ESTABLISHING THE CONDITIONS FOR THE IMPLEMENTATION OF THE BRITISH STANDARD FOR COLLABORATIVE BUSINESS RELATIONSHIPS (BS11000) WITHIN THE FACILITIES MANAGEMENT INDUSTRY

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A thesis submitted in partial fulfilment of the requirements of Liverpool John Moores University for the degree of Master of Philosophy

May 2014

This thesis was completed as part of the Masters of Philosophy in Facilities Management at Liverpool John Moores University. This is my own unaided work. Where the work of others has been used or drawn on then it has been fully attributed to the relevant source.

Signed: Mohd Nazali Mohd Noor

Date: 4th of May 2014

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Acknowledgements

I would like to take this chance to express my sincere gratitude and appreciation towards everyone who has helped make my thesis possible. Firstly, I would like to thank my fantastic director of studies, Dr Matthew Tucker, who constantly provided excellent support and guidance throughout the process. I would also like to thank everyone at BIFM and experts in BS 11000 who participated in my research, without them my investigation would not have been possible. Finally, I would like to show my gratitude towards my family especially my wife Ainon Abdullah and my five wonderful children Najwa, Najman, Najmi, Adam, Awwab and friends for putting up with, and appearing interested in constant conversations about my MPhil research.

Abstract

Facilities Management (FM) is focused on people, relationships and partnerships. Up until recently however, there has not been a formal framework that addresses the importance of collaborative business partnerships. In October 2010, British Standards developed the first framework for collaborative business partnerships (BS11000). Although this is novel and crucial for sustaining long-term business collaboration, BS11000 presents a number of challenges for the FM industry. This study introduces a fresh research design by establishing the conditions needed through exploration of the viability, effectiveness and potential of the newly introduced British Standard for Collaborative Business Partnership (BS11000) into the UK FM industry. This research adopts a sequential explanatory mixed methods strategy combining quantitative data through survey research in the first stage of the study and followed by qualitative data collected through in-depth semi-structured interviews and analysed using computer aided qualitative data analysis software. The findings of the research establish six critical success factors needed to effectively implement the British Standard for Collaborative Business Partnerships (BS11000) within the facilities management (FM) industry by evaluating perceptions of prominent FM stakeholders across the UK FM industry. The six conditions identified are (1) Understand the business motive and the position of FM in an organisation (2) Streamlining contractual issues prior venturing into collaboration (3)Identify common personality and culture to foster alliances (4) Assessment of organisational structure (5) Define organisation priorities and (6) Promote BS 11000 to increase awareness level and benefits of adopting the framework.

Keywords: BS 11000, Collaboration, Facilities Management, and Innovation.

Chapter 1

Introduction

Facilities Management (FM) is focused on people, relationships and partnerships. Up until recently however, there has not been a formal framework that addresses the importance of collaborative business partnerships. In October 2010, British Standards developed the first framework for collaborative business partnerships (BS11000). Although this is novel and crucial for sustaining long term business collaboration, BS11000 presents a number of challenges for the FM industry.

This research introduces a fresh research project that aims to establish the conditions needed to implement BS11000 in the FM industry through the exploration of the viability, effectiveness and potential of Standard.

Firstly, the chapter provides a brief literature review exploring the background to collaborative partnerships, introduction of BS11000, and the challenges facing the FM industry. The chapter then identifies the key research problems and how this proposed research will develop a novel approach to addressing these issues and create a significant contribution to knowledge in the area of collaborative innovation in FM. This is achieved by outlining the key research aims and objectives of this study, followed by the methodological approach taken.

1.1 Background into collaborative partnerships

Over the last few decades, there has been a significant shift in the way organisations approach buyer seller relationships. Recent years have seen an increased interest in buyer-supplier partnerships, which tend to be longer term, on-going relationships involving a mutual exchange of ideas, information, and benefits (Ellram, 1995). As market places have become more dynamic and competitive, earlier recommendations of arm's length relationships with suppliers to avoid dependency and keep prices

down have been replaced by an emphasis on the benefits that can be gained from close relationships. The same kind of transition seems also to be on-going in the procurement of FM services.

Traditionally, relationships between facility service providers and clients have been based on the adversarial approach (Atkin and Brookes, 2000). Services have been purchased separately for single sites and price has been the determining factor in choosing a service provider. As companies continue to outsource non-critical activities and to reduce and trim their supplier bases, existing outsourcing contracts have been expanded, and on the other hand, also strategically more important services have been outsourced (Loosemore and Hsin, 2001). As a consequence, the need to develop relationships based on a more collaborative approach has arisen. Normally, inter-firm collaborations contribute to value creation through several sources, including scale economies, the effective management of risk, cost efficient market entries and learning from partners. In addition, partnerships help firms to minimise transaction costs, cope with uncertain environments, reduce their dependence on resources outside their control, successfully reposition themselves in dynamic markets, share fixed costs, enhance their own core competencies, and acquire access to complementary competencies (e.g. Nooteboom *et al.* (1997), Ireland, Hitt *et al.* (2002)).

The partnership drivers fall into four categories – asset and cost efficiency, customer service enhancement, marketing advantages, and profit growth or stability (Lambert and Knemeyer (2004), Miettinen *et al.,* (2004) found in their study that in the FM service context, a partnership approach is chosen when the strategic importance of a service is high for the client's or end-user's business, the service to be purchased is complex, there is a need to share sensitive and strategic information or the purchasing volume is high. To increase the purchasing volume, clients are currently forming wider service packets by purchasing services regionally for more than one building at a time and moving from the adversarial to the collaborative approach in managing their relationships with service providers. These decisions are a consequence of problems and costs related to the management of wide service provider bases using the adversarial approach. By bundling services or sites regionally, benefits are to be gained through the economies of scale.

Thus, cost advantages are created, which service providers can convert into corresponding lower prices or higher service levels, novel technologies or innovative structures and procedures (Meneghetti and Chinese, 2002). By reducing and trimming their service provider bases clients are also trying to trim their FM organisation and change the job description of in-house FM staff from routine purchasing tasks to more strategic tasks including the creation and managing of external and internal relationships, which support the overall goals of the company (Kadefors and Bröchner, 2004). As a result of the re-structuring of buying organisations and supplier bases, a wide variety of different relationship forms has emerged. When giving guidelines to selecting relationship type, usually only partnership sourcing and competition are discussed as discrete categories (Macbeth 1994). However, even casual observation of actual supply relationships reveals that there are different forms of partnership sourcing (e.g. from operational to strategic forms) and different forms of competition (e.g. very short-term contracting to long-term competitive contracting (Parker and Hartley, 2003). Operational partnering refers to working with several suppliers and focusing mainly on the certainty element of the relationship and process elements. The relationship between organisations is strategic when a firm perceives that it needs the relationship in order to be competitive in the industry and that if the partner goes out of business, the firm would have to change its competitive strategy (Johnson, 1999). Based on discussion above and the authors' prior qualitative studies it seems that the FM partnerships are by nature more operational than strategic.

The current business sphere, which involves a highly competitive market in addition to the call for better facilities and asset management practice, necessitates FM service providers to have a practical strategy towards its business objectives and routine operation. All employees and suppliers need to be widely educated on these strategies. For example, the application of supply chain management (SCM) through application of collaborative innovation framework throughout the entire supply chain is seen as a breakthrough in fostering win-win alliances between the demand and the supply of FM services. Nelson (2004) attempted to conceptualize collaborative innovation framework for the FM services by formulating 'integrate to innovate' (i2i) model. Nelson attempts provides fresh ideas and perspectives into uplifting the

practice of FM collaboration at the same time significantly contribute to the existing body of FM knowledge by robustly testing, validating and adapting a framework that was being limitedly being applied only in the construction industry into the a new remit of FM industry. In 2011, the inception of BS 11000 as the world's first national standards for collaborative business management intends to elevate supplier relationship and collaborative working in the SCM. This framework called for effective partnering based on interdependent and complimentary alliances.

1.2 Introduction of BS11000

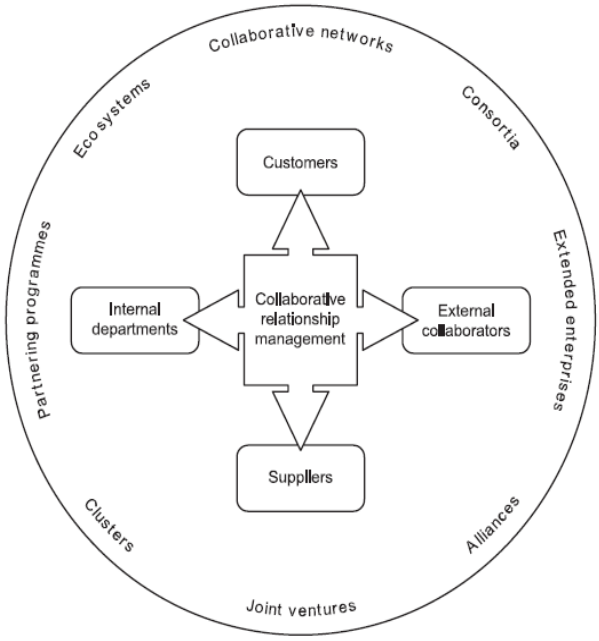
In October 2010, the inception of BS 11000 as the world's first national standards for collaborative business management intends to elevate supplier relationship and collaborative working in the SCM (BSI 2010). This framework that supersedes PAS 11000:2006 called for effective partnering based on interdependent and complimentary alliances. The standard was created following the Confederation of British Industry (CBI) produced report 'The Shape of Business – The Next 10 Years' which outlined its suggestion that the current economic downturn could act as a catalyst for a 'new era', which could allow for the emergence of increased flexibility in the workforce, improvements in accountability, new financing options, and collaborative working driving together to rejuvenate UK business (FMWorld, 2010).

Within the BS 11000, eight key areas of business collaboration are outlined which aim to break down the areas on which organisations should focus in order to bring together successful collaboration, these being:

- Awareness
- Knowledge
- Internal assessment
- Partner selection
- Working together
- Value creation
- Staying together
- Exit strategy

The standard is aimed to be used by all types of organisations, involved in many differing industries. Figure 1 highlighted fundamental elements of multidimensional relationships in BS 11000.

Figure 1: Multidimensional relationships



Source: BSI (2010)

1.3 The FM Industry

Facilities Management (FM) can be summarised as creating an environment that is cohesive to carry out an organisation's primary operations, taking an integrated view of the infrastructure services and use it to give customer satisfaction and value for money through support for an enhancement of the core business (Noor and Pitt, 2009). However, since FM has been identified as a multi-disciplinary area of development and opportunity, it has resisted a universal definition (Nutt ,1999).

FM is one of the fastest-growing professions in the UK and was one of the main cost-cutting initiatives during the 1970s when outsourcing of services became popular. In

the 1980s FM set it marks by getting its professional recognition within the construction industry (Tay and Ooi, 2001). Since then, significant efforts to define FM within the UK market have evolved and FM is now regarded as a prominent profession in this market.

Effective FM fully integrated into the business environment occurs by tying it all together through workplace continuity (Gill, 2006). The need for an innovative approach to service provision has never been intense as FM innovation acts as an enabler by adding value to the organisation (Goyal and Pitt, 2007). Cardellino and Finch (2006) suggest that a reduction in cost of the service is not the main pressure to innovate. The need for FM organisation to differentiate itself from competitors in terms of culture, strategy and through quality of service is the recurring pressure. This is achieved primarily through responding to specific client needs. This helps to nurture a long-lasting relationship between the client and the service provider

1.4 Challenges of implementing BS11000 to FM

The BS 11000 standard was officially introduced in late 2010. Being a generic agenda that suits all businesses, the inception of the framework received positive remarks across the UK. However there is limited study undertaken on the application process of the framework across all industries.

The awareness and acceptance of the newly introduced BS 11000 within UK FM market is not being tested. Therefore, it will be interesting to look at the FM stakeholders' reactions on how will the BS11000 collaborative framework be adapted and adopted in the mature market such as in the UK.

In addition, the publication of BS 11000 is positioned as the world's first national standard for collaborative business relationships (FMWorld, 2011). This poses a critical research question around whether the adoption of the standards to the FM industry will require any modification, taking the fact of diversity in culture and how businesses operate? Moreover, what will be the key factors needed to successfully implement the standard within businesses working within the FM industry?

1.5 Research questions, aim and objectives

Following an extensive literature review, the study identifies key research problems, aim and objectives with proposed research. Based on the apparent challenges identified above, the following research questions are posed:

1. What is collaboration in the FM supply chain?
2. How the BS11000 framework can be applied?
3. How relevant is the BS11000 framework in the FM industry?
4. What are the potentials, constraints and barriers for the BS 11000 framework to be applied in the UK?

To answer these research questions, the following aim was devised:

To establish the conditions needed to effectively implement the British Standard for Collaborative Business Partnerships (BS11000) within the facilities management (FM) industry.

The following objectives were then set to operationally investigate the above aim:

- **To investigate the state of collaboration within the stakeholders in the FM supply chain**
- **To examine the effectiveness of the BS 11000 framework as a tool for collaborative business relationships**
- **To investigate the viability and practical application of BS 11000 framework to be applied to the UK FM market**
- **To establish the conditions needed for implementing BS11000 in FM**

This research espouses a pragmatic research paradigm as philosophical worldview or guidance. The study embraces sequential explanatory mixed methods research that would not only improve and shape FM practices but also guiding new practices in the country.

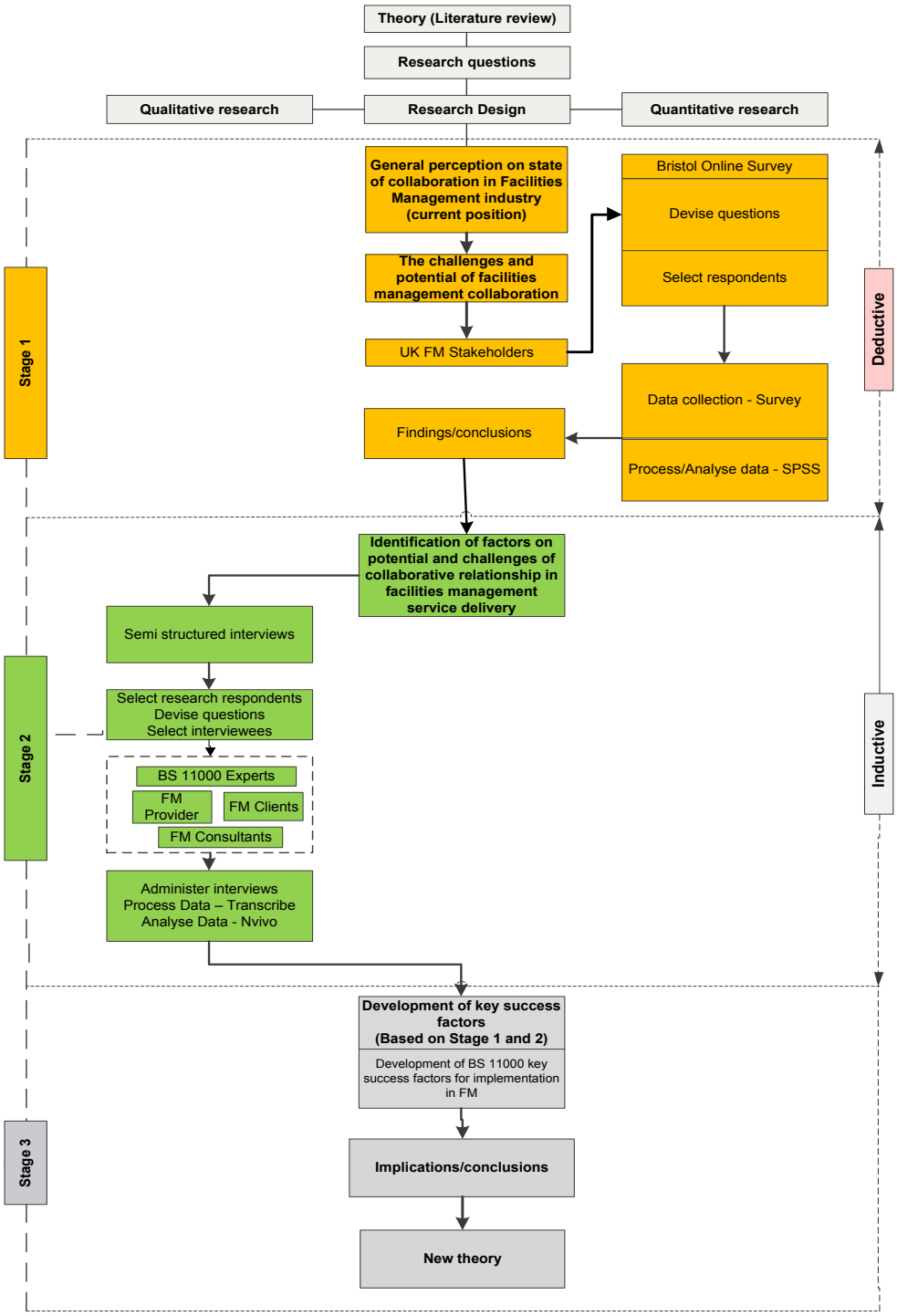
In undertaking this research, mixed-method design is defined as one that includes at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words), where neither type of method is inherently linked to any particular paradigm (Greene, Caracelli *et al.,* 1989). Since the research is not intended to investigate a same phenomenon, the theoretical base of mixed-method capitalise the context of multiplism rather than triangulation (Cook 1985, Greene *et al*., 1989). Cook (1985) as cited in Green *et al.* (1989) opines that multiplism emphasises enhanced validity via convergence of results from multiple methods, theoretical orientations, and political or value perspectives. He also acknowledges that the results of multiple methods may serve more complementary than convergent purposes, as when different methods are used for different components of a multitask study.

Mark and Shotland (1987) support Cook (1985) multiplism and term this method as complementarity mixed-method research design in which different methods are used to assess different study components of phenomena. In addition this method will also use to assess the plausibility of identified threats to validity, or to enhance the interpretability of assessments of a single phenomenon – for example, via broader content coverage or alternate level of analysis. In the complementarity mixed method study, qualitative and quantitative methods are used to measure overlapping but also different facets of a phenomenon, yielding an enriched, elaborate understanding of that phenomenon.

Since the study undertakes several complementary phenomenon's, the explanatory sequential design methodology is best suited to the research (Creswell and Clark, 2011). This is because this research design occurs in two distinct interactive phases. It is not intended to measure the same phenomenon at the same time but rather to use the findings of one methodology to identify the issues to be addressed in the subsequent evaluation. In this instances the initial research lead it first phase by broad survey on collaboration themes within facilities management practices in the UK whilst subsequent qualitative phase is undertaken from the result obtained in the first quantitative stage. At the later phase, more refined inputs are solicited via in-depth interviews to explain the rationale of collaboration in facilities management

practice particularly on the potential application of the BS11000 in the facilities management industry. Figure 2 illustrates the mixed-method research methodology adopted or the study undertaken.

Figure 2: Proposed mix-methods research for the study



Source: Self-study

1.6 Need for the study and research novelty

Businesses are yet to acknowledge the utmost potential that FM innovation can contribute towards the sustainability of a business entity. This is due to the complexity that exists in embedding innovation concept in service related industry. This research will aid the FM practitioners to embrace innovation in delivering exceptional FM services and seek for opportunity that exists in ever changing business patterns.

