: factors that if removed would impair the viability of the company.

“Development” in this questionnaire means: reputation; the ability to attract and retain workers or members, customers, clients, or users; the maintenance of employees’ morale, commitment and productivity and the relationship between suppliers, customers and the community in which it operates.

Factors that impede the growth of SCCOs as the lack of qualified personnel and construction-related equipment; high factor costs affecting the business operation; difficulties of starting up a business; highly bureaucratic tender process; delay of payment and inadequate accessibility to financial services.

The following are factors that could influence the development of small sized contracting construction organisations and are listed below.

- vi. Please indicate where applicable under the headings: Very Critical; Critical; Fairly Critical or Not Critical by ticking [✓] one box only**

No	Factors influencing the development of small sized contracting construction organizations	Very Critical	Critical	Fairly Critical	Not Critical
1	Organising and planning.				
2	Job cost control.				
3	Quality control.				
4	Risk management.				
5	Good record keeping.				
6	Control of cash flow.				
7	Capital/financial strength.				
8	Country’s economical condition.				
9	Profit margin.				
10	Timely payment of bills.				
11	Low interest rates.				
12	Leadership.				
13	Experience.				
14	Communication skills.				
15	Honesty.				
16	Education level.				
17	Political connections.				
18	Client satisfaction.				
19	Use of good quality materials.				
20	Teamwork and harmony.				

No	Factors influencing the development of small sized contracting construction organizations	Very Critical	Critical	Fairly Critical	Not Critical
21	Completion of job on time.				
22	Qualified consultants.				
23	Qualified personnel				
24	Good sub-contractors				
25	Company image.				
26	Good advertisement.				
27	Competitive pricing.				
28	Fair pricing.				
29	Sales offers.				
30	Innovative products				
31	E-marketing.				
32	Company experience in the market.				
33	Determine public needs.				
34	Level of competition.				
35	Follow and adopt new technologies				
36	Qualified technical staff.				
37	Usage of software programmes.				
38	Have a web-site.				

vii. Given the critical success factors (CSFs) listed on the question numbers 1-38 of the above questionnaire kindly indicate below the five most critical that have affected the development of your organization **within the last 5 years** (since 2008), with 1 being the most critical.

1. _____:
2. _____:
3. _____:
4. _____:
5. _____:

viii. Given your experience of the industry now, and your current job title, think of how your job/role may change in the **next five years**. What is likely to be the five most critical success factors that will impact on the development of your organization **by 2018**, with 1 being the most critical?

1. _____:
2. _____:
3. _____:
4. _____:
5. _____:

If you have any comments concerning the contents of this questionnaire or wish to express an opinion regarding a related topic then you are welcome to do so in the space provided below.

Thank you very much for taking part in this survey. We anticipate that, with your help, the results will assist greatly in the academic research programme. If you would like to participate further in a telephone interview in connection with the above project please indicate below where your contribution would be of the utmost appreciation.

Name:

Contact Details:

The information contained within the survey questionnaire on critical success factors affecting the development of small sized construction contracting organisations (SCCOs) was used to provide the University of Salford's Bristol on-line survey and was sent out to all UK based 204 micro/small sized CBCs. On completion of the survey the link to the University's site <http://www.survey.bris.ac.uk/salford/scco> was closed.

Introductory letter sent for prospective CBC interviewees.

Robert Ozols
7 Penrith Avenue
Heysham
Morecambe and Heysham
Lancashire
LA3 2DJ

Dear Sir

Success factors for Small Sized Construction Contracting Organisations

Success factors for Small Sized Construction Contracting Organisations (SCCOs) are the subject of an ongoing study by Robert Ozols culminating towards a Doctorate in the Built Environment. Chartered Building Companies have been selected to contribute to this study for their stature and professionalism held within the Construction Industry.

The results of this survey should be of benefit to organisations such as yours to guide and influence decisions made or adopted to make business more successful. However to aid the research programme your support is most important.

A questionnaire is attached, via the link, <http://www.survey.bris.ac.uk/salford/scco> which should only take a few minutes of your time, and request that completion is finalised within two weeks of receipt. The questionnaire will automatically continue as the answers are entered. Please be assured that both your identity and that of the organisation you work for shall remain strictly confidential. Dependant on the size of your company the questionnaire may be distributed to a maximum of three key personnel but completed questionnaires would be gratefully received by either one, two or three people within your organisation.

Your assistance and co-operation in this research questionnaire will be most welcome and gratefully received, should you like a summary of the survey results, free of charge, please indicate on the questionnaire.

Yours sincerely

R. Ozols
Researcher

Follow-up letter were sent where responses were not received. The first of these letters was sent approx. 2 weeks after the introductory letter.

Robert Ozols
7 Penrith Avenue
Heysham
Morecambe and Heysham
Lancashire
LA3 2DJ

Dear Sir

Success factors for Small Sized Construction Contracting Organisations

About two weeks ago, a questionnaire was sent seeking your assistance and asking for information concerning the Success factors for Small Sized Construction Contracting Organisations (SCCOs) but as yet the results have not yet been received.

Appreciation is recognised of how difficult it is for busy managers to take the time out in order to fill a questionnaire of this nature. However, the information which is provided is essential for the research programme.

The results of this survey should be of benefit to organisations such as yours to guide and influence decisions made or adopted to make business more successful. However to aid the research programme your support is most important.

Therefore, please accept a further request for your co-operation and valued assistance in completing and returning the questionnaire via the attached link, <http://www.survey.bris.ac.uk/salford/scco>

Your assistance and co-operation in this research questionnaire will be most welcome and gratefully received, should you like a summary of the survey results, free of charge, please indicate on the last page of the questionnaire.

Yours sincerely

R. Ozols
Researcher

The second reminder letter was then sent after approx. 4 weeks after the introductory letter.

Robert Ozols
7 Penrith Avenue
Heysham
Morecambe and Heysham
Lancashire
LA3 2DJ

Dear Sir

Success factors for Small Sized Construction Contracting Organisations

About four weeks ago, a questionnaire was sent seeking your assistance and asking for information concerning the Success factors for Small Sized Construction Contracting Organisations (SCCOs) but as yet the results have not yet been received.

In the circumstances that the opportunity to complete the questionnaire has been missed a further copy of the original request has been attached to the email and second copy of the questionnaire has been added via the link <http://www.survey.bris.ac.uk/salford/scco>

Appreciation is recognised of how difficult it is for busy managers to take the time out in order to fill a questionnaire of this nature. However, the information which is provided is essential for the research programme.

The results of this survey should be of benefit to organisations such as yours to guide and influence decisions made or adopted to make business more successful. However to aid the research programme your support is most important.

Therefore, please accept a further request for your co-operation and valued assistance in completing and returning the questionnaire via the attached link.

Your assistance and co-operation in this research questionnaire will be most welcome and gratefully received, should you like a summary of the survey results, free of charge, please indicate on the last page of the questionnaire.

Yours sincerely

R. Ozols
Researcher

Appendix 2: Questions For Interview – Qualitative Research

The qualitative research questionnaire was conducted by telephone interviews and the questions were based on a pre-determined questionnaire as detailed below.

INTERVIEW SCHEDULE

Name of Interviewee:

Position/Title of Interviewee:

Date of Interview:

Start Time of Interview:

Finish Time of Interview:

Place /Location of Interview:

1. CONTROL OF CASH FLOW

Research objective being addressed:

- E. Evaluate the factors affecting the SCCOs against the factors uncovered in (A) and (B) to evaluate the emergent critical success factors (CSFs) found to influence the development of small sized construction contracting organisations (SCCOs).

Question

In your view, what key techniques/technologies are in place (and as part of what you use in the business) to determine how the business controls cash flow?

In your view, why are these key techniques/technologies in place to impact on the control of cash flow?

How exactly does this make a difference?

(Please, feel free to use any examples readily available to you to provide additional information on this)

In your view, what are the key processes in place (and as part of what you use in the business) that impact on cash flow, and why?

How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

In your view, what are the key people issues in place (and as part of what you use in the business) that impact on the control of cash flow, and why?

How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

2. ORGANISING AND PLANNING

Research objective being addressed:

- C. Evaluate the factors affecting the SCCOs against the factors uncovered in (A) and (B) to evaluate the emergent critical success factors (CSFs) found to influence the development of small sized construction contracting organisations (SCCOs).

Question

In your view, what key techniques/technologies are in place (and as part of what you use in the business) to determine how managers implement organising and planning?

In your view, why are these key techniques/technologies in place that impact on the control of organising and planning?

How exactly does this make a difference?

(Please, feel free to use any examples readily available to you to provide additional information on this)

In your view, what are the key processes in place (and as part of what you use in the business) that impact on the implementation of organising and planning, and why?