Collaborative innovation approach in SCM on the other hand, is well accepted in product and manufacturing sector and proven as a powerful approach that bring numerous benefits and values to the entire supply chain (Walters and Rainbird, 2007). Nelson (2004) highlighted that service specification, process management, use of technologies, consolidation or rationalisation of the supply chain, defining FM requirements, flexibility of contractors, selection of service providers, staff turnover and process alignment are the most important SCM issues in FM. Among the indicated issues, consolidation and rationalisation is proved to be the most popular in FM SCM. This research aims not only to address these issues as highlighted in Nelson (2004) study but also to empirically test the potential application of the first national standard of business collaboration to be applied as an added strategic value to the UK FM market as a benchmarking tool for FM collaboration.

This paradigm leap will not only uplift the role of FM in overall organisation, it will also enable FM to discover its fullest potential in blending the FM innovative agenda with the overall innovation strategy in an establishment. By that virtue, this research is instrumentally important in providing a fresh approach that provides a way for organisations in the UK to adopt and apply such generic measures within their own strategic frameworks.

1.7 Value of the Research

Phillips and Pugh (2005) demonstrate fifteen definitions of originality in a thesis. This research intends to emulate some of the definitions as highlighted in Table 1 as follows.

Table 1: Originality of the study

	Criteria of Originality	How is the criteria being adapted in this research
1	Continuing a previously original piece of work	This research undertakes suggestions made in (Goyal 2007) and (Nelson 2004) PhD thesis. The former focuses on the role of innovation management in FM, the latter apply the principle of innovation management in FM SCM through the application of i2i SCM model. While both researchers study the two principles in isolation, this research combines and correlates both researchers' findings and suggestions and resume this as part of the research objectives.
2	Showing originality in testing somebody else's idea	
3	Carrying out empirical work that hasn't been done before	Study on the potential and practical application of BS 11000 as the first national standards for business collaboration as value added tools for the UK market is very limited. This explanatory research is set to empirically unveil the viability of the standards through quantitative analysis based on survey conducted to the relevant FM stakeholders in the UK.
4	Making a synthesis that hasn't been made before	
5	Using already known material but with a new interpretation	This research critically and holistically reviewed a generic British Standards towards its applicability to FM which is a new business that will further provide a fresh input of business collaborations particularly in the service sector.
6	Taking a particular technique and applying it in a new area	By adopting pragmatism research paradigm and sequential explanatory mixed methodology research design, the researcher is addressing the real FM

		issues most effective approach. The choice of methodology, techniques and procedures selected are based on what is the best approach to understand the research problems and provide the effective and practical solutions in meeting the research objectives.
7	Looking at areas that people in the discipline haven't looked at before	This research not only increase the awareness of FM stakeholders of the potential of the standards could offer as an effective business tool but also contributes to existing body of knowledge by providing holistic and robust knowledge on the practical application of BS 11000 for the UK FM industry.
8	Adding to knowledge in a way that hasn't been done before	
9	Setting down a major piece of new information in writing for the first time	

Source: Self study adapted from (Phillips and Pugh, 2005)

1.8 Contribution to knowledge

Based on the original research problem, a substantial literature review has substantiated the significance of innovation and collaboration in generic business scene. Embracing innovation is seen as the way to move forward in the highly competitive business agenda. Fundamentals of innovation management are even critical to a service sector like FM industry. Collaboration is a form of innovation and the need for FM stakeholders to collaborate innovatively is becoming critical due to market pressures and wide cost reduction exercise. Collaboration is high on the innovation agenda right now - working together with supply chain and clients to provide the best service possible and to get value for money. At present the perception of FM stakeholders in embracing collaborative innovation tools like the BS 11000 is yet to be gauged. This study provides fresh knowledge on the impact of the standard has to offer to the UK FM industry.

The later part of the study focuses on collaborative innovation within the FM supply chain as the main thrust of the research. The application of SCM principles in FM is relatively new even in a mature market like the UK as explained by Nelson (2004)

and FM is yet to capitalise the utmost potential and benefits of the application of SCM principles. The research is fresh, as it would contribute towards a systematic approach in assessing FM supplier relationship that can be generically used by FM service provider in delivering effective FM services that can significantly add value to the entire supply chain of the FM sector.

Overall, this study sets its foundation by not only limiting its contribution to knowledge towards academic impetus and justifies its originality based on criterions as indicated by Phillips and Pugh (2004), but also feeding into the closing the gap in the lack of research within innovation in FM. Hence it is also enables a much-needed practical application within the FM industry in the UK market.

1.9 Structure of the Thesis

Chapter 1 is the introduction that sets the foundation for the subsequent discussions of the study. Hence, the context of this chapter focuses on the background of the research that leads to the formulation of research problems, research questions, aim and objectives, research scope, need of the study and research novelty, outline of theoretical framework and research methodology, value of the study or research contribution to existing body of knowledge and finally the thesis structure.

Chapter 2 discusses FM holistically by exploring its definitions, scopes and responsibilities and evolution of FM as a profession. In this section, FM procurement routes, related regulation and professional organisations that governing the FM practice are also highlighted. In tandem, this chapter also compares and contrasts FM to several built environment dominants such as assets management, property and maintenance management.

Chapter 3 discusses Supply Chain Management (SCM) within the FM context, Procurement, Partnering, Collaboration, Business Relationships and BS 11000 – Underpins all theories. Differentiation of product as compared to service supply chain; strategic, tactical and operational of SCM. Discussions on partnering and collaboration related theories within the context of innovation and SCM are explored

further since this element is identified as one of the critical component in FM service delivery. The latter part of this chapter emphasises on combining both principles where innovation in the SCM is explored. The BS 11000 on collaborative business relationships is identified as the most suitable model to emulate collaborative innovation in FM SCM. This principles and related theories underpins collaboration are explored rigorously which forms the basis for the research.

Chapter 4 explores innovation in FM. It contextualises innovation management as the thrust to the research. It reviews innovation and SCM in a generic business environment and focuses how innovation and SCM principles are embraced in FM service delivery. Deliberations on relevant innovation and SCM models are also critically assessed.

Chapter 5 provides the research methodology for the study. It discusses the key research paradigms and philosophical position of the study. It provides the overall research design and the adoption of the sequential explanatory mixed methods strategy. A diagrammatic representation that summarises the methodology approaches adopted for the research is used at the end of the chapter.

Chapter 6 and Chapter 7 present the analysis and findings. These chapters report both findings via sequential explanatory research methodology. In the first stage (chapter 6) quantitative analysis will centrally focus on descriptive findings through frequency and central tendency analysis to assess the level of collaboration within FM in general. These findings will feed the themes for the subsequent qualitative analysis stage (chapter 7) from the semi-structured interviews undertaken where more in-depth data will be analysed using Nvivo. This chapter looks in much more depth at the key issues surrounding the implementation of BS 11000 within FM.

Chapter 8 then provides the conclusions and recommendations arising from the research undertaken. This chapter focuses on discussions and findings of the research and sums up the outcome of the study by revisiting the achievement the aim and objectives whist highlighting the limitations and suggesting potential follow up studies that could be undertaken in the future.

Finally, chapter 9 provides a comprehensive reference list of the sources used within the study, whilst the remainder of the document provides key appendices that supplement particular aspects of the study and are referenced where necessary.

Chapter 2

Facilities management (FM)

The last three decades demonstrated that FM is successful as a key service sector, with diverse and highly competitive markets of FM contractors, in-house FM teams, FM suppliers, FM consultants and professional FM institutions. Given the high levels of competitiveness, innovation is instrumental in differentiating players in the market. Despite FM being 'portrayed with a lacklustre image in relation to innovation', recent high profile events such as the British Institute of Facilities Management annual awards for innovation reflect a growing recognition on innovation in the sector. This chapter reviews related literature on FM and the role of FM within business contexts.

2.1 Definition of FM

Facilities management is one of the fastest-growing professions in the UK and was one of the main cost-cutting initiatives during the 1970's when outsourcing of services became popular. The discipline is still in its infancy and its related duties are fragmented with limited knowledge on the subject. Facilities managers are generally known to be responsible for buildings and services that support businesses and organisations. This view does not comprise the holistic FM perspectives in the corporate world. Effective FM encompasses multiple activities under various disciplines, combines resources, and is vital to the success of any organisation. FM ranges from corporate level, in which it contributes to the delivery of strategic and operational objectives on day-to-day basis. It seeks to harmonise and provide a safe and efficient working environment. To appreciate FM in a business context, it is important to establish the definition of FM. Nonetheless Drion *et al* (2012) critiqued that the debate over the nature, scope and definition of facilities management and its implication of FM practice are primarily due to lack of leadership in the professional

and academic communities about the centric nature and necessity of FM profession within its operational imperatives.

Several professional institutions across the world attempt to find a suitable uniform definition of FM despite diverse role and responsibilities that shape the FM industry. International Facilities Management Association (IFMA) defines FM as a profession in integrating 'people, process, place and technology' in an organisation. This classic definition has been widely accepted by FM industry globally (IFMA, 2012). The British Institute of Facilities Management (BIFM) like other countries within the European Union defines FM as the integration of processes within an organisation to maintain and develop the agreed services that support and improve the effectiveness of its primary activities. This common FM definition is provided by the European Committee for Standardisation that produces European facility management definition via EN15221-1:2006 – Part 1: Terms and definitions. This definition is agreed by representatives from 15 countries across European countries centrally focussed on two main headings of FM namely; space and infrastructure and people and organisation (EuroFM, 2012, and EuroFM, 2014). EuroFM further shaped the landscape of FM practices by encouraging FM stakeholders to embark on sustainability agenda by spearheading the future of FM in a project call the next generation of FM which focuses on promoting the role of FM in transforming and contributing to the European knowledge economy.

In March 2014 The Royal Institute of Chartered Surveyors (RICS) produces pathway guide of assessment of professional competence for FM to certify and acknowledged professional qualification of FM practices. The guideline define FM as the total management of all services that support the core business of an organisation where FM discipline ensures that all different sectors of industry, building and services work as efficiently as possible where its' professionals have huge impact in reducing operating costs while generating huge positive impact to an organisation (RICS, 2014).

Other institutions like Chartered Institute of Building (CIOB) and Chartered Institute of Building Services Engineer (CIBSE) have also started to view and recognise the versatility of FM professions in the built environment. With changes in the traditional

property development route and inception of private finance initiatives (PFI) projects, the roles of construction managers have emerged from typical construction manager into facilities managers upon completion of constructions projects where they have now need to manage the completed buildings and facilities throughout the project concession period of sometimes up to 15 to 25 years.

While the former discussion focuses on defining FM within the institutional perspectives, it is also fundamental to view FM by looking at the role of FM in a business agenda and the delivery of FM services within an organisation. Pitt and Hinks (2001) suggest that FM is often seen as a management of cost-efficiency rather than a method to achieve multi-dimensional enhancement of business competitiveness. Many still view FM in collective term, which lumps together all building facilities and services within the organisation. It becomes a non-core department, supporting services that do not fit well into other core areas of a business. However, this view fails to recognise the value that FM can bring towards organisational effectiveness through the management of services, the improvement of services and more importantly the innovation that can be brought about by improving the management of services.

Numerous definitions of FM have risen in recent years. However, many of these definitions provide widespread variance on the understanding of what FM is, how it operates, and to what extent it offers sustainable opportunities for businesses (Tay and Ooi, 2001). The BIFM (2010) defines FM as 'the practice of coordinating the physical workplace with the people and work of an organisation'. Despite being simple and well-focussed, this definition fails to stress on the contribution of well-managed facilities towards the prosperity of an organisation. Barret (1995) provides a more robust FM definition but restricts the FM paradigm to buildings, while neglecting the diverse nature of the FM profession.

Nevertheless, Tay and Ooi (2001) argue that the identity crisis of FM may be due to it being a relatively new discipline. While this discipline is still in the process of evolving, it is hard to generalise a universal definition of FM (Bell (1992); Nutt (1999) and Goyal (2007)). Failure in finding a sole definition of FM is evident in Tay and Ooi

(2001) when they provide a summary of various definitions given by previous individuals and organisation in searching for a common meaning of FM.

Table 2: Sample of FM definitions

Becker (1990)	FM is responsible for co-ordinating all efforts related to planning, designing and managing buildings and their systems, equipment and furniture to enhance the organisation's ability to compete successfully in a rapidly changing world.
Nourse (1990)	FM is seldom aware of the overall corporate strategic planning, and does not have a bottom-line emphasis.
Barret (1995)	An integrated approach of maintaining, improving and adapting the buildings of an organisation in order to create an environment that strongly support the primary objectives of that organisation.
NHS Estates (1996)	The practice of co-ordinating the physical workplace with the people and work of an organisation; integrates the principles of business administration, architecture, and the behavioural and engineering science.
Alexander (1999)	The scope of discipline covers all aspects of property, space, environment control, health and safety and support services.
Then (1999)	The practice of FM is concerned with the delivery of the enabling workplace environment, the optimum functional space that supports the business processes and human resources.
Hinks and McNay (1999)	Common interpretations of the FM remit: maintenance management; space management and accommodation standards; project management for new-build and alterations; the general premises management of the building stock and the administration of associated support services.
Varcoe (2000)	A focus on the management and delivery of business "outputs" of both these entities (the real estate and construction industry); namely the productive use of building assets as workplaces.
Nutt (2000)	The primary function of FM is resource management, a strategic and operational level of support. Generic types of resource

	management central to FM function are the management of financial resources, human resources, and the management of resources of information and knowledge.

Source: Tay and Ooi (2001)

As indicated in Table 2, Nourse (1990) implies that FM does not have a strategic orientation which contradicts Nutt (2000) who addresses the strategic role that FM plays in a business entity. Nourse (1990) is of the opinion that FM does not have a 'bottom-line emphasis', which is contrary to Becker (1990) views that FM can make a positive contribution by enhancing the firm's ability to compete successfully through good FM (Tay and Ooi, 2001). Other inconsistencies are apparent regarding the scope of responsibilities for facilities manager. Alexander (1999) and Then (1999) suggest that FM is concerned with many aspects such as people, process, environment and health and safety, whilst earlier definitions such as Becker (1990) suggests that FM is only concerned with what may be termed 'physical' such as building, furniture and equipment.

Despite diversities noted in finding a common meaning of FM, Tay and Ooi (2001) coined a widespread theme that threads FM identity, summarised as the following:

1. The definitions illustrate that the issues confronting FM are related to the workplace.
2. FM is applicable to all organisations since it relates to the uses of space in a workplace.
3. FM plays a supporting role in enhancing the performance of a firm.
4. An integrated approach is required in employing FM practices.

2.2 The role of FM in a business context

FM was traditionally viewed as the poor relation between real estate and construction professions highlighted by Atkin and Brookes (2000), with the term often conjuring images of maintenance plants, care-taking and cleaning. Although

aspects such as these fall under the FM category, FM is a profession requiring a wide range of skills and knowledge. Practitioners are concerned with managing the multi-disciplinary activities to optimise their impact on people and the workplace and giving its customers value for money (Goyal, 2007 and Mangano and De Marco, 2014). There are several categories of FM stakeholders in the industry. RICS (2014) in the assessment of professional competence for FM guide categorised FM into four remit of FM stakeholders which are;

1. FM consultants
2. FM providers
3. Client departments and;
4. Public sector

Wiggins (2014) reported that the value of global FM business are in the range of £4.5 to £187 billion and it is increasingly reckoned as an important industry with the inception of Private Finance Initiatives (PFI) and Real Estate Partnership schemes that focuses in managing the importance of maintenance and operating costs. In the UK alone the value of FM business is second largest to the financial sector with 3.4 million workforces employed in the industry that contributed 8% to the UK GDP.

Bell (1992) points out that facilities managers are responsible for co-ordinating and managing an extremely wide range of specialist areas including property and estates, construction and refurbishment, space management, maintenance and operations, IT, support services and, to an increasing extent, human factors. This indicates that the role of facilities manager is dynamic, as highlighted by Lunn and Stephenson (2000) that due to an ever-changing role, differences for each individual at different points make defining FM become more complex.

The primary function of FM is to resource management at the strategic and operational level of support Nutt (2000) and can be viewed at a number of levels Alexander (1996). At the lowest level there is the day-to-day support of operations that are required to keep the business functioning. This may include activities such as maintaining the boilers and the provision of coffee machines. However a facilities manager also has a key role in planning for service provision based on business

demands known as strategic level of FM. Such responsibilities may include space planning and the resource management of a complex set of building projects. These tasks involve the management of a complex set of interacting services and systems for the good of the business, and the facilities manager acts on strategic demands, developing plans in line with the corporate strategy Alexander (1996). Then (1999) argues that an integrative framework for FM must be built, creating a continuous dialogue between these two different areas of FM.

Kaya, Heywood *et al*. (2004) proposed that facilities should be strategically planned, aligned to business needs and demonstrate contribution to achieving business objectives. In addition, the interface of services within the scope of FM needs to be administered carefully to enable FM to deliver the utmost value to the business entity (Goyal and Pitt, 2007).

To understand the role of FM within a business context, it is necessary for us to review the routes of FM from its inception to-date. Why did businesses suddenly need facilities managers and what are the future roles of these professionals? Alexander (2003) suggests that FM emerged over the last couple of decades as a response to the business environment and the recession in 1980's and early 1990's. FM came to the forefront in business as companies' embraced technology, sought for a competitive edge over the single European market and recovered from a decade of hard business times. Organisations needed to trim overheads, operate more efficiently and ultimately "delight" their customers.

In the early 90's, Leaman as cited in Pitt and Hinks (2001) questioned the credentials of FM, claiming that it had not reached a professional status in its own right. This view was opposed by Alexander (2003) who claimed that there are significant shifts in the public and corporate organisations' acknowledgment towards FM contributions in the overall business performance. Presently, FM has its professional bodies such as BIFM and more notably RICS underlining Alexander (2003) suggestions that it is growing in both recognition and importance within a business environment.

Critically acclaimed as the father of FM, Becker (1990) suggests that FM is "the practice of co-ordinating the physical workplace with the people and the workings of

the organisation, integrating the principles of business administration, architecture and behavioural and engineering sciences". The emphasis on the built environment is clear. Contemporary FM does not have to simply look after the building. If it wants to be innovative and shape a business (not just support the business) FM needs to be strategic and not simply offer operational excellence and cost savings. FM must demonstrate how it can contribute as a strategic tool to business improvement, customer service, and the ability for a company to achieve the added edge over its competitors and to avoid dealing with routine operational issues. Alexander (2003) views on FM is seen as the most relevant towards how FM fits in the overall business agenda, as he has quoted that identifying the influences for change in the business environment and developing facilities to accommodate it are central to the FM function.

Goyal and Pitt (2006) state that FM is evolving from an operational non-core business support services function to a strategic FM position by supporting and enhancing both the core and non-core activities in an organisation. Despite this shift, many organisations today still consider FM a low function within an organisation and not important to the whole business value. Many companies have yet to embrace the strong strategic power that FM carries. The magnitude of FM contribution towards a business entity largely depends on the position of FM in the hierarchy within an organisation.

The role of FM is usually as a business support tool, rather than a business change tool. However, Goyal (2007) argues that one of the strategic objectives of any company should be the interaction of the facilities team with the organisation as a whole, which is instrumental to the planning of the core business activities. The relationship between organisational strategic (core business) and operational (non-core business) activities is vital in facilities management. Therefore, FM is a discipline that needs to be recognised at boardroom level. The ability to bridge the operational facilities management role and the strategic facilities management role is therefore essential.

FM highly focuses on organisational effectiveness. The decisions made on facilities are vital business decisions. The business case for developing facilities management

depends on an understanding in the potential of facilities for creating quality work conditions to support key activities (Goyal, 2007). It is therefore essential to interpret FM at a strategic level in order to improve the organisational effectiveness of a business.

Since FM has been identified as a multi-disciplinary area of development and opportunity, it has resisted a universal definition (Nutt, 1999). However from the definitions identified, the focus of FM is on the workplace and the role it plays in business. The role of FM in an organisation is to manage the workplace and judgments on facilities are consequently business decisions (Tay and Ooi, 2001).

FM can be summarised as creating an environment that is cohesive to carry out an organisation's primary operations, taking an integrated view of the services infrastructure services and use it to give customer satisfaction and value for money through support for an enhancement of the core business. Atkin and Brookes (2000) develop this definition to describe FM as something that will:

1. sweat the assets
2. enhance an organisation's culture and image
3. enable future change in the use of space
4. deliver effective and responsive services
5. provide competitive advantage to the organisation's core business

Atkin and Brookes (2000) further suggest that FM plays a vital role in helping organisations in managing change by enabling them to move 'from where it is today to where it has to be tomorrow to meet its business objectives', which is imperative to business survival in a constantly-changing business world.

Noor and Pitt (2009) claim that well-run FM services contribute greatly towards an organisation's overall success, and that the role of FM is still developing its identity, as it is a relatively modern discipline. This, they say, makes it difficult to offer an all-encompassing definition of FM. It is implied that FM appears to have gone beyond simply the property and equipment aspect, to encompass more general business management elements. Goyal (2007) points out that an FM department must manage

a wide array of functions in order to ultimately deliver value for money for stakeholders, as well as to have a positive impact on the workplace and its users.

2.3 **Delivering FM**

Wiggins (2014) highlighted there are six classifications of organisations offerings FM services namely;

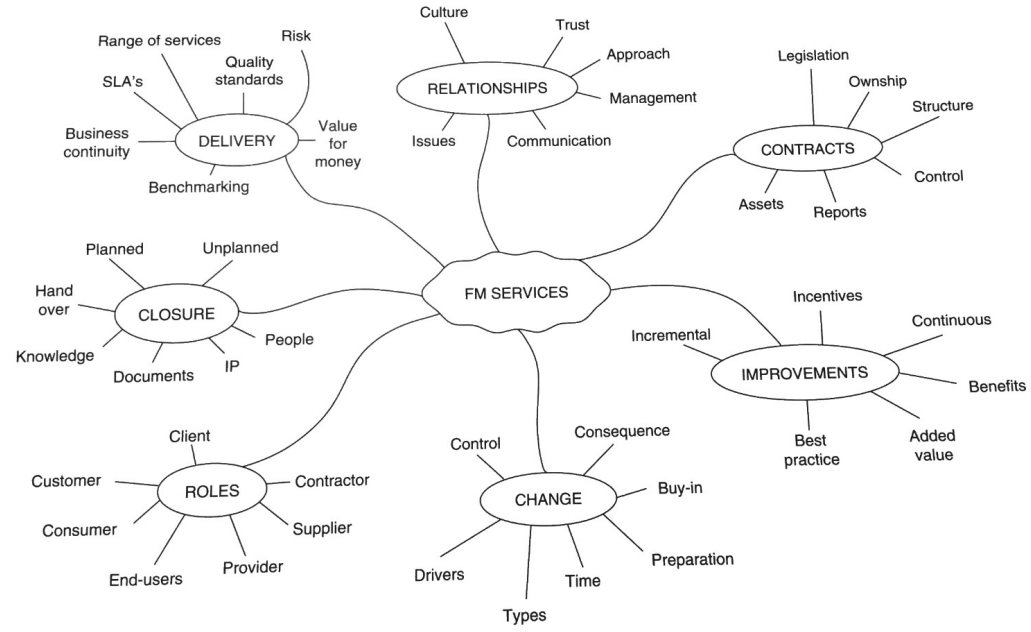
- Constructions
- Property development
- Technical and engineering specialist
- Service providers
- Consortium and;
- Management consultants

With the current trends of cost cutting due to bearish economic climate, call for facilities managers and FM companies to evidence value for money propositions have never been intense. This had forced organisations to align the delivery of FM services from single and multiple contract management to bundling services to total facilities management contract. This drives FM to be delivered in such innovative ways where companies reassessed a better way of working with their FM service providers. As Wiggins (2014) pointed out that innovative solutions and new methodology to improve working environment for the clients of FM is so significance for sustainability of their businesses. This view is echoed by FMWorld (2014) stressing the importance of adapting a service model that measure effectiveness of relationships between clients and FM service providers need to be continuously assessed and flexible and not merely emphasize on complying the service level agreement (SLA) alone which can stifle innovation.

There are many factors that need to be considered in the provisions of FM services since FM is responsible for many diverse functions and activities depending on the nature of core activities and business of an organisation. These critical success factors need to be assessed thoroughly in designing the mode of FM service delivery.

Wiggins (2014) brilliantly summarised the key variables involved as highlighted in figure 3.

Figure 3: Factors involved in the provision of FM services



Source: Wiggins (2014)

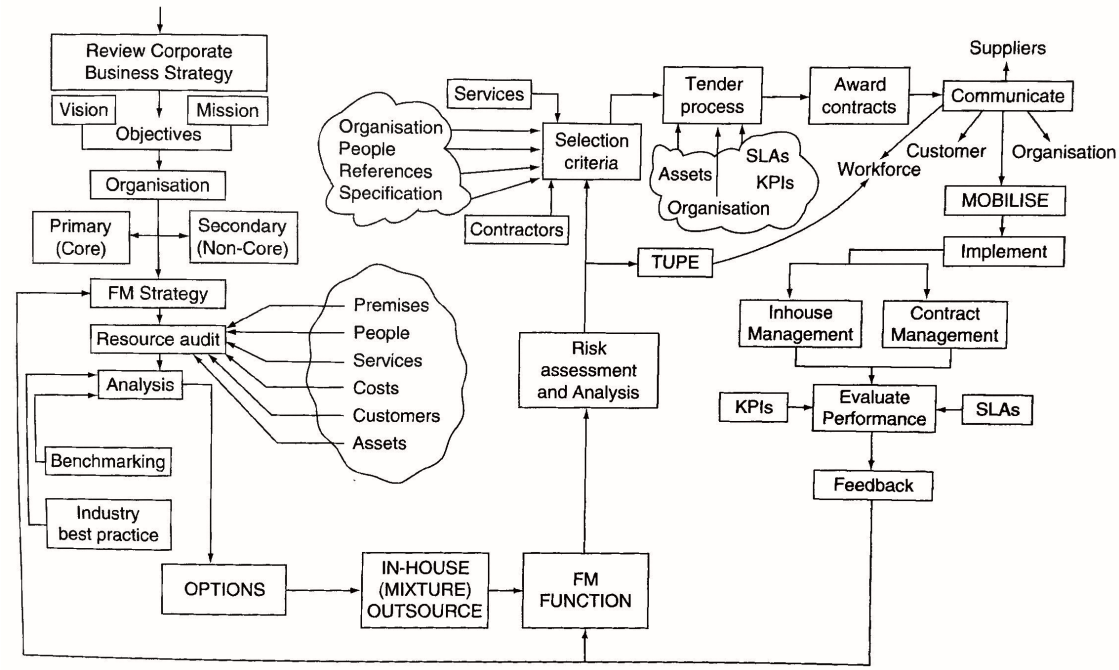
In order to determine the best solution to deliver FM services, an understanding of strategic direction of the organisation is essential. Mapping of key FM strategies will only be effective when core business strategies that run as 'dna' to the establishment are identified. This will enable FM to fulfil strategic facilitating role as enablers to support the organisation strategic objectives. Only once this is identified, decision to either deliver FM via in-house or out-source as mentioned by Tucker (2010) is becoming clearer.

Wiggins (2014) indicated that in order for FM to develop a strategic plan to support an organisation, it has to initially identify the level of depth and breadth of the demand for the services. Elements such as internal and external environment, the marketplace, the economy, legislation, organisational strategies, organisational objectives, human resources availability are among key influential factors to steer FM strategy to be implemented in an organisation. The application of demand need

analysis tools such as SWOT and PESTLE are identified as beneficial in assessing the level of need for FM to support the establishment.

Assessment of corporate strategic level will aid decision on how FM will be delivered. This will include risk assessment and analysis in identifying the hierarchy of importance for any FM services to the organisation, as different nature of business will acknowledge the criticality and importance of each service within the scope of FM either hard or soft FM differently. Once this audit exercise is completed, the option to strategically deliver FM either in-house, outsource or combination of both options can be practically decided. Figure 4 explains an holistic approach in formulating FM strategies for an organisation.

Figure 4: Developing FM strategies



Source: Wiggins (2014)

2.4 **FM Strategy Models**

Nelson (2004) opines there is no single method for effective delivery of FM services however a number of FM models ranging from in-house provision to total

outsourcing. Decision to adapt or adopt any model for delivery of FM relies heavily on the level of importance of FM and how FM is perceived in an organisation. This perspective is agreed by Wiggins (2014) and further explains that cost reduction is the main reason for outsourcing FM functions. Interestingly there are several new models for FM evolved in line with the changes in the landscape of the construction industry. Advantages and disadvantages of FM strategy models are summarised in table 3 below.

Table 3: Advantages and disadvantages of FM models

FM Model	Advantages	Disadvantages
In House	• Total control over the work and close alignment with core the business	• Requires a remuneration package in line with the core staff package • Requires management effort to be diverted from core activities • Can be flexible, slow and difficult to change • Can be costly to keep staff trained an competent to carry out specialist roles
Single or packages services	• Closeness to experts of the particular service • Direct control of the relationship and reduced risk • Easy of contract termination of individual contract • Vast options of contractors to choose from	• Lack of staff development in small contract • Potential of loss of staff due to sites run by contractor, • Require management and supervision of in-house staff to monitor all piecemeal contracts • Limited value proposition from economic of scale
Bundled Services	• Economic of scale • Reduce administration of contract	• When one of the service in the bundle is weak or not performing thus create

		difficulties in other services that are in the bundle that works effectively.
Total Integrated Facilities Management	• Contract is easy to manage by client organisation • Economic of scale – cost savings • Client gains higher level of expertise from FM provider • Good innovation opportunities	• Reliant to one contractor could be risky • Client can lose control of FM and knowledge about the estate if something go wrong with execution of the contract. • Limited choice of service providers that offer this type of contract
Managing Agent	• Professional management of services	• Potentially the most expensive option • Relationship is managed by third party thus provided an extra layer of management and costs
Private Finance Initiatives (PFI)/Corporate PFI/ Special Purpose Vehicles (SPVs)	• One point of contact with full service operation (soft-landing after construction phase) • Payment are linked to availability of the services	• Very long contract which may cost more if compared to other modes of FM • Few organisation operate in this market • Cost of change and cancellation is very high

Source: Adapted from Wiggins (2014)

Outsourcing of FM services is an option to deliver FM services effectively and at the same time opportunity to reduce operating costs. Nelson (2004) highlighted that outsourcing is an innovative way to move away from the traditional services contracting towards strategic sourcing and business partnership. FM services can be arranged into number of permutations such as multiple contracts management up to 50-60 outsourced contractors or consolidating or bundling the contract into minimal

service providers (Wiggins, 2014). However clear key performance indicators with FM service providers including the ability to work collaboratively in long term period is essential to deliver effective FM services (Mangano and De Marco, 2014).

Table 4 summarised key considerations and procurement questions that need to be addressed prior to selecting any outsourcing model for delivery of FM services.

Table 4: Key questions for decision of selecting and adapting FM outsourcing model

Questions to consider prior selecting suitable FM outsourcing model	Rationale
What are the corporate objectives?	• Cost cutting, reduction of head count, improved service quality
What are the implications?	• Redundancy, restructuring or retraining of redeployed staff • New or different monitoring and control systems • Clarity of the level of service required
What are the risks?	• Security • Confidentiality • Loss of direct control of labour • Implication of contractor fails to deliver
What is the service specification?	• The input, output and outcome of FM specification • Appropriate quality and performance measurement and review procedure • Theme of partnership – to view opportunity to a long term, mutually beneficial relationship
What are the contractual issue?	• Termination clause for non-performance • Ability to foster long term relationship – the advantages and disadvantages • Flexibility of contract for dynamic changes in client business operation and strategy • Transparency, communication and fairness of

	contract
What are considerations concerning potential suppliers?	• Service providers need to be thoroughly assessed and references from suppliers and clients about their credibility need to be examined.

Source: Wiggins (2014)

2.5 Chapter Summary

According to several authors' findings as mentioned above, it can be proclaimed that the old-fashioned ideas of FM, which simply deal with caretaking and building maintenance, are dated and flawed. Since FM is a complex dynamic profession that can add value to an organisation by merging and incorporating it with the core needs of the organisation. Based on the extensive review, there is no universal approach to managing facilities. It is a bespoke activity. Each organisation will have different needs. Understanding those needs is the key to effective FM in adding value to a business. Delivery of FM services in the current economic climate require a flexible and innovative tool to nurture the relationship between the client and FM service providers to work collaboratively towards mutual benefits and sustainability of businesses for both the clients and FM providers.

Chapter 3

Supply chain management (SCM) and FM

3.1 Introduction to SCM

Numerous terminologies are available and are interchangeably used for supply chain management (SCM). Terms such as network sourcing, supply pipeline management, value chain management and value stream management are among the synonyms that lead to confusion, due to the overlapping of their meanings (Croom, Romano et al., 2000 and Chen and Paulraj, 2004). Croom, Romano *et al.* (2000) argue that the difficulty to agree upon a single definition of SCM is due to the multidisciplinary origin and evolution of the concept from differing points of view in different bodies of literature.

Ayers (2006) highlights six viewpoints adopted by organisations in pursuing its SCM agenda. The tendency for any organisation to shift its SCM paradigms largely depends on the company's strategy, as there are no generic formulae that specify the suitability of a viewpoint to a certain type of establishment. The brief descriptions of SCM viewpoints according to Ayers (2006) are as tabulated in Table 5.

Table 5: SCM Viewpoints

Type of SCM Viewpoint	Description
Functional	Company's SCM is formed based on a separate functional paradigm of individual departments. No interdepartmental link is established within each functional section.
Procurement	Focuses on the context of supply in a supply chain. Initiative on relationship with supplier is critical as part of company's sourcing initiatives.

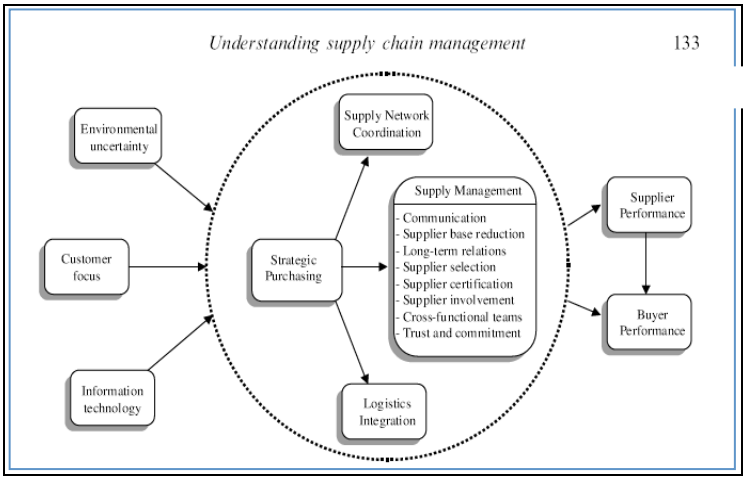
Logistics	In this context, SCM deals with the movement of physical products from production to end users, which involves transportation and warehousing management.
Information System	Focuses on sourcing a better interfacing of SCM mechanisms between internal-external links via the application of information technology.
"BPR" and Operations Innovation	Focuses on waste elimination and quality improvement process. This viewpoint of SCM underpins BPR to be adopted across multiple companies within the SCM as an effort to maintain competitive advantage.
Strategic	This viewpoint pursues SCM as a holistic approach and a vital strategy for organisation sustainability.

Source: Ayers (2006)

To discuss the level of innovation in the FM supply chain management, it is vital to understand the fundamental thrusts that constitute the domain of supply chain management in FM. Creating and maintaining buyer-supplier relationships effectively in a service-based organisation such as FM is a complex process since the heterogeneity in service characteristics and the on-going buyer-supplier interaction process that takes place in procuring services is unique when compared to the product or manufacturing sector (Lehtonen and Salonen, 2005).

Chen and Paulraj (2004) provide a comprehensive analysis of multi-disciplinary, wide- ranging research on SCM through examination and consolidation of more than 400 articles from diverse disciplines. Based on the study, the researchers developed a conceptual framework of SCM that focuses on the problem and the opportunities associated with SCM.

Figure 5: Theoretical framework for SCM research



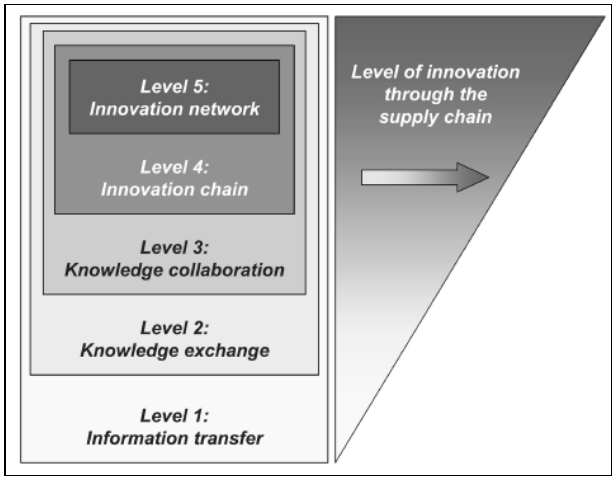
Source: Chen and Paulraj (2004)

Additionally, they argue that SCM must be composed through a chain of inter-reliant strategic collaborative relationships among the supply chain members with the objective of deriving mutual benefits. The framework developed (Figure 5) also draws on the innovative relational view of inter-organisational competitive advantage with an integrated approach to the planning and control of materials, services, and information flows that add value for customers through collaborative relationships among supply chain members. Chen and Paulraj (2004) classify four important elements in SCM which are strategic purchasing, supply management, logistics integration and supply network coordination that are instrumental to forming an effective SCM structure. In addition, the framework also recognises environmental uncertainty, customer focus and information technology as the external driving forces that significantly influence the performance of supplier and buyer in the SCM.

Facilities managers perceive the supply chain as the system used in the delivery of services to support the business objectives of an organisation. This involves the client, customers (may not be the same parties), users and visitors, all of whom make up the demand side of the chain, as well as suppliers and other collaborating parties involved in the provision of a FM service (Nelson, 2004). Barret (2000) provides

deeper insights into supply chain in facilities management. The FM buyer-seller supply chain or relationship network as described by Barret (2000) is coined from functional units and their suppliers through the core business and its customers. Vertical integration and the shift of key players' roles in the supply chain hierarchy (Figure 6) largely depend on the function of FM in an organisation. The level of innovation through the FM supply chain is becoming more apparent and vital as the role of partners moves from non-core FM functions (Level 1) to a strategic one (Level 5) in the SCM relationship. Since innovation network in level 5 represents strategic collaborative efforts within the FM supply, a concerted and sustained effort needs to be performed in order to build strong and creative relationships (Barret, 2000).

Figure 6: Hierarchy of FM Relationship



Source: Barret (2000)

SCM is known as relationship network by Barret (2000) or collaborative relationships by Lehtonen (2006) in the field of FM. To a certain extent, SCM conceptual framework in figure 5 can be used as a foundation to describe the applicability of SCM in the delivery of FM services. With that effect, subsequent headings that were critically reviewed by Chen and Paulraj (2004) framework within the SCM context are also applicable to the SCM remit in the delivery of FM services. The discussion centres on the context of supply management heading within the framework will be reviewed accordingly as its mimic core issues of SCM in facilities management.

3.2 Critical elements of SCM in FM

3.2.1 Strategic Purchasing

Organisations embark on strategic purchasing due to the need to sustain a market position in a rapidly changing competitive environment (Chen and Paulraj 2004). Carr and Smeltzer (1999) highlight that this approach is parallel to any general strategy literature, with proactive efforts and long-term focus as the thrust of the agenda. In tandem, strategic purchasing also underpins issues such as types of buyer-supplier relationship, the management of the relationship and purchasing contribution towards organisational success (Chen and Paulraj, 2004).

While it is less complicated to justify the importance of strategic purchasing in manufacturing or product-based organisation, Then (1999) argues that the likelihood of companies embodying real estates and employing facilities services as a strategic or corporate resource is still lacking. The key issue in implementing strategic purchasing concept in procuring FM-related services is to foresee FM as a strategic element of an organisation. This has become a challenge to the FM industry since facility services are frequently perceived as support activities without significant strategic importance (Salonen, 2004). Organisations also view the services provided as standardised, easily available and replaceable in the marketplace and lack competitive advantage from the aspect of technical differentiation (Lehtonen, 2006).

Varcoe (1993) views contradicts Salonen (2004) and Lehtonen (2006) viewpoints since FM acts as an enabler which critically contributes to the success of any organisation. Varcoe adds that facility-related costs are substantial and must be managed effectively, thus justifying the importance of strategic purchasing implementation for the procurement of facility-related services. Understanding this fact, Then (1999) suggests that organisations need to reflect facilities' dimensions in its strategic business plan and further suggests three FM requirements in any organisational setting. The proposed three dimensions are highlighted in Table 6, representing the level of strategic purchasing in an organisation's FM perspective.

Table 6: FM requirements in an organisational setting

Requirement	Description
1	The requirement of an appropriate linking mechanism to consider the facilities' implications of business decisions by promoting meaningful dialogue between business corporate planners and real estate/facilities personnel.
2	The requirement for management processes to continuously monitor the strategic relevance of facilities provision and operational requirements, and monitoring their performance over time.
3	The requirement of appropriate skills and competencies within the real estate/facilities function to monitor and continuously review procurement strategies to take advantage of advances in technological development and market offerings on the supply side.

Source: (Then 1999)

3.2.2 Supply Management

The focus of supply management is mainly on the relationship that exists between the buyer and the seller. Understanding the impact suppliers have on cost, quality and time to the overall output in the buyer-supplier chain of interaction, Chen and Paulraj (2004) identify eight critical elements in establishing a sound buyer-supplier association.

3.2.3 Communication

The role of effective communication between buyer-supplier relationships was discussed in numerous SCM literatures. Among the core communication headings in creating successful buyer-supplier interaction are the frequency of meeting that takes place between both parties and the commitment to release information towards mutual benefits. Furthermore, Chen and Paulraj (2004) add that the information

chain must be translucent since weaknesses resulting from poor communication may hamper the performance of the supplier in meeting buyer's expectation towards gaining a competitive advantage and the utmost value from the SCM relationship.

Two-way sharing of information is vital to ensure effectiveness in the delivery of FM services. Information sharing between both parties should be open and systematic. Precise and relevant information flow must run smoothly between the parties in the SCM within FM context. Systematic information-sharing channel can be translated into frequent interactions between buyer and supplier, with access to a common information quality. Partners in this relationship are to initially define the types of information to be shared, the parties that are responsible for data gathering, the organisation levels that attend relevant meetings and the frequency of the discussions that take place. Discovery of new ideas during the interaction then propels towards practical solutions for their mutual benefits where synergies are created to develop an efficient FM service concept in order to achieve cost savings (Lehtonen, 2006).

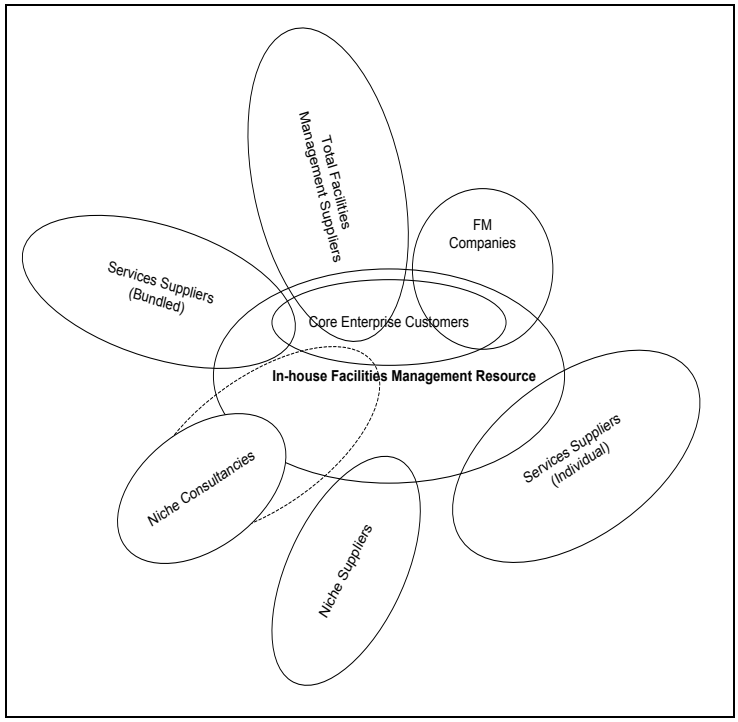
3.2.4 Supplier Base Reduction

Supplier base reduction is an effort to reduce administrative and transaction costs associated with the management of numerous suppliers. The approach rests on a transaction cost economics dimension by forming a correlation between the frequency of a transaction (in the procurement of a product or service) and the level of buyer-seller relationship. The level of relationship between buyer and seller is determined by the significant value or cost saving that can be obtained in reducing the frequency of the occurrence of transactions. Traditional sourcing strategy states that FM services are procured through individual service specialists being priced as the critical factor in vendor selection. This approach prompts fierce competition among FM suppliers, resulting in negative impact on the service quality (Lehtonen, 2006(a)).

Varcoe (1993) states that FM supply base originates from three broad supplier categories: total facilities management suppliers, facilities management companies and services suppliers. Total FM suppliers provide comprehensive one-stop solutions,

which cover the whole spectrum of management functions and operational FM services. The range of bundled services offered is either sourced from a single group of companies or through a consortium of external networking or the alliance of several service suppliers. The facilities management companies offer management expertise and influence operational service suppliers who supply related facilities management services. The interfaces of the three FM supply base are reflected in Figure 7.

Figure 7: Hierarchy of FM Relationship



Source: (Varcoe 1993)

There are significant positive impacts for organisations adopting supplier reduction strategy. Among the benefits of having a few key suppliers as opposed to the traditional multiple sourcing approach are as highlighted by Chen and Paulraj (2004), summarised in Table 7.

Table 7: Benefits of supplier base reduction

Benefit	Description
1	Fewer suppliers to contact in the case of orders given on short notice.
2	Reduced inventory management costs.
3	Volume consolidation and quantity discounts.
4	Increased economies of scale based on order volume and the learning curve effect.
5	Reduced lead times due to dedicated capacity and work-in-process inventory from the suppliers.
6	Reduced logistical costs.
7	Coordinated replenishment.
8	Improved buyer–supplier product design relationship.
9	Improved trust due to communication.
10	Improved performance.
11	Better customer service and market penetration.

Source: (Chen and Paulraj 2004)

Consolidation of the supplier base in the delivery of FM-related services through total facilities management is achieved through two modes of bundling mechanisms. It is accomplished by bundling the range of several FM services in a single site or bundling single FM service to several sites owned by the clients (Ventovuori, 2006), or a combination of both bundling strategies. The application of this approach benefits both the buyer and supplier via the generation of economic of scales. The service providers offer value-for-money packages to clients that are reflected through lower unit price of services, better quality of service, novel technology, and innovative structures and procedures. This approach of supplier base reduction also enables the client to elevate the competencies of their in-house FM team, from handling menial

purchasing routines to handling more strategic tasks such as the formation and management of internal and external affiliations, which contribute to the company's success (Lehtonen, 2006(a)).

3.2.5 Long-term Relationships

The establishment of long-term buyer-supplier relationships is one of the most important criteria in the SCM. Among the benefits of having a longer relationship is the maturity of buyer-supplier coordination that takes place in a well-managed extended period of SCM. As the supplier becomes more familiar with the client's vision and culture, effective lasting effect is translated through producing impetus value creation in the SCM. However, while it is commonly and generally accepted that the bond is not going to be temporary, there is no specific guidelines that can be used as a rule of thumb to define the duration of the association (Chen and Paulraj, 2004).

Lehtonen (2006(a)) provides a better explanation on the relationship period between the parties that are involved in the FM arena. Lehtonen classifies FM buyer-supplier relationship into three categories and argues that long-term relationship exists in the strategic partnering of FM perspectives, of which the span should exceed the operational partnering, normally set to three to five years. Different FM relationship types and respective attributes from services perspectives are summarised in Table 8.

Table 8: Different relationship types and their FM characteristics

Relationship type	Descriptive characteristics
Arm's length relation	Short-term purchasing Non-strategic and standardised service Multiple service providers Selection of service provider is mainly based on price
Operational	Bundling of sites or services Service is technically demanding 3-5 (preferred) service providers Competitive bidding with multiple selection criteria Homogeneous or clustered real estate portfolio

	Mutually agreed goals Systematic interaction between different organisational levels Continuous development
Strategic partnering	Service package includes management services Strategic importance of purchase is high Long-term co-operation and loyalty 1-2 service providers Close negotiations to select service provider and define Shared vision and mutual strategic goals for relationship Extensive information sharing also including strategic Client's core business is usually real-estate related

Source: Lehtonen (2006(a))

While short-term or arm's length contract follows a typical master-slave conventional procurement principles with minimal contractual obligations transpiring between both parties, long-term partnership that exists in the delivery of FM services lies in the operational and strategic partnering that nurtures closer relationship with selected suppliers, and brings increased liabilities into relationships (Ventovuori, 2006).

In FM context, operational partnering refers to working with few suppliers and focuses mainly on uncertainty reduction, and process improvements such as improvements in quality with the strategic importance of FM service purchases is not so significant (Ventovuori, 2006 and Lehtonen 2006(a)). The use of 'preferred supplier' model with an average of 3-5 service providers is commonly practiced in FM service procurement. Despite critical selection criteria that the FM vendors must have high levels of technical competencies, Lehtonen (2006(a)) argues that this will not forbid the client to replace their supplier if necessary.

Strategic FM partnerships utilise the fundamentals of 'single' or 'dual' sourcing principles and is defined as an on-going, long-term inter-organisational relationship for achieving competitive strategic goals (Ventovuori, 2006). An FM supplier's responsibility includes the client's customers (i.e. the tenants). As such, an FM vendor that venture into this type of relationship has a vast and deep understanding of the client's values

and service quality undertakings that are assured upon its end-users. The level of information-sharing and communication between the buyer and supplier is extremely extensive and crucial since service specifications and delivery is jointly developed by the client and FM vendor (Lehtonen, 2006(a)).

The importance of FM services to client's organisation determines the type of relationship between the buyer and FM vendors. Lehtonen (2006(a)) study reveals that arm's length contracts and operational partnering are the usual approaches used in managing outsourced FM services. In spite of strategic partnering being the most uncommon FM buyer-supplier affiliation, Lehtonen (2006(a)) emphasises that this relationship is mostly used by the real estate investment companies due to their nature of business that recognises the significance of FM-related services to the bottom line of the organisation.

3.2.6 Supplier Selection

Supplier selection process plays a significant role in the SCM since their performance has a direct financial or operational impact on the client's business (Chen and Paulraj, 2004). The client's decision on the duration of contract to be awarded to FM supplier is also known to be an important element in the selection process. In shorter contract duration, the buyer tends to be influenced by factors such as value for money, changes in client's organisation, vendor's past performances, technological changes and FM supply market dynamics. In contrast, a decision towards longer FM contract terms will ensure that the clients enjoy savings from frequent procurement-related costs, optimisation of in-house FM team's capability in managing the buyer-supplier relationship and encouraging investment and innovation by the FM supplier. Therefore, the client's decision to select any FM supplier must be aligned with certain characteristics as highlighted in Table 9 to ensure that clients enjoy optimum benefits from the selected type of FM contract (Burstow, 1994).

Table 9: Contract characteristics

Characteristics	Pointer to shorter contract duration	Pointer to longer contract duration
Range of services	Narrow	Wide
Number of locations	Few	Many
Number of services	Simple	Complex
Risks	Low	High
In-house team	Large	Small
Specification type	Activity	Performance
Total cost	Low	High
Supplier role	'Contractor'	'Business Partner'

Source: Burstow (1994)

It is evident that Burstow (1994) views are parallel to Chen and Paulraj (2004) summary of supplier selection principles. As cited in Chen and Paulraj (2004), the most important determining factors in selecting the suppliers are quality, timely delivery and uninterruptable supply. Failure to meet any of the requirements will badly affect the buyer's operations. In addition, trustworthiness, integrity, commitment and supplier's characters are also vital elements in the selection of suppliers. Suppliers who are not transparent in costs, quality and production should not be selected since transparency is seen as a signal of trustworthiness in buyer-supplier relationship.

3.2.7 Supplier Certification

Supplier certification represents vendor's ability in achieving accreditation towards delivering its product or services through a stringent buyer assessment process.

Among the advantages of supplier certification are improvement in buyer-supplier trust and communication, better supplier product or service quality, and reduction in production-associated costs (Chen and Paulraj, 2004).

The practice of FM follows similar certification principles as any other industry. In addition to specific certification exercises that are conducted by the client, a number of FM suppliers have also take pro-active initiatives to obtain international standards of certification such as ISO 9000 and ISO 14001. By having these certifications, the FM companies are positioning themselves in a better market placement, thus raising their credibility and competitive advantage.

3.2.8 Supplier Involvement

The involvement of suppliers in new product development process is a known instrumental factor that yields numerous benefits such as cost reduction in the purchasing of materials, rapid production cycle, better product quality and access to technological advancement (Chen and Paulraj, 2004). Similar advantages can be obtained in the procurement and delivery of FM services within the context of operational and strategic partnering. This is simply because the duration of relationship in both contexts is longer than the arm's length transactional method of service acquisition that enables the supplier to be strategically involved throughout the overall process chain (Lehtonen, 2006). Since the production and delivery of facility-related services are generated simultaneously based on the unique characteristics of services as compared to products, a longer contract term enables the FM supplier to continuously improve its services constantly through on-going feedback and information sharing obtained from the client.

3.2.9 Cross-functional Teams

In simple terms, cross-functional teams are referred to as interactions that take place within the whole supply chain. Communication among the supply chains is extended from typical customer-supplier teamwork to customer's customer, up to the

supplier's counterpart. This approach has been a common practice in managing long-term supply chain relationships (Chen and Paulraj, 2004).

Cross-functional team interaction is equally important in the FM SCM. Since clients' expectations are differentiated by the roles and functions that are perceived of FM in an organisation either at the strategic, tactical or operational, delivery of FM services have to follow the needs of the clients (Nelson, 2004). In order to meet such expectations, dissemination and networking efforts within the upstream and downstream of the clients and the FM supplier is of paramount importance. Success in managing cross-functional teams within the SCM ensures that FM services are delivered in the most cost-effective way and clients obtain optimum benefits.

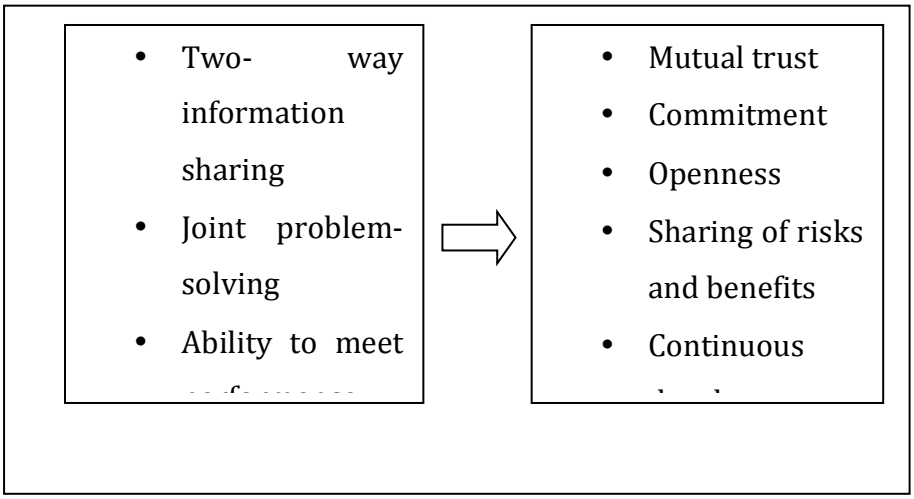
3.2.10 Trust and Commitment

Effective SCM rests on the establishment of a virtual organisation that is formed from several entities that complement each other in order to achieve common objectives. To ensure the success of the alliances, it must be founded with a high level of trust and commitment between all parties in the SCM. Trust is expressed through consistency of partners in delivering its promises and forgoing their individual opportunistic behaviour, while commitment is reflected by the partners' dedication in sustaining their relationship in the SCM (Chen and Paulraj, 2004 and Lehtonen, 2004).

The level of trust and commitment in the delivery of FM services within the context of SCM is highly influenced by FM buyer-vendor relationship. As the level of trust and commitment in the SCM partnership correlates directly to the element of risks and the level of risk tolerance that these parties are willing to accept, a vertical shift from the basic arm's length transactional contract to strategic partnering is becoming more apparent (Lehtonen, 2004). The dissemination of strategic information within the chain is propelled towards achieving common goals and objectives of partners in the SCM, translating into significant improvement in the organisation's performance. Figure 8 clearly highlights the important elements in partnering framework for

facilities services, with mutual trust and commitment topping the list (Lehtonen, 2004).

Figure 8: Partnering framework for facilities services



Source: (Lehtonen 2004)

3.3 Collaborative Innovation as a Strategic Approach in FM Multiple Contract Management

Walters and Rainbird (2007) state that collaborative innovation combines elements of process innovation management and product innovation management within a network structure that neither partner can create using its own resources to meet customer or market-determined expectations for product and/or service performance at an economic (viable) cost. The whole point of the approach is to identify optimal solutions that are acceptable for all stakeholders, customers, suppliers and investors. It is further argued that when partner/collaborative innovation is closely examined, it reveals an interesting integration of all relevant aspects of knowledge, technology, process and relationship management (Walters and Rainbird, 2007).

The force of collaborative innovation rests on the virtual organisation's philosophy. Virtuality defines the ability to create partnerships across companies using value

chain (or value net) structures with complementary companies that work together to maximise the value delivered to customers (Walters and Rainbird, 2007). The network model (or virtual organisation model) comprises independent enterprises that work together as a virtual organisation. It is a synchronised model of distributed processes that work together towards a common goal with information management being a strategic asset.

Tether (2002) reveals that inter-organisational cooperation becomes popular during the 1980s and 1990s with collaborative efforts focusing on managing technological innovation. The study also identifies the fact that there was a significant volume of companies that had used the approach of collaborative innovation efforts with suppliers, customers and competitors, and argues that collaborative innovation within and beyond the supply chain is by no means something new (Walters and Rainbird, 2007)

Among the reasons cited for collaborative innovation include a matching of resources that are not available in organisation, risk reduction and product-market development (Tether, 2002 and Walters and Rainbird, 2007). However, Tether's (2002) study acknowledges the complexity in understanding the motivations behind engaging collaborative arrangements for innovation. The literature gap in understanding the drive for collaborative innovation is supplemented in Walters and Rainbird (2007), summarised as below:

- Providing complementary knowledge and user know-how,
- Providing a balance between performance and price,
- Providing an insight into user behaviour that may modify or refine the innovation, and;
- Creating an awareness of the innovation among other potential users.

Both studies however focused mainly on collaborative innovation in the manufacturing environment. The services functions discussed are only within the scope of partnership innovation in the supply chain management of manufacturing or product-based organisations.

Studies on the application of supply chain and relationship management in service firms are scarce and limited (Ellram *et al,* 2004; Sheth and Sharma, 1997; Van Der Valk *et al,* 2005; as cited in Lehtonen, 2006). Lehtonen (2006) argues that the examples and models used in academia tend to centre on the manufacturing sector, and towards the physical transfer of goods. At the same time, services are increasingly taking up a larger part of any organisation's purchasing expenditures, and the role that purchasing plays within the organisation is changing: purchasing as a function is becoming more strategic (Arnold, 2000 and Macbeth, 1994), with a smaller number of highly-qualified buyers and closer relationship with a reduced supplier base.

Since services are usually produced in an ongoing buyer-seller interaction (Grönroos, 2000), the importance of relationship issues is emphasised. In addition, as the process of purchasing services has been found to be more complex than the purchasing process of goods (Fitzsimmons *et al;,* 1998; Smeltzer and Ogden, 2002), there is a need for research, which brings new insights into partnership sourcing in business services. Lehtonen (2006) provides a deeper understanding of the above-mentioned issues across the supply chain relationship in the area of FM services within the environment of multiple-contract management that complement SCM fundamentals as highlighted in (Chen and Paulraj, 2004).

Lehtonen (2006) pursues Rogers' (2005) findings in understanding the evolution of supplier relationship. However, the customer and supplier relationship evolution in Lehtonen's (2006) study simplifies the four-stage supplier relationship model in Rogers (2005) into three transitional evolution phases identified as arm's length customer-vendor relationship, operational partnering and strategic partnering. One of the knowledge contributions in Lehtonen's (2006) research towards the existing FM multiple contract management is the explanation of the motives behind each type of contract sourcing in the FM services in understanding the issues related to the management of partnering relations. In addition, the study also reveals that collaborative relations in the facility services context are by nature similar to those in other areas of supply chain management. This is evidence that the centre of the

relationship between partners are related to 'softer' issues such as partners' attitudes and the intended atmosphere of the relationship (Lehtonen, 2006).

These insights deal with the concerns of the FM vendor or the supplier of FM and the customer's demand prior to venturing into any type of contract relationship in delivering FM-related services. Lehtonen (2006) also addresses the fact that FM vendors in either operational or strategic partnering are more willing to embark on innovation agenda compared to arm's length contract. This is due to longer contract duration enjoyed by FM suppliers in providing economic-of-scale services especially when they are awarded with a bundled contract consisting of a broader service, single service with multiple sites, or a combination of both packages.

Lehtonen's (2006) collaborative innovation in FM services delivery study is however limited to the identification of success factors in FM operational partnering. In addition, the scope of study only focuses on Finland's FM market that is yet to mature towards recognising strategic FM partnership. It is also concluded that strategic partnering seems to be the most uncommon relationship type in the FM service context, normally used by real estate investment companies buying a wide range of management services. He further argues that most organisations view FM services as lacking of imperative strategic importance, fairly common and having highly replaceable suppliers. In tandem, Lehtonen (2006) identifies the significant dissimilarities between the collaborative relationship that exists within a typical SCM environment and the one that exists in facilities services context, as highlighted in Table 10.

Table 10: Differences of collaborative relationship between SCM and facilities services

Supply chain management	Facilities Services
Justified by strategic importance of purchase	Justified mostly by purchasing volume
Numerous relation-specific investments	Only some relation-specific investments

High Level of interdependence	Low level of interdependence
Supplier adds distinctive value	Service provider replaceable if necessary
Benefits and risks shared equally	Benefits not shared equally, no risk sharing

Source: Lehtonen (2006)

In contrast, Nelson (2004) argues the need of strategic collaborative efforts in the SCM within the context of FM service delivery. Only by adopting strategic alliances in SCM with FM suppliers will facilities - being the largest balance sheet items and second largest expense in an organisation - be managed more effectively, translating into faster service delivery, increase in service efficiency and savings in costs.

3.4 British Standards 11000 (BS11000) within Facilities Management Collaborations

3.4.1 Context to BS11000 in FM

Released in 2010, BS11000 is a cross-industry guide to business innovation through collaboration. Though not specifically designed for any particular industry, it claims to be able to prescribe broad parameters of practice in order to aid collaborative working partnerships to successfully meet mutually beneficial objectives, and deliver the value necessary for the development of all separate parties involved (BSi, 2010). It is important for the Facilities Management industry, therefore, to understand the potential uses of BS11000, in order to potentially aid business partnerships but also to innovate within the field to aid FM in becoming even more of a thriving, dynamic and well-respected industry.

Noor & Pitt (2009) add that a high level of FM integration into a business provides great benefit, as it provides a good modern image via innovative means, helps reduce administration costs due to its contribution to management, and adds value to the

business through the provision of a suitable working environment. . As FM is still developing its role within businesses, there is a call to action for FMs to "get noticed".

Within the current FM operations it is evident that there is a sufficient lack of a Formal Framework/ Partnership Strategy in place that allows both parties to communicate on the various business operations taking place within the organisation. RICS (2011) place an emphasis on a Facilities Management Strategy aligning with core business operations to ensure better business performance. It is clear that the (non-core) Facilities Operations are underperforming at the organisation, thus having a detrimental impact on the (core) business performance. IFMA (2009) also state that a lack of strategic planning will impact on the performance of operations, as it is essential that the organisation regularly, understands, analyses, plans and acts to keep business operations effective. Therefore any implementation of a new strategy, or an existing strategy/ framework between the two parties at the start of the partnership needs to be re-introduced in order to get the partnership agreement back on track.

The focus of this section is to investigate how innovation through collaboration could allow FM to improve as an industry, as well as focussing on the current theories among the industry, taking a look at FM's continual development into the future, and treating it as a dynamic role that is still in the process of finding its true identity.

3.4.2 The concept of "collaboration"

There is much theory on how partnerships between client and services providers/ multiple parties must operate in order to be a success. Beginning with the case study of (Kadefors, 2008), the findings and arguments produced swayed towards the emphasis on (1)-trust between the two parties developing a mutual understanding on issues, (2) the feedback from respondents linked the performance of the relationship with innovation and (3) the form of contract will ensure what actions are established between the two parties.

On the other hand, literature from Tobi *et al*. (2013) specifically focusing on history theory of FM, argue that the 4th generation of partnerships in FM focuses on business processes and open innovation between parties. Furthermore, the 3rd generation of FM within the 1990's was more strategic, focusing on knowledge management and partnering, which can now be considered 'out-dated' due to the collaborative method (4th generation) of relationship management used today.

It could be argued that FM's general culture is to be differentiated from other areas of construction. Maintenance processes require direct interaction with a building's users, and works specifications are less easily defined that in construction. Other areas of construction are predominantly project-based, and traditionally more adversarial – and FM therefore lends itself to a more open, collaborative approach. The nature of outsourced FM work may lead to more arm's-length relationships developing, due to the priority of achieving lower costs, as FM activities are not usually viewed as being a high priority in terms of overall business strategy (Kadefors 2008) point out that an FM organisation must be in touch with its overall business strategy, as this allows them to operate more effectively within their various roles.

Writing regarding the introduction of BS11000, Hawkins and Little (2011a) state that collaborative approaches encourage enhanced competitiveness and performance, through encouraging improvements across many important business factors, including innovation. Thus, presumably the suggestion is that FM organisations should be focussing on producing accurate RFPs to attract the right collaborators, rather than single-mindedly thinking about the pricing of contracts.

Pitt & Tucker (2008) suggest that performance measurement is a vital contributor to success in managing effectiveness and delivering value in FM, with the FM organisation's ability to blend "hard" and "soft" issues being one of the main factors that leads to successful FM implementation. Walters & Rainbird (2007) concur, adding that seeing FM delivery as a value chain can help to manage the complex qualitative and quantitative mix of issues, and result in both cost-effective and cost-efficient decisions; in otherwise, it can streamline the whole management of service delivery compared to traditional supply chain management.

3.4.3 BS11000 – The First National Standards for Business Collaboration

In the Introduction to BS11000, BSi (2010) state that there is proof that collaboration has shown positive effect both on competitiveness and on performance, and that compliance with the Standard will aid those parties involved in collaborative agreements to share knowledge, skills and resources to the stakeholders in a manner that will benefit all parties in terms of meeting mutually progressive goals, and consistently delivering value.

Hawkins & Little (2011a) describe BS11000 as the "first national standard in the world to address collaborative business relationships", and that it provides a varied toolkit from which to draw plans for relationship development across all industries, rather than providing a universal prescription for collaboration within specific industry areas or systems. They make the point that BS11000 allows blueprints for efficiency and repeatability to be established in collaboration, thus facilitating "innovative-but-not-completely-out-of-the-box" approaches. This is through allowing innovation to flow through collaboration, rather than trying to force it constantly. It makes common sense that through encouraging increased interaction between different parties innovation will result, but perhaps BS11000 can act as a measure to ensure that the industry stays focused in its goals, combining tried and tested means with innovative ones where relevant.

There are examples of this integrated approach on the horizon; as Little (2010) points out, technologies and strategies born of the development of collaboration and innovation will eventually allow IT and HR business functions to merge into one integrated unit, to be controlled by a "human systems director". It could be argued that this role may also incorporate the more strategic and organisational levels Facilities Management, such is its importance in the "human systems", potentially of both the core and the non-core parts of a business.

As the dynamics of a business relationship will be affected by internal and external influences over time, Hawkins & Little (2011b) point out that BS11000 provides a "road map", as such, to guide the relationship through providing an embedded model of operating.

Hacklin *et al* (2004) point to the pertinent industry demand for strategic planning tools to provide support for challenges related to collaborative innovation, a demand which has now been met in the UK by the provision of BS11000. Surveys suggest that alliances between bigger firms and smaller innovators is growing quickly, with more than 100,000 alliances in operation, with growth at around 25% per year, and these groups responsible for or influencing approximately 30% of turnover.

The very existence of BS11000 surely proves that collaborative innovation is now a mainstream idea, and its provisions are more reflective of industry's mind-set, rather than prescriptive towards it.

3.4.4 BS 11000 and FM Supply Chain Management

Talib *et al* (2010) claim that Supply-Chain Management (SCM) has become one of the main ways in which small-to-medium-size enterprises (SMEs), as well as companies in the manufacturing and services industries can compete globally. FM is a service industry, and therefore at its essence it is people-centred, which leads back to the definition of collaboration as defining FM's primary goal as providing a better service for its main stakeholders – the people involved throughout the supply-chain. There are such a variety stakeholders throughout the FM life-cycle that it is hard to define, with the net result that FM ends up being characterised as a "container" for a range of activities" (Kok *et al*, 2011), and as such it is hard for operational performance to be measured. The supply chain in FM is the system through which services relevant to the business objectives of the organisation are delivered.

Therefore, this includes everything from clients, customers, building users at all visitors, suppliers or any other parties with involvement in providing the organisation's facilities management services. FM supply chains can better deliver on

a tactical level through the use of innovative procurement routes, and this is an area to investigate further in terms of establishing where BS11000 could potentially enhance FM practice. As the application of BS11000 is so dynamic and flexible, it will not only applicable to merely one-to-one relationships but also intended to grasps networks of collaborations across the entire supply chains to foster sound business relationships.

The benchmarking and utilisation of the guidance document will improve the chances of the partnership gaining BS 11000 accreditation in the future. (BSI 2010) highlighted four fundamentals in order to gain accreditation,

- alignment with business objectives and desired outcomes, both internal and those agreed with external partners;
- agreement, governance and alignment of common operations and activities;
- the creation of value of mutual benefits;
- effective integration of appropriate risk management.

Thus application of the four elements of the BS 11000 will be adapted through eight stages across clauses 1 to 10 in the standards as highlighted in the figure 9. The eight stages framework is a generic collaborative framework intended to guide any type of organisation or business to evaluate and formulate their respective methodology to form business collaboration. The eight stages are divided into three main categories of framework namely development of strategic, engagement and management.

The first there stages (stage 1(awareness), stage 2 (knowledge) and stage 3 (internal assessment) are strategic internal assessment to gauge and evaluate the level organisation readiness to partner or collaborate. Upon decisions are made to pursue collaboration, the next phases are focussing on finding suitable partner/s for collaboration and to engage with the partner/s (stage 4 (partner selection), stage 5 (working together) and stage 6 (value creation). The final two stages are focusses on walking the miles of relationship management particularly with stage 7 (staying together). Interestingly BS11000 set up a good practice for ending a partnership. More than often partnering or collaboration was terminated when the relationship

turned sour due to failure to comply with the objectives set by parties in the alliance. Stage 8 (exit strategy) provides practical guidance where collaboration could be ended and terminated without any negative impact to business continuity of each party in the partnership. As collaboration could also be terminated in the event that the set objectives were successfully fulfilled, exit strategy in stage 8 offers smooth transition period for disintegration and at the same time evaluate future opportunities for future collaboration. Figure 9 explains summary of BS 11000 key elements for successful implementation.

Figure 9: Overview of the principal components of successful business relationships of the BS11000

Strategic	Awareness (Clause 3)	Establish executive responsible and organizational policy	Identify business objectives and value proposition	Identify and prioritize relationships	Establish resources, competencies and behaviours	Undertake initial risk assessment	Relationship Management Plan
	Knowledge (Clause 4)	Develop specific business strategy	Establish knowledge management process	Establish objectives, strategy, business case and identify potential collaborative organizations	Establish initial exit strategy	Incorporate relationship management with risk management processes	
	Internal assessment (Clause 5)	Undertake self assessment	Establish collaborative profile	Establish collaborative leadership	Establish partner selection criteria	Establish and implement action plan	
Engagement	Partner selection (Clause 6)	Nominate potential partners	Evaluate potential partners	Establish partner selection plans	Create joint objectives and negotiation strategy	Select partner	
	Working together (Clause 7)	Establish governance, joint objectives and leadership	Establish organizational structure, roles, responsibilities and processes	Establish performance measurement	Establish joint risk management and exit strategy	Establish contract arrangements	
	Value creation (Clause 8)	Establish value creation programme	Define value drivers	Establish improvement team	Establish learning from experience	Implement innovation process	
Management	Staying together (Clause 9)	Ongoing management, monitor and measure the relationship	Continual innovation	Maintain behaviours and trust	Manage delivery and performance	Manage issue resolution and monitor joint exit strategy	
	Exit strategy (Clause 10)	Develop and maintain joint exit strategy	Establish boundaries for the relationship	Monitor and evaluate changes	Manage business continuity and transition	Evaluate future opportunities	

Source: BSI (2010)

3.5 Chapter Summary

The literature in this chapter, which are related to how innovative approaches minimise the problems in service delivery process in facility management, have been extensively reviewed throughout the establishment of this chapter. Through the review, it is revealed that the implementation of Supply Chain Management (SCM) to ease service delivery problems in Facilities Management (FM) business sector is a crucial requirement, since the application of SCM should help organisations formulate sustainable purchasing strategy as well as contribute more effectiveness to the organisational supply chain as a whole.

Upon the value of the SCM principle, it is vital to bridge the gap that exists between the demand and supply of FM service delivery through innovative partnership approach. The complexity of that approach does not only lie in the involvement and integration of numerous services and parties in the delivery process of FM functions, but also in the determination of a common platform prior to that, which drives the motivation for both customer and FM supplier to work as strategic partners that share a common vision, goals and objectives towards organisational sustainability.

Based on this chapter, the partnership innovation approach or mechanism to be adapted must be innovative enough to address the concerns of all parties involved in the supply chain process. However, the specific reference and/or research regarding the application of supply chain innovation concept in FM multiple contracts environment is extremely uncommon, thus remonstrating the assumption that its application within FM industry as a strategic measurement tool is limited.

Further study or research towards the application of SCM in the FM business sector should be undertaken to understand the dynamics that exist in the collaborative innovation of FM contract delivery. A vast literature review including quantitative and qualitative research methods must be conducted in order to investigate the effectiveness of applying SCM in the business. In addition, the type of service delivery

contract should be emphatically focused on in further research, since it affects the performance of SCM as well. It is also recommended that the proposed future research include the study of the efficiency or the success factors of arm's length relations and strategic partnering, as well as the performance measurement methods of different relationship types. Finally, similar studies for different markets should be conducted in order to analyse the possibility of culture-related factors as well as any other market-related factors.

The sources quoted in this part of literature review generally support the idea that collaborative innovation is being actively encouraged, and is a positive force. Maybe the philosophy of "work with the best and don't trust them" is being recognised, or conversely maybe business is revealing its essentially people-centred, amenable side. However, as Kadefors (2008) points out, trust is, in the long term, based on reliability rather than general relations, and thus the most important thing we must always bear in mind as an industry is that the balance must be struck between innovating and using tried and tested means to work effectively.

In conclusion, it would initially seem sensible, to take measures to manage the relationships between parties via some formality, as it surely should never be assumed completely that another company's loyalties are entirely altruistic or in line with that of your own on every level.

This can be achieved via the use of a dynamic contractual matrix pre-agreed on by the parties, which is an area where BS11000 will be able to help, drawing on the business experiences of those who have been there and done it before. Whilst over-stating process specifications will clearly end up causing frustration between close-proximity parties, an agreed limited set of process specifications may work wonders in terms of managing the relationship; in other words, some formality must surely remain where an outsourced contractor's work puts it in day-to-day contact with its client. What drives these researchers is to investigate the perception of FM stakeholders regarding the use of BS 11000, and its relevance to the FM arena. BSI confirmed in February 2014 a new upgraded international standard ISO 11000, developed for collaborative working relationships, which is due for release in late 2016 (Bsi, 2014). At present, BS

11000 is still valid to be implemented as the national standard for business collaboration.

Chapter 4

Innovation management and FM

4.1 Introduction to Innovation Management

Attempts to define innovation has produced many conflicting opinions (Marquis, 1969; Nelson & Winter, 1977; Sundbo, 1997; Van-de-Ven *et al.*, 1999) resulting in the term being ambiguous. Theory regarding innovation is substantial and diverse with different definitions focussing on the various types of innovation that exist. Some of the definitions focus on technology; others are more applicable to services or simply defined innovation in a broad sense making it difficult to isolate the particular innovation (Goyal, 2007). Many existing theories relating to innovation are originally based around manufacturing industry due to its roots being from the time when production was the main driving force of the global economy (Gadrey *et al.*, 1995).

4.2 Definition and Principles of Innovation

Numerous models of innovation have attempted to define and understand innovation as a process and the possible ways in which it can be managed (Tidd *et al.*, 2005). Trott (2005) claims that there are two schools of thoughts that divide innovation drives. First is the 'market view' where market conditions provide the context that facilitates or constrains the innovation potential of a firm, with the key issue being a firm's ability to scan their environment and look for opportunities in the market place. Trott (2005) also highlighted that the 'resource view' proposes that it is a firm's own resources that determine their capacity to innovate and shape the markets.

Rothwell (1992) provides a comprehensive historical perspective on the evolution of these innovation process models. He argues that the innovation process models have developed in five generations, from a simple linear model to increasingly complex

interactive models. 'Technology push' and 'market pull' models are the first and second-generation models with simple linear sequential processes. The third generation simultaneous coupling model recognises interactions and feedback loops between different elements, whilst the fourth generation interactive model combines the technology push and market pull models and emphasises the external linkages. The fifth generation network model perceives the innovation process as a multi factor process, which requires high levels of interaction, networking and knowledge. Despite the fifth generation models being more complex, they still share the same basic processes as the earlier models (Rothwell, 1992; Trott, 2005).

Some of these innovation models are more suited to certain industries and context. For example, the simple technology push model can be distinguished in the pharmaceutical industry, whereas the market pull model is more applicable to fast moving consumer goods industries (Trott, 2005).

4.3 Service Innovation

Cardellino and Finch (2006) argue that most studies have focussed their attention on technical innovation (Abernathy & Utterback, 1978; Dosi, 1982; Rothwell, 1992) because of the nature of the manufacturing industry compared to service industry. They point out whilst manufacturing industries create goods, service industries provide non-tangible products that can be difficult to perceive (Cardellino & Finch, 2006). Intangibility, simultaneity and heterogeneity can pose particular barriers to innovation in services, which could be why innovation is less developed in service (Voss *et al.*, 1992). Consequently, the service sector's ability to innovate is insignificant compared to the manufacturing sector (Cardellino & Finch, 2006).

Despite being overshadowed by industrial innovation theory throughout the 20th century, Miles (2000) argues that innovation in services has emerged from a neglected and marginal status to achieving widespread recognition as being worthy of in-depth study with the growing perception of services. This is because non-innovative activities are superseded by the view that innovation can play a major role, resulting in greater interest in service innovations (Barras, 1986; Sundbo, 1997;

Evangelista, 2000; Miles, 2000; Djelal & Gallouj, 2001; Drejer, 2004; Tether, 2002). This new paradigm has recognised the service sector contribution in particular to the innovation process and elevates the role of innovation in service sector mainly from a recipient rather than driver or innovation agenda (Hertog, 2000).

Teather (2005) found that there appears to be many different innovation patterns in service firms. Some service firms innovate by copying the ideas of their rivals or by adopting off-the shelf technologies. These efforts require little creativity or risk-taking and therefore is questionable whether it amounts to innovation. Nevertheless, other service firms undertake genuine innovation by committing substantial resources to areas such as in research and development (R&D).

Sundbo (1997) claims that innovation is a radical act, which is the introduction of a new combination of old elements, and proposes three different approaches to explain innovation. Additionally, the study viewed that innovation may be determined by scientific research resulting in new technology, by individual entrepreneurship, or by a strategic decision and development of innovation in the entire company (Sundbo, 1997). The third approach was identified as the most adequate for explaining innovation in service firms, whereby innovations are market-driven and formulated within the framework of a strategy. Top managers control the innovation process but ideas come from all parts of the organisation.

4.4 The Role of Innovation in General Business Context

Innovation is not only essential for corporate success but is also commonly viewed as extremely important for business survival (Goyal & Pitt, 2007). Innovation is a necessary part of business, which produces added value to the core business function (Pitt, 2005). Naughton (2004) opines that global competition; shorter product cycles, changing customer needs and advances in technology are necessary for a business to survive. Similarly, Doyle and Bridgewater (1988) highlighted that current business environment cannot sustain its market share or profits in the long term unless it is innovative, and Johannessen *et al.* (2001) emphasises that these hyper-competitive markets have made innovation extremely necessary. Business should focus on

innovation because of the unending and increasing stream of knowledge that keeps the marketplace in constant motion (D'Aveni, 1994).

Cardellino and Finch (2006) look towards the definition offered by West and Farr (1990) stating that innovation is:

> "…the intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organisation or wider society" (West & Farr, 1990)

This definition emphasises the planned intentional approach that organisations take when creating and evolving new ideas. It suggests that a random approach to innovation does not exist, but that innovations are planned in such a way that an organisation can anticipate the benefits from the change (Cardellino & Finch, 2006). These benefits are not restricted to economic and productivity benefits but could include personal growth, increased satisfaction, or better personal communication (West & Farr, 1990). In addition, this definition not only embraces technological change but also encompasses new ideas, processes, procedures and characteristics of services, including a component of implementation, which suggests that without a planned introduction, an innovation is unlikely to be realised (Cardellino & Finch, 2006). Van-de-Ven *et al.* (1999) argue that innovation is more comprehensive than simply coming up with an idea to support the argument. It includes the process of developing and implementing this idea. Naughton (2004) highlighted that the mechanism of innovation and change is a systematic process that should be aligned with business strategy, and eventually grows because of an organisation's core strengths.

Companies should focus more and harder on being innovative, due to unending and increasing stream of knowledge that keeps the marketplace in incessant motion (D'Aveni, 1994). Organisations should treat innovation as highly critical and vital for most firms to embrace in order to create a competitive advantage (Goyal *et al.*, 2005). To successfully embrace and harness innovation philosophy, it is essential for organisations to determine the appropriate methods and techniques that are suitable

for their own and not to just adopt any innovation techniques that work for their competitors (Goyal & Pitt, 2007).

4.5 Organisation Culture as Catalyst to Innovation

A successful innovation agenda involves an implementation stage, bringing something into widespread use, which does not require the brain wave of one person but requires many different creative processes performed by many different people over a sustained period (Van-de-Ven *et al*., 1999; Tidd *et al*., 2005). An innovative culture is essential if innovation is to thrive in any organisation. The innovative culture of an organisation can be defined as the pattern of shared values, beliefs and agreed norms that shape behaviour (Tidd *et al.*, 2005). Kanter (1997) list the enviromental factors which contribute to stifling innovation; these include:

- Dominance of restrictive vertical relationship
- Poor lateral communications
- Limited tools and resources
- Top-down dictates
- Formal, restricted vehicles of change
- Reinforcing a culture of inferiority (i.e. innovation must come from outside to be of any good)
- Unfocussed innovative activity
- Unsupporting accounting practices

The list illustrates that establishing and developing an innovative climate is not a simple process but consists of a complex web of behaviours and artefacts (Trott, 1998). It further suggests that changing this culture is unlikely to happen instantly, yielding immediate results (Tidd *et al*., 2005; Goyal and Pitt, 2007). On the contrary, forging a creative climate involves systematic development of organisational structures, communication policies and procedures, rewards and recognition systems, training policy, accounting and measurement systems and deployment of strategy (Rickards, 1997; Cook, 1999). Examples of reward systems include the establishment of a 'dual ladder' which enables technologically-innovative staff to

progress within an organisation without being consigned to managerial roles and promoting the idea of 'intrapreneurship'(internal entreprenuership) (Badawy, 1997; Pinchot, 1999). Tidd *et al*. (2005) demonstrate the benefits of 'intraprenuership' by examining the culture of 3M and arguing that the organisation has a culture which encourages individuals to follow up interesting ideas and allows them up to 15% of their time for such activities. If the idea looks promising, there are internal venture funds to enable a more thorough exploration. 3M will back the ideas and give the personnel the responsibility to develop it if the individual thinks they can convert the ideas into future businesses.

4.6 **Innovation in FM**

FM is a sector dominated primarily by "service innovation" (Cardellino and Finch, 2006) and innovation is becoming a key to the differentiation of players in the market. However, it is fundamental to understand that innovative ideas should not come out of a few brilliant people (Goyal, 2007). Highlighting the importance of getting the most out of as many people as possible, Goyal further states that it is imperative to encourage each and every member of the company to put their ideas forward, never stop encouraging employees to innovate and to equip them with the appropriate tools and environment to nurture creative ideas. Thus the FM interface is a strategic approach to create a workplace atmosphere that is able to set an innovative culture and ambiance towards an organisation's prosperity. Significantly, innovation in FM must take place at a more initial stage and tied with the overall organisation innovation strategies to enable holistic innovation values, belief and attitudes to be adapted at all levels within an organisation.

4.6.1 Innovation in FM Services Delivery

FM is not just about delivering services in the most effective ways, it is also about providing them in an ever-evolving world/industry. In the last three decades, FM has established itself as a key service sector, with a diverse and highly competitive market of FM contractors, in-house FM teams, FM vendors, FM consultants and professional FM institutions (Nutt, 1999; Tay & Ooi, 2001). This view has earlier been

supported by Alexander (1999), which states that the relevance and significance of innovations are not just limited to industrial products and processes alone, but also extend to the environment and facilities, organisational workers, employees as well as the buyers of products and services.

There are many business tools available for organisations to aid efficiency in business sectors, but FM offers a holistic and evolutionary approach in achieving optimum business solutions (Barret and Baldry, 2004), taking account of business policies, procedures and services, alongside procurement procedures, human resources management, training and development, business relationships and statutory considerations. Facilities management can be strategic in managing business support functions and operational, concentrating on the detailed operational activities of the organisation. Atkin and Brooks (2000) also noted that for FM to be effective, both the 'hard' issues, such as financial regulation, and the 'soft' issues, such as managing people, have to be considered. Hence, FM encompasses all areas of an organisation's activities, and can be seen as a series of linked activities involving the co-ordination of all efforts relating to the planning, designing and managing an organisation's physical resources (Becker, 1990). The last item includes incorporating spatial, environmental, human and financial resources (Nutt, 2000).

Given this competitiveness, innovation is becoming imperative to differentiate players in the market (Cardellino and Finch, 2006). Despite being 'portrayed with lacklustre image in relation to innovation', recent high profile events such as the British Institute of Facilities Management (BIFM) Annual Awards for Innovation reflect a growing recognition of innovation in the FM sector (Cardellino and Finch, 2006). This has led many organisations to re-evaluate the contributions of FM in making a business successful, recognising the business consequences of poorly-managed facilities, and searching for value that can be added through effective planning and management (Alexander, 1996).

4.6.2 Examples of FM Innovation

As discussed in the earlier section, innovation is most effectively undertaken within the context of a group interconnected by a set of common beliefs and within an inclusive culture. This is supported by the 2003 DTI Innovation Report that argues that there is a 'clear link between innovation and high-performing workplaces, where good managers inspire their employees and create a workplace culture in which new ideas are encouraged and rewarded'. The report continually encourages the growth of high-performing organisations by educating business, both employers and employees, about the role of innovation.

The report urges that in order for innovation to flourish, work must be organised in a way that enables new skills and employees knowledge to be fully utilised, and to create a culture of continuous innovation (DTI, 2003). Linking this to FM, (Goyal and Pitt, 2006; Goyal *et al.* 2006) argues that the need for an innovative approach to service provision has never been great as FM innovation acts as an enabler, adding value to the organisation. Furthermore, the role of innovation management in FM is not about producing innovative solutions, but rather the provision of a creative environment, in which solutions can be conceived, developed and applied (Goyal and Pitt, 2006; Goyal *et al*, 2006).

Goyal (2007) stresses that the creation of an efficient and high-morale working environment can give employees a place to come together and have fruitful discussions leading to the generation of innovate ideas. The adoption of entertainment and recreation facilities like restaurants, food courts, health centres, open-plan offices and parking places all have added a new dimension to selling, buying and other business affairs. Creating innovative environment and facilities will not only add pleasure to otherwise mundane routines and jobs, but also the glamour and attraction of these facilities will create demand and results in expansion of industry commerce and services (Goyal, 2007).

Other good examples of the application of innovative ideas and practices, which impact on businesses, can be identified in relation to the adoption of team spaces and

space density. Leaman says that individual productivity is surely affected by uncomfortable working conditions such as heat lighting and ventilation. He argued that buildings are total systems: the human and management interface are just as important as their technical and physical elements. Unless the interaction of these fundamental components are in harmony, it is unlikely for the building to work as a whole (Leaman, 1995 in Goyal, 2007).

4.6.3 Innovation in FM Multiple Contract Management

Multiple contract management represents one of the greatest challenges facing the FM discipline in the modern business world. Whether in-house or outsourced, the continuity and unison required for multiple-contract delivery of services and processes to succeed is difficult to achieve. Introducing the possibility of innovation relative to this delivery increases the risk of conflict and subsequent dissatisfaction from the client. This is where FM is particularly applicable and could be the area, which promotes FM into the realm of a recognised and professional discipline, essential to competitive organisations.

Contract management inevitably deals with outsourcing. Usher (2004) highlighted some of the issues relating to outsourcing and emphasized that there is no standard FM contract or model that can be offered when creating an outsourced contract. All contracts are structured according to the demands of the client organisation and their requirements. Pitt (2005) points out the dangers of writing innovation into contract although Usher (2004) illustrates that if different parties are to work together, the contract should reflect this and allow for development, innovation and investment. The difficulties of divergence between the client and the supplier only increase with the introduction of further parties to the equation. The needs for the development of good relationships (Cardellino & Finch, 2006), not only between client and supplier but also between suppliers, are key to multi-contract effectiveness. Cardellino and Finch (2006) conclude that an effective development process is essential when undertaking an innovative improvement to services. This should include good communication, employee and end-user involvement, and the marketing of new

service or procedure as demostrated in recent comparisons between managing innovation in the military and innovativeness in FM (Hinks *et al.*, 2007).

Hinks *et al.* (2007) suggestes that widespread innovation in FM requires macro-level cooperation between the sectors of FM supply and FM demand. Contemporary FM models do not permit this due to outsourcing dynamics, off-shoring tactics, adversarial procurement approaches, and adversarial and micromanaged outsourcer management. If, as Price & Akhlaghi (1999) propose, that FM is to be a complex adaptive system in a world where innovation and genuine added value replace the blind managerial fads drawn from traditional models, it must take the points from Hinks *et al.* (2007) into account.

It was highlighted by Goyal (2007a) that the need and importance of innovations do not begin and end by themselves. With industries and service providers preferring to outsource more and more inputs and subsidiary services, it has become extremely important that innovations are given significant attention and being adapted as daily business activities. Goyal (2007) pays particular attention to the influence of facilities on organisational effectiveness and argues that the introduction of FM as a response to the need for more effective control and the promotion of effectiveness in the whole workplace set new management challenges within an organisation. The challenge, Goyal argues, is being able to establish the conditions for a continual improvement of quality, whilst simultaneously containing cost; enhancing property value and minimising business risk (Goyal, 2007). Therefore, promoting innovation as a regular and continuous effort across the entire supply chain nearly becomes a key managerial function for all organisations (Goyal, 2007).

Growing competitiveness within the FM service sector raised a necessity amongst FM providers to differentiate the services they provide from their competitors, which can be achieved by giving attention to the specific needs of their clients (Cardellino & Finch, 2006). This involves scrutinising the market and firms for innovative ideas to solve customers' needs, in a similar way to the searching stage in the innovation management model from Tidd *et al* (2005). Organisations constantly scan the internal and external environment for relevant signals about threats and opportunities for change. Innovation in FM is motivated by the need to differentiate services from

competitors and to develop long-term relationships with customers by catering to their specific needs (Cardellino & Finch, 2006). This approach will not allow competitors to replicate an organisation's original ideas and strategies in providing immaculate services.

To allow a business to compete and adapt to changes and other possibilities, Goyal (2007) states that a high level of integration must be achieved and the innovation process must be perceived as a knowledge supply chain. Supply chain management functions as a method of managing the process of innovation, which involves all parties working with long-term aim to add value to their own business and give value to the client. Frank (2000) defines supply chain management as more of a new management definition that reflects the significant changes that have taken place due to changes in the business environment. These include:

- Increase in globalisation, leading to an increase in dependency, money transfer and knowledge transfer;
- Savage price competition;
- Increase in customer demand for higher and better quality final goods and services;
- Changes in technology, leading to new forms of working and trading, e-commerce and increased outsourcing

The changes mentioned are the main stimulus for innovation in a business environment. This is because these changes in the business environment force companies to reappraise each and every activity they engage in in order to remain competitive in the marketplace and simultaneously manage all aspects of the supply chain (Frank, 2000; Goyal, 2007). Concurring with this assessment, Pitt (2005) highlighted that this is the most likely environment where innovative maintenance management solutions will thrive in competition. In a typical business context, the partnering-focussed approach to supply chain management enables the parties involved to work with a long term aim to add value, not only to their own respective business but also deliver added value to the client (Goyal, 2007).

Additionally, Goyal (2007) states that service level agreements (SLA's) facilitate the management of contracts through an objective approach of managing clients' and vendors' perceptions and expectations during the contractual period. With increased outsourcing within the FM discipline, SLA's is an instrumental mechanism in governing the customer and supplier interfaces. SLA's allows smooth running of projects, avoids disputes between suppliers and client that lead to a healthy relationship, and adds value to the business (Goyal, 2007). With a clear definition of core business and strategies, coupled with strong management facets and qualities, SLA's can act as valuable and efficient business tools (Andersen, 2006).

Cardellino and Finch (2006) distinguishes between third-party FM organisations and in-house FM teams, and finds that there are variations in the motivation for innovation between these two groups. The primary motivation of third-party organisations is to create a more transparent interaction with clients so that the service provider can demonstrate the value-added services they offer (Cardellino & Finch, 2006). Among these teams, the relationship with their clients is of critical importance. Due to the growing competitiveness between FM providers, supplier companies will need to prepare for a future with immense competition, adapt and evolve to constantly changing markets in order to ensure survival. Nevertheless, in-house FM teams need to use innovative approaches to identify ways in which economy is ensured through identifying the best relationship between the building and its occupiers, with emphasis on achieving operational efficiency (Cardellino & Finch, 2006).

Innovation with suppliers and creating strategic supply chain partnerships to gain long-term benefits are recognised as one of the most important and beneficial aspects of facilities management innovation (Lehtonen, 2006). However, Goyal (2007a) argues that during the tendering process, organisation should not select the suppliers who offer the lowest bid, but those whose management style and working ethics match with the goals and strategies of the organisation.

Outsourcing enables an organisation to access the best resources available. It is a decision taken with optimistic intentions and expectations with desired qualities of innovation, new thinking and extraordinary responsiveness (Goyal, 2007).

Outsourcing has been identified as a key aspect of maintaining and developing competitive advantage, since it allows businesses to maximise the return on their internal resources and to develop core competencies that enable them to guard against future competition (Campbell, 1995).

Outsourcing certain aspects of the business allows for innovation by making full use of external capabilities, which provides a better cost and service to the customer (Pitt, 2006). Constructing Excellence (2004) highlighted that creating strategic supply chain partnerships to gain long-term benefits are an important aspect of FM innovation. Partnering offers mutual benefit for the service provider and the client such as:

- Increased customer satisfaction
- Staff development and satisfaction
- Better understanding between partners and driving down costs
- Better predictability of cost and time
- Shorter overall delivery periods
- Elimination of duplication

Innovation is achieved as partnering between organisations maximise the opportunity to think and act beyond an organisation boundaries, bringing together aspirations, skills and knowledge of all stakeholders involved who work to gain profits and competitive advantage - the basis of any partnering agreement (Goyal, 2007). Therefore, it results in a transition of supply chain relationship from 'service vendor' to 'strategic alliance'.

Slaughter (1998) describes innovation as the implementation of changes of consequence and/or an institution's improvement of a novel process, product, or indeed an entire system. To put this in a relevant context for this discussion, innovation represents the pushing of the boundaries of an organisation's ways of conducting both core and non-core business.

Salavou (2004) suggests that innovation should focus on products rather than organisations; however, the “product” of FM is surely the service delivery through the supply chain, and thus the organisation behind the supply chain is of key importance, which all leads back to the theory that FM is, in essence, “people-work”. Goyal & Pitt (2007) express the need for FM organisations that maintain a flexible and clear, holistic view of the role of innovation, which suggests that the most adaptable organisations will have the most long-term success.

4.6.4 Innovative procurement routes

FM contracts must include service specifications combined with a Service Level Agreement (SLA). Kadefors (2008) points out that performance specification has recently become a more common feature of SLAs as an alternative to the previously common process specifications. In other words, the argument is that FM contracts are increasingly specified with the end goals in mind, rather than the process of how to achieve the desired goals. Kadefors’ report then outlines the debate between using performance specifications as opposed to process specifications in initial RFPs and first-time contractual agreements, suggesting that one or the other should be chosen dependent on the proximity of the contracting parties' daily relationship. The more formalised style of process specification-heavy contract, she argues, facilitates the control of close daily cross-company interactions, and prevents problems arising from the relationship getting "too comfortable", presumably leading to the compromise of the initial goals of the contract. She also suggests that within a more arm's-length agreement, less formalisation in the form of a purely output-orientated performance specification-led agreement allows the contracting parties to build the relationship more organically, as more interaction is required to fulfil the agreement. Thus, in FM this would suggest that core services should be less formalized, with non-core and less strategic agreements more formalized.

4.7 Critique: Do we need to bring in collaborative innovation via BS11000?

In comparing supply-chain management in FM to BS11000, we can theorize about FM leadership using the ideas reflected in the theory of collaboration; that the FM industry will benefit from and become more innovative through more open, collaborative approaches. The author stands firmly by Goyal‘s (2007) idea that innovation processes should operate as a "knowledge supply chain", via a high level of integration into the organisation, in order to truly enhance a business' overall performance and adaptability.

Certainly, it would seem that measures such as BS11000 reflect a determination for businesses to move towards more collaborative working practice, and encourage "friendly competition" over the more isolated “master-slave” approach of other areas of the construction industry. This is an encouraging sign that the "win-win" philosophy of business is coming to the forefront of industries' consciousness, as well as the awareness that co-operatively the industry can develop its knowledge and effectiveness. Whether Kadefors' (2008) approach to supply chain management is more effective, or whether Hawkins & Little’s (2011a) ideas are yet seen as more relevant, the mere fact that this is a cause for debate is a positive sign. It still remains to be seen, however, how many FM companies are willing to “take a hit” initially, so to speak, in contracting based on the best RFP for the best future relationship, over taking the best price.

It is important to realise that FM organisations must use performance management systems not only to monitor their current performance, but also to enhance learning and development capabilities (Amaratunga and Baldry, 2002). If a varied and dynamic industry such as FM can create an effective and efficient information-focussed culture, surely this will increase its image, and as its “product” is effective working spaces, this could be a route to realising the creators of BS11000’s vision of the future.

Amaratunga & Baldry (2002) also point out the need to incentivise and provide practical arrangements for information handling in order to streamline the use of potentially complex contractual matrices, suggesting that the vital goal of enjoying working needs to be balanced with the harder work of organising and handling the appropriate contracts.

Eriksson (2010) points out that a group performance-based incentive can enhance co-operation and a systems perspective, and that the more roles and responsibilities are clearly defined throughout contracts, the harder it is for any party to "pass the buck". Wiengarten *et al* (2010) point out that the quality of information contributes significantly to collaborative performance, which seemingly vindicates Kadefors' (2008) argument that trust is fostered through reliability above all else, and there is potentially a call to operate on a level where trust-relationship potential comes before price and awarding contracts to the lowest bidder. This, of course, enhances the argument that good, innovative FM can come through innovative procurement and the drawing up of innovative SLAs.

4.8 **Chapter Summary**

Based on the aforementioned extensive literature review in this chapter, FM principles are integrated into the business scheme as an innovative way of giving the organisation a modern image, reducing unnecessary costs in organisation administration system, and creating a better working environment in the workplace. Another significant objective in integrating FM into a business is to create a difference among competitors in terms of culture, strategy and through quality of service in order to respond to customers' requirements effectively. Therefore, an organisation will benefit more from the implementation of FM in its business.

To support the establishment of FM in an organisation, it is essential for the management of the organisation to identify the needs of strategic FM as well as allow their facilities managers to think and work innovatively. The management should provide support in terms of supplying adequate resources, ample working space and practical guidelines to their facility managers. Providing an ideal environment would

add value to the organisation as a whole. People in innovation leadership positions need to have their relevant authority ensure that there is a widely understood system process with adequate resources to achieve a rich culture that supports innovation.

Since the current business sphere involves a highly competitive market, there is a need for an organisation to have a practical strategy towards its business objectives and routine operation, and all employees need to be widely educated on these strategies. For example, the application of SCM through collaborative innovation is seen as a breakthrough in fostering win-win alliances between the demand and the supply of FM services. It was further emphasised that any organisation's failure to embrace innovation culture will hinder growth and sustainability of the establishment. Moreover, FM is capable of contributing towards organisational success if it is given the opportunity to exploit new ideas and perform innovative activities that are regularly measured and integrated within the overall business goals and strategies of the key suppliers. In this regard, innovation in facilities management should be firmly installed as an integral part of the total management system, and if innovative ideas are perceived as a culture at all levels within an organisation, then it can flourish as a whole.

In addition, the review also reveals that many organisations are concerned about implementing innovative strategies into their facility management sector. For example, the implemented technique such as SLA, that has proven its effectiveness in managing the interface between customers and suppliers. Another good example in this regard is the 'Intrapreneurship' system (by 3M), which encourages creativity, innovative solutions and the need to develop a system for individuals to work as a team.

As mentioned above, innovations do not occur through the individual act of one person, but as a result of a complex set of processes that require the efforts of many individuals. If service delivery in organisations aims to be innovative, then they need to be clearly and coherently managed as a set of processes by creative people. The role of innovation in FM services is not just to produce innovative solutions, but also to establish and develop a creative environment in which solutions can be conceived, developed and implemented.

As a conclusion, innovation in FM service delivery is an integral part of the total management system. An industry will flourish when innovations are perceived as a culture at all levels within an organisation. In order to achieve this, it is essential that innovation in FM is allocated similar empowerment and platform in an organisation's overall innovation plans.

The inception of BS11000 as a framework for innovative collaboration tool provides a model for evaluating relationship between the supply chain partners. The standard provides a step-by-step guideline to foster strong collaboration agenda from cradle to grave. At present there is very little evidence on the practical application of the BS 11000 to be applied in FM industry. Theoretically the BS 11000 has great potential to be applied in fostering sound collaboration between parties in the FM supply chain. Taking the view, this research will pursue this avenue in researching the potentials, constraints and barriers for the BS 11000 framework to be applied in the UK FM industry.

Chapter 5

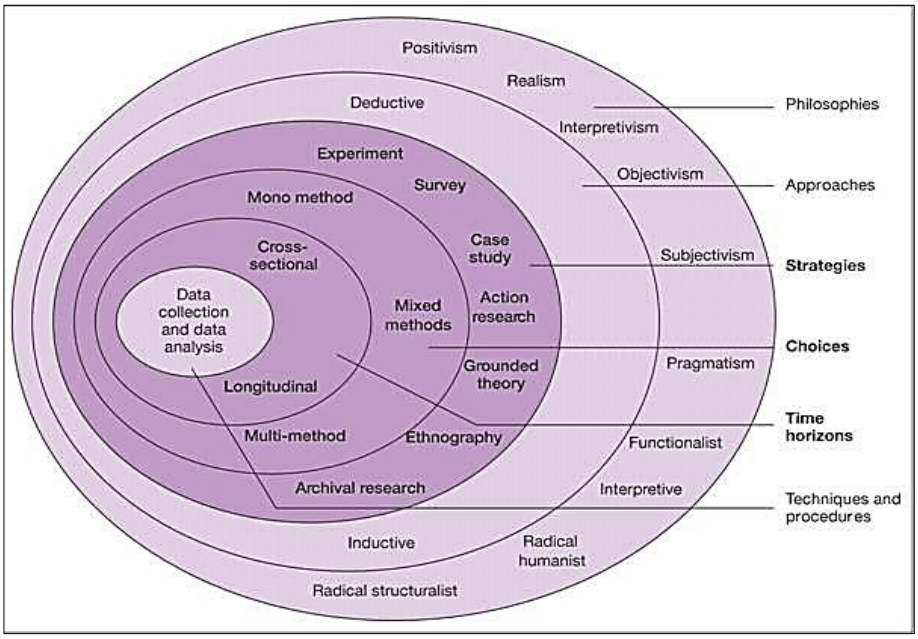
Research methodology

5.1 Introduction

Kumar (2005) underpins two critical questions in defining research methodology. Firstly, what do you want to find? And; secondly how to go about findings the answers? The path to findings the answers to these two questions constitutes research methodology. In order to come up with the most suitable research approaches and strategies for this study, Saunders *et al.* (2012) research process "onion" was adopted. Additionally this provides the researcher with the central issue of how to collect the necessary data needed to answer the research question and objectives, by peeling back each layer in the process. Figure 10 by (Saunders *et al.,* 2012) shows how the researcher conceptualised the research approach to be applied in this study, sequentially to come up with pertinent data needed to answer the research questions stated in Chapter 1, as well as to arrive to the fulfilment of their research undertaking's objectives.

Kumar (2005) highlighted that quantitative and qualitative research methodologies differ in the philosophy and paradigm in their mode of inquiry, data collection procedures, analysis and style of reporting the findings. Whilst quantitative and qualitative methodologies can clearly be demarcated by viewing a different view of continuum, mixed-method research positioned its philosophical stance as a hybrid worldview as it has both quantitative and qualitative approaches (Creswell 2014).

Figure 10: Research Onion



Source: Saunders *et al.* (2012)

5.2 **Overall Research Design**

According to Bryman (2008), research design provides a framework for collection and analysis of data which, reflects decisions about priority being given to a range of dimensions of the research process. He further emphasizes four main criterion of a research design;

- Expressing causal connections between variables;
- Generalizing to larger groups of individuals than those actually forming part of the investigation;
- Understanding behaviour and the meaning of that behaviour in its specific social context;
- Having a temporal (i.e. over time) appreciation of social phenomena and their interconnections

Kumar (2005) taking the viewpoint of Kerlinger (1986) opines that research design is a procedural plan or blueprint that is adopted by the researcher to answer questions validly, objectively, accurately and economically. Research design is intended to achieve two-pronged functions; firstly is to identify and/or develop procedures and logistical arrangements for the study, and the second function is to assure procedures that are set for the research adhere to stringent quality control of variance (Kerlinger, 1986) in determining the research validity, objectivity and accuracy of the study undertaken. A summary of the research strategy and research design in social research methods are indicated in table 11.

Table 11: Research strategy and research design

Research design	Quantitative	Qualitative
Experiment	Typical form: Most researchers using an experimental design employ quantitative comparisons between experimental groups with regard to the dependent variable.	No typical form
Cross-sectional	Typical form: survey research or structured observation on a sample at a single point in time. Content analysis on a sample of document	Typical form: Qualitative interviews on focus groups at a single point in time. Might also include a qualitative content analysis of a set of documents relating to a single duration of time.
Longitudinal	Typical form: Survey research on a sample on more than one occasion, as in panel and cohort studies. Might include a content analysis of documents relating to different time periods.	Typical form: Ethnographic research over a long period qualitative interviewing on more than one occasion, or qualitative content analysis of documents relating to different time periods.
Case study	Typical form: Survey research on a single case with a view to revealing important features about its	Typical form: The intensive case study by ethnography or qualitative interviewing of a single

	nature.	case, which may be an organisation, life, family or community.
Comparative	Typical form: Survey research in which there is a direct comparison between two or more cases, as in cross cultural research.	Typical form: Ethnographic or qualitative interview research on two or more cases.

Source: Bryman (2008)

Creswell (2014) supports Bryman (2008) opinion in classifying research design between qualitative research (framed in terms of using words that attempt to understand something) and quantitative research (centrally using numbers) or using close-ended questions (quantitative hypothesis with intention to proving something) rather than open-ended questions (qualitative interview questions). Each approach has advantages and disadvantages.

In quantitative research, generalisation can easily be achieved and reported using statistical and numerical analysis with little potential for the data to be biased. However the results are hardly able to be elaborated in great depth by the respondents. In contrast, qualitative research allows rich in-depth data to be explored and analysed by the researcher. Conversely the data collected have a higher tendency to be distorted and biased by the perception of researcher on the subject that is being investigated.

Analysis of qualitative data also can be more time consuming. Nevertheless none of either quantitative or qualitative research is more superior than another thus the choice of identifying the most practical research design between the two solely depending on the aim and objective of the research undertaken.

The two dimensions of quantitative-qualitative research designs remain dominants until the inception of mixed-method research in the end of the 20th century. The mixed-method approach integrating the two form of quantitative and qualitative data

since this approach provide holistic understanding of a research problem than focussing on a single approach alone (Creswell, 2014).

This study adopted mixed-method approach using both quantitative and qualitative method. Since FM is a people business and collaboration is paramount important in assuring effective delivery of FM services to strategically support sustainability of an organisation, the research will use quantitative method to gauge the level of collaboration within the stakeholders in FM industry. At the same time identification and hierarchy of conditions for FM collaboration will be identified quantitatively in the initial stage of this study. Once this stage is completed a qualitative phase will precede to investigate the potential application of BS 11000 as collaborative business tools with several categories of FM stakeholders within the FM supply chain based on the results from the quantitative research design. As such, this study also conforms to the cross-sectional research design as suggested by Bryman (2008) in Table 11.

5.3 **Theoretical Paradigm**

The term of research philosophy is interchangeably used with research paradigm that refers to a cluster of beliefs, worldview, values or principles that influenced the direction of a study based on discipline orientations, students' advisors/mentors inclinations and past research experiences (Nelson, 2004; Creswell, 2014). It is instrumental to define philosophical viewpoint prior to embark in any research as suggested by Easterby-Smith *et al.,* (1991) that the quality of any study will deteriorated if researcher fail to think and conduct research through any philosophical lens or viewpoint. This is due to the fact that each research paradigm contains important guidelines about how people view the world. According to (Nelson 2004) these paradigm have to some extend been raised to extreme stereotypes' of one particular viewpoint.

Saunders *et al.,* (2012) relate philosophy of research to the nature and development of any particular knowledge based on specific assumptions with a basic objective of conducting a research to discover more about ourselves and the world around us (Ghauri and Grønhaug, 2005). Whilst Nelson (2004) underpins two research

philosophical viewpoint as objectivism and subjectivism (phenomenology). Ghauri and Grønhaug, (2005) disect three major ways of thinking about research paradigm which are epistemology, ontology and axiology of which each element contains vital differences which will influence the way we think and conduct research process. Epistemology concerns what constitutes acceptable knowledge in a field of study. Axiology is a branch of philosophy that study judgements about value whilst ontology is a branch of philosophy which is concerned with nature of social phenomena as entities.

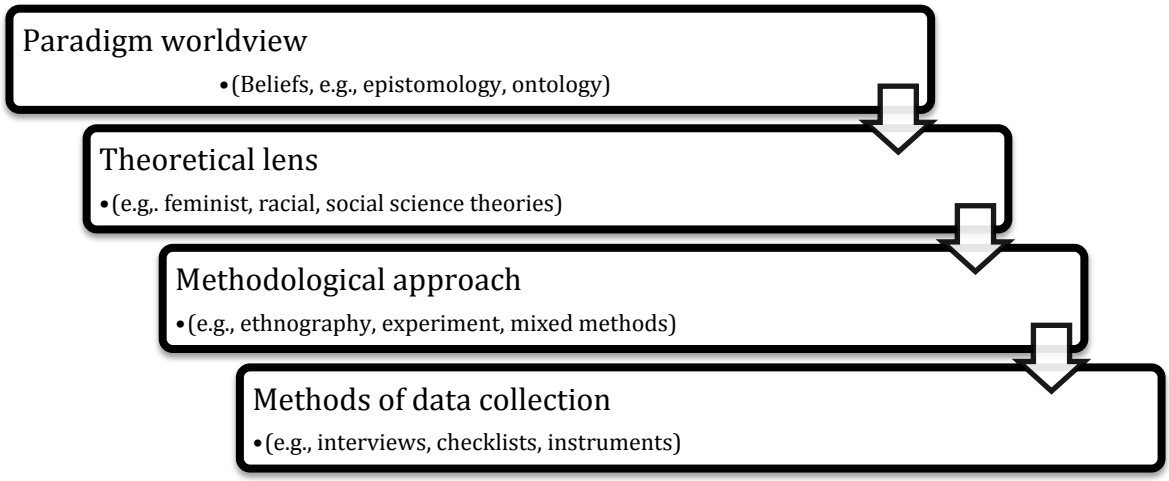
Saunders *et al*., (2012) further indicated that there are four paradigms namely functionalist, interpretive, radical humanist and radical structuralist that are anchored by two main research approches; deduction and induction. In addition, Creswell (2011) explains four research worldviews; postpostivism, constructivism, participatory and pragmatism.

Postpotivism is quantitative in nature, relates to the philosophical stance of the natural scientist. This entails working with an observable social reality and at the end product can be law-like generalisations similar to those in the physical and natural sciences. The esseance of realism is that what the senses show us is reality, the truth; that objects have an existance independent of the human mind and testing of theories are continually refined. Participatory or interpretivism is often associated with qualitative research is an epistemology that advocates that it is necessary for the researcher to understand the differences between human in our role as social actors. (Slife and Williams (1995) as cited in Creswell (2011)).

Constructivism is also a qualitative approaches where the participants provides their understanding of a phenomenon shaped by social interaction with others based on their own personal history and this amalgamation of personal perspectives shaped up into broad understanding of a paradigm. Finally, pragmatism holds the most important determinant of the research philosophy adopted is the research question and the worldview of pragmatist arises out of actions, situations and consequences rather than antecedent conditions. Social study paradigms can be used in management and business research to generate fresh insights into real life issues and problems (Saunders *et al.,* 2012; Creswell, 2014).

In summary Creswell (2014) highlighted that research paradigm will aid a researcher to apply relevant theoretical lens that later informs the choice of methodology (that includes a strategy, a plan of action or a research design). Lastly the methodological approach will set the approach for techniques to gather, analyse and report the findings of the research. Figure 11 explains the flow of relationships between each elements of a research paradigm and table 12 explains the elements of worldviews and implications for practice.

Figure 11: Levels for Developing Research Study



Source: (Crotty (1998) as cited in Creswell, 2011)

Table 12: Elements of worldviews and implications for practice.

Worldview element	Postpositivism	Constructivism	Participatory	Pragmatism
Ontology (What is the nature in reality?)	Singular reality (e.g.; reseracher reject or fail to reject hypothesis)	Multiple realities (e.g.; researchers provide quotes to illustrate different perspectives)	Political reality (e.g.; findings are negotiated with participants)	Singular and multiple realities. (e.g.; researches test hypotheses and provide multiple perspectives)

Epistemology (What is the relationship between the researcher and that being researched?)	Distance and impartially (e.g.; researchers objectively collect data on instrument)	Closeness (e.g.; researchers visit participants at their sites to collect data)	Collaboration (e.g.; researchers actively involve participants as collaborators)	Practically (e,g,; researchers collect data by "what works" to address research questions)
Axiology (What is the role of values?)	Unbiased (e.g.; researchers use checks to eliminate bias)	Biased (e.g.; researchers actively talk about their biases and interpretations)	Negotiated (e.g.; researchers negotiate their biases with participants	Multiple stances (e.g.; reserachers include both biased and unbiased perspectives)
Methodology (What is the process of the research?)	Deductive (e.g,; researchers test and a priori theory)	Inductive (e.g.; researchers start with participants' views and build 2up2 to patters, theories and generalizations)	Particatory (e.g.; researchers involve participants in all stages of the research and engage in cyclical reviews of results)	Combining (e.g.; researchers collect both quantitative and qualitative data and mix them)
Rhetoric (What is the language of the research?)	Formal style (e.g.; reserachers use agreed-on definitions of variables)	Informal style (e.g.; researchers write in a literary, informal style)	Advocacy and change (e.g.; researchers use language that will bring about change and advocate for participants)	Formal or informal (e.g.; researchers may employ both formal and informal style of writing)

Source: Creswell (2011)

Based on the discussions in this section it is clear that this study undertook a pragmatism philosophical stance being the research problems are identified as the key influential factor for adoption of any research design and methodology. The first stage of the research is led by post-positivism approach and followed by constructivism paradigm in the second stage of the study. By that virtue, in accordance to Creswell (2014) explanation of pragmatist worldview, this research will employes both quantitative and qualitative methods or mixed-method research as the best suited methodology to address the research question indicated in chapter 1 of the research. The research design and data collection of this study shaped by strong mixed methods research questions and objective that focuses on collaboration in FM and the potential application of BS 11000 as business support tool for FM service delivery that clearly demand the use and integration of both qualitative and quantitative approaches as suggested by (Tashakkori and Creswell, 2007).

5.4 What is mixed method approach?

Mixed method research has also been known as blended research (Thomas, 2003), integrative research (Johnson and Onwuegbuzie, 2004) multi-method research (e.g., Hunter and Brewer, 2003; Morse, 2003)), multiple methods ((Smith, 2006), triangulated studies (Sandelowski, 2003), ethnographical residual analysis (Fry *et al.*, 1981), and mixed research (Johnson and Christensen, 2008). In simplified term mixed method research can be defined as a research approach that combines both quantitative and qualitative approach in achieving the study aim and objectives.

Although there is a number of contrasting features between quantitative and qualitative research as discussed above, they do work well together in a mixed method approach as they allow a researcher to create a different viewpoint of a research question. This study has a need for aspects of both quantitative and qualitative research methods to be used, as statistical data is needed to gain broad understanding on the level of collaboration among FM stakeholders in delivering FM services, as well as in-depth interview data to gain current views and practices in relation to viability and potential application of the BS 11000 as a business support tool for FM collaboration within industry. This then enables the research to be

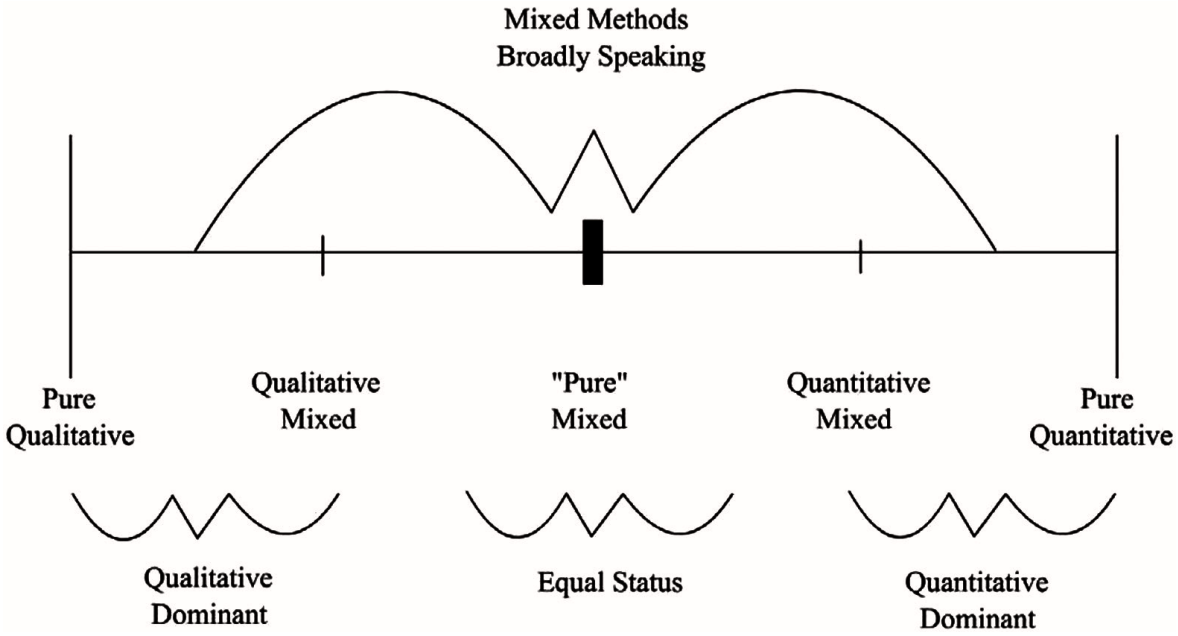
analysed and draw conclusions. Therefore aspects of both research methods will provide the breadth and depth of the research viewpoints (Johnson *et al.,* 2007) thus, will be used to fulfil the aim and objectives set out earlier in this research.

Johnson *et al.* (2007) for instance recognised mixed method as the third research paradigm championed by pragmatic research philosophers. Creswell and Clark (2011) undertake extensive review of mixed method research and derived several angles of attention of the definitions such as methods, philosophy, methodology, purpose, research design and multiple ways of seeing, hearing and making sense of the social world. In conclusion Creswell and Clark (2011) concluded a definition of mixed method research as;

> Mixed method research is a research design with philosophical assumptions as well as method of inquiry. As a methodology, it involves **philosophical assumptions** that **guide the direction of the collection and analysis** and the **mixture of qualitative and quantitative approaches** in many phases of the **research process**. As a method, it focuses on collecting, analysing and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone

Another fundamental consideration in utilising mixed method research is to understand the continuum of mixing such methodology. (Johnson *et al.,* 2007) define three categories of mixed method continuums into qualitative dominant, equal status of pure mix method research or quantitative dominant. The choice of continuum will rely heavily on the research questions. Figure 12 explains the three major research paradigms of mixed method research.

Figure 12: Graphic of three major mixed methods research paradigm



Source: Johnson *et al.* (2007)

5.5 Theoretical paradigm of the research

Unlike any qualitative or quantitative research paradigm, pragmatism anchored its beliefs though formulation of research questions thus it is not loyal to any research paradigm. As such this worldview provides flexibility of applying any methodology by focussing on "what works" to answer the research questions. Explanation of applicability of pragmatic research paradigm is as depicted in figure 12. The study adopts pragmatic paradigm as it offers epistemological justification and logic for mixing approaches in answering the research questions in section 1.5 as below.

1. What is collaboration in the FM supply chain?
2. How the BS11000 framework can be applied?
3. How relevant is the BS11000 framework in the FM industry?
4. What are the potentials, constraints and barriers for the BS 11000 framework to be applied in the UK?

The study embraces different theoretical paradigm at different stages of the research as suggested by Tucker (2010) to aid justification for adopting mixed method research. The initial stage of the research is quantitative in nature represent post-positivist paradigm where the data collected are empirical, theory led and driven by cause and effect orientation which, mimic deductive methodology. The research embarks into qualitative method subsequently via inductive constructivism worldview in its typology by evaluating the views of identified respondents based on the findings from the initial quantitative approach. As suggested by Guest (2013), these two clearly defined data sets are integrated in straightforward manner to purposely achieve four distinct objectives;

1. To corroborate and expand on previously collected data (deductive theory testing via online survey questionnaire)
2. To inform the content of the survey
3. To help the survey's findings
4. As stand-alone exploratory qualitative data

By segregating instruments in the strategy for data inquiry reflecting specific research objectives fulfilled all of the four goals highlighted above.

5.6 Different strategies of mixed method research

Mixed method research has been used explicitly over the past decade with substantial increase in the numbers of mixed methods databases from zero in year 2000 to 103 by 2010 Involvement of some founding organisations in reviewing and establishing standards for mixed method research proved that usages of two designs in one study is becoming popular (Guest, 2013).

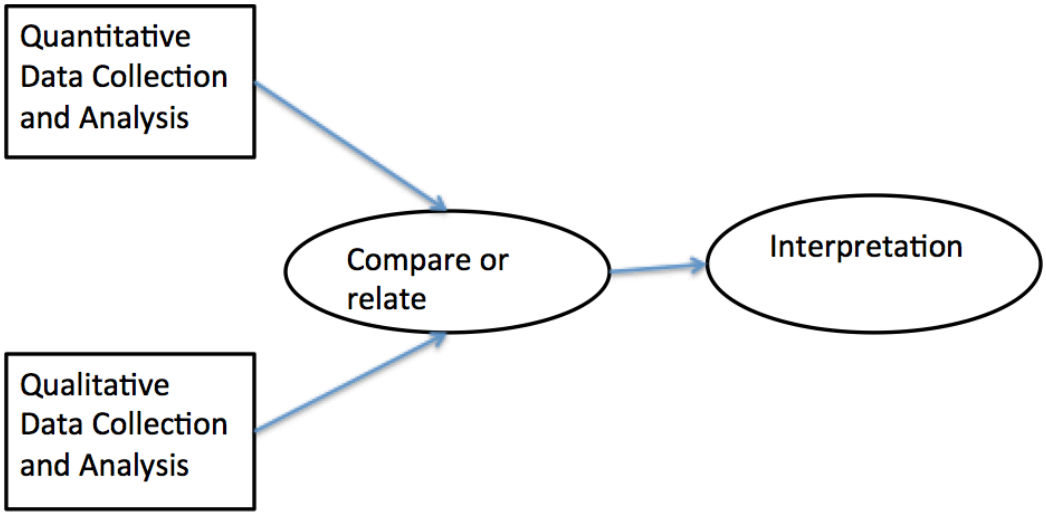
Creswell and Clark (2011) describe six types of mixed method research design prototypes and suitability and applicability of each model depends on the specific needs of research commenced. Leech and Onwuegbuzie (2009) reinforce Creswell and Clark (2011) opinion by highlighting three principles of mixing a method for a research; (a) Level of mixing (partially vs. fully mixed), (b) time orientation

(concurrent vs. sequential), and (c) equal status vs. dominant status. Descriptions on categories of mixed method designs highlighted by Creswell and Clark (2011) are explained hereafter.

5.6.1 The convergent parallel design

This mixed method strategy is also known as convergent concurrent design. The method is classified as pure mixed method since embrace equal weightage of quantitative and qualitative to interpret total understanding of a phenomenon. Triangulation of both dataset will provide a holistic overview of a phenomenon however Fielding (2012) warns the possibility of misguiding the analysis in this design since social phenomena is a dynamic and recursive process thus not allowing the same dataset to be measured twice.

Figure 13: The convergent parallel design

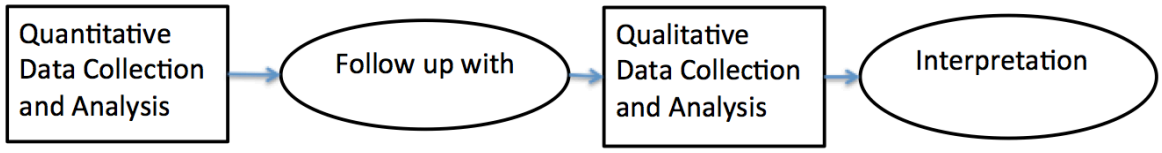


Source: Creswell and Clark (2011)

5.6.2 *The explanatory sequential design*

Explanatory sequential mixed method focuses on mixing quantitative and qualitative data in two chronological orders. The first quantitative steps will take priority phase in addressing research questions and the findings of the analysis in the quantitative phase will feed subsequent process of the qualitative design. Initial findings such as broad generalisation on focus of the study will be key factors that are later being addressed in qualitative phase using interviews or case studies strategy of data inquiry.

Figure 14: The Explanatory Sequential Design

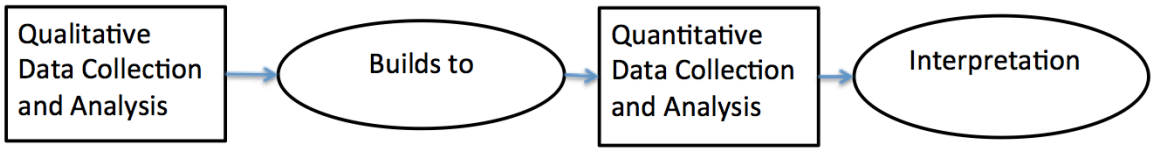


Source: Creswell and Clark (2011)

5.6.3 *The exploratory sequential design*

Exploratory design using a similar approach as highlighted in item 4.5.2 however adopts a reverse approach whereby data collection will focus on qualitative approach in order to build several important themes that sequentially be tested for generalisation in the quantitative phase of the research.

Figure 15: The exploratory sequential design

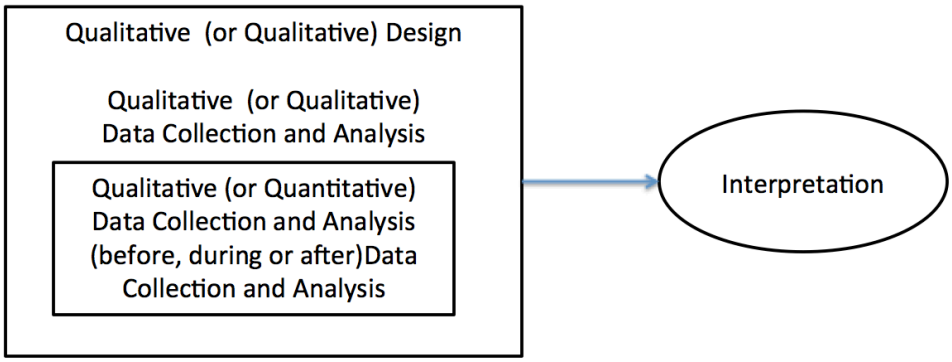


Source: Creswell and Clark (2011)

5.6.4 The embedded design

In embedded design a researcher collect both quantitative and qualitative data concurrently and interpret the data in a traditional qualitative or quantitative continuum. Either qualitative or quantitative data will only act as ancillary element to strengthen the findings in either quantitative or qualitative research design selected.

Figure 16: The Embedded Design

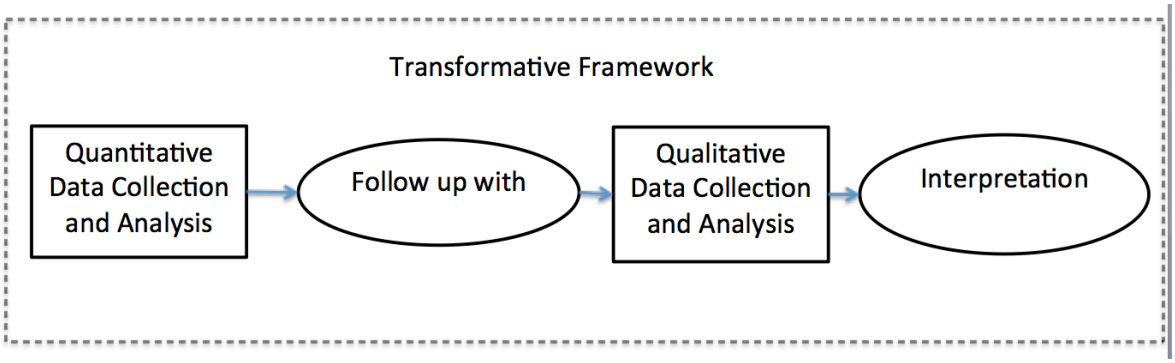


Source: Creswell and Clark (2011)

5.6.5 The transformative design

Transformative design is a mixed method design that guided by transformative theoretical framework. In this design all decisions, focus, timing and interaction in interpreting the data and findings are derived stringently within the context of transformative perspective.

Figure 17: Transformative Framework

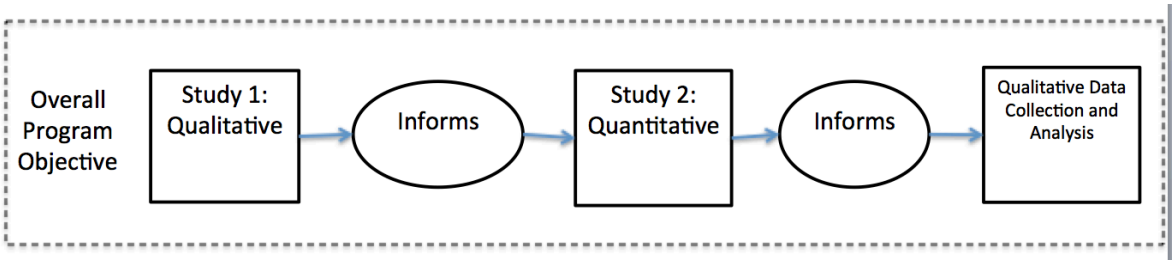


Source: Creswell and Clark (2011)

5.6.6 The multiphase design

In the multiphase design both concurrent and sequential strands are combined in a series of research program in addressing overall research program objectives. The design uses both quantitative and qualitative approach over a period of time to support development, adaptation and evaluation of specific program. This research design adopts three sequential phases whereby either quantitative or qualitative approach are used sequentially prior to mixing the findings in both former process into the final design of the research.

Figure 18: The Multiphase Design



Source: Creswell and Clark (2011)

5.6.7 The explanatory design as methodology for the research undertaken

To sum up the theoretical paradigm of this study and to be able to delve into answering these research questions qualitatively, the author needs to firstly unveil the basic underpinning theme of collaboration practices within FM industry at present state through quantitative approach via online survey questionnaire involving the entire stakeholders within FM supply chain. The quantitative findings will later be used as explanatory input in the qualitative process of the research in establishing the conditions needed to successfully implement the British Standard for Collaborative Business Partnerships (BS11000) within the facilities management (FM) industry. The use of this paradigm help one best frame, address and provide tentative answers to the research questions Johnson *et al.* (2007) for the study. Therefore explanatory sequential mixed method design highlighted in figure 15 fits perfectly to be used as research design for the research. Table 13 by Creswell and Clark (2011) explains the characteristics of explanatory sequential mixed method research adopted in the study.

Table 12: Prototypical characteristic of the explanatory mixed method research

Prototypical Characteristics	Explanatory Mixed Method Research Design
Definition	Methods implemented sequentially starting with quantitative data collection and analysis in Phase 1 followed by qualitative data collection and analysis in Phase 2 which builds in Phase 1
Design Purpose	Need to explain quantitative results
Typical paradigm foundation	Postpositivist in Phase 1 and Constructivist in Phase 2
Level of interaction	Interaction
Priority of the strands	Quantitative emphasis

Timing of the stands	5.6.8 Sequential quantitative first
Primary point of interface for mixing	Data collection
Primary mixing strategies	Connecting the two stands From quantitative data analysis to qualitative data collection Use quantitative results to make decisions about qualitative research questions sampling and data collection in Phase 2.
Common variants	Follow-up explanations 5.6.9 Participants selection

Source: Creswell and Clark (2011)

The study undertaken supports views of several mixed method gurus (Morgan, 1998; Morse, 2003; Creswell and Clark, 2011) when applying the first stage of quantitative method with the purpose of identifying group based on quantitative result and later pursuing qualitative method with characteristics of the participants from the quantitative phase to guide purposeful sampling for the qualitative stage.

Whilst the first quantitative stage of the study provides a descriptive overview of categories of respondents and how FM stakeholders collaborates in delivering FM services, it has yet to provide in depth explanation of up to what extend do the collaborative variables identified in the quantitative survey drive FM parties within the entire supply chain apply any collaborative tools to foster or hinder their relationships.