How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

In your view, what are the key people issues in place (and as part of what you use in the business) that impact on the implementation of organising and planning, and why?

How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

3. JOB COST CONTROL

Research objective being addressed:

- F. Critically analyse relevant literature to develop an initial conceptual framework of factors thought to influence the development of small sized construction contracting organisations;

Question

In your view, what key techniques/technologies are in place (and as part of what you use in the business) to determine how the business controls job costs?

In your view, why are these key techniques/technologies in place that impact on job costs?

How exactly does this make a difference?

(Please, feel free to use any examples readily available to you to provide additional information on this)

In your view, what are the key processes in place (and as part of what you use in the business) that impact on job costs, and why?

How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

In your view, what are the key people issues in place (and as part of what you use in the business) that impact on job costs, and why?

How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

4. CLIENT SATISFACTION

Research objective being addressed:

G. Rigorously analyse primary data on critical success factors thought to influence the development of small sized construction contracting organisations (SCCOs);

Question

- In your view, what key techniques/technologies are in place (and as part of what you use in the business) to determine how the business achieves client satisfaction?
- In your view, why are these key techniques/technologies in place that impact on client satisfaction?
- How exactly does this make a difference?
- (Please, feel free to use any examples readily available to you to provide additional information on this)
- In your view, what are the key processes in place (and as part of what you use in the business) that impact on client satisfaction, and why?
- How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)
- In your view, what are the key people issues in place (and as part of what you use in the business) that impact on client satisfaction, and why?
- How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

5. SUCCESS FACTORS

Research objective being addressed:

Develop and validate a framework for improved success of small sized construction contracting organisation (SCCOs).

Question

- In your view, and by drawing on your experiences in your current organisation or one with which you are familiar, what would you say are the Critical factors that influence the success of SSCO?
- In your view why are these factors impacting on success of SSCO? (Please, feel free to use any examples readily available to you to provide additional information on this)
- In your view, what key techniques/technologies are in place (and as part of what you use in the business) to determine how the business monitors success?
- In your view, why are these key techniques/technologies in place that impact on success?
- How exactly does this make a difference?
- (Please, feel free to use any examples readily available to you to provide additional information on this)
- In your view, what are the key processes in place (and as part of what you use in the business) that impact on success, and why?
- How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

- In your view, what are the key people issues in place (and as part of what you use in the business) that impact on success, and why?
- How exactly does this make a difference? (Please, feel free to use any examples readily available to you to provide additional information on this)

Appendix 3: Validation Questionnaire

University of Salford
Doctorate in the Built Environment
Robert Ozols

Postal/email questionnaire

Ref.

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**SURVEY QUESTIONNAIRE TO VALIDATE CONCEPTUAL FRAMEWORK TO
DETERMINE CRITICAL SUCCESS FACTORS AFFECTING THE
DEVELOPMENT OF SMALL SIZED CONSTRUCTION CONTRACTING
ORGANISATIONS (SCCOs)**

Return Address
R. Ozols
7 Penrith Avenue
Heysham
Lancashire
LA3 2DJ
Telephone 01524 853388
Email robertozolsltd@yahoo.com

Notes about the questionnaire

As is the case with many questionnaire surveys, there may be some questions which appear irrelevant or impertinent. However, it is necessary in this study that all questions are answered; as the questionnaire is designed to achieve particular research objectives, and it is hoped not to offend respondents in any way. If there are any questions which you are unwilling or unable to answer, then it is our wish that you continue to answer the remainder of the questionnaire.

Remember that both your identity and that of the company you work for will remain strictly confidential.

General Information: Factors influencing the development of small sized contracting construction organisations.

Your views are sought to validate the conceptual framework which included the ten most important “Critical Success Factors” identified from a previous questionnaire.

Validation Questions

1. In your view, did you find the framework to be relevant?
2. In your view, did you find the framework to be useful?
3. In your view, did you find the framework to be adaptable?
4. In your view, does the framework challenge the business strategy activity of the organisation?
5. In your view, does the framework challenge the human resource strategy of the organisation?
6. In your view, does the framework challenge the organisational culture and structure of the organisation?
7. Could you offer any suggestions for improvement to the framework?

Thank you very much for taking part in this survey. We anticipate that, with your help, the results will assist greatly in the academic research programme.

Name:

Contact: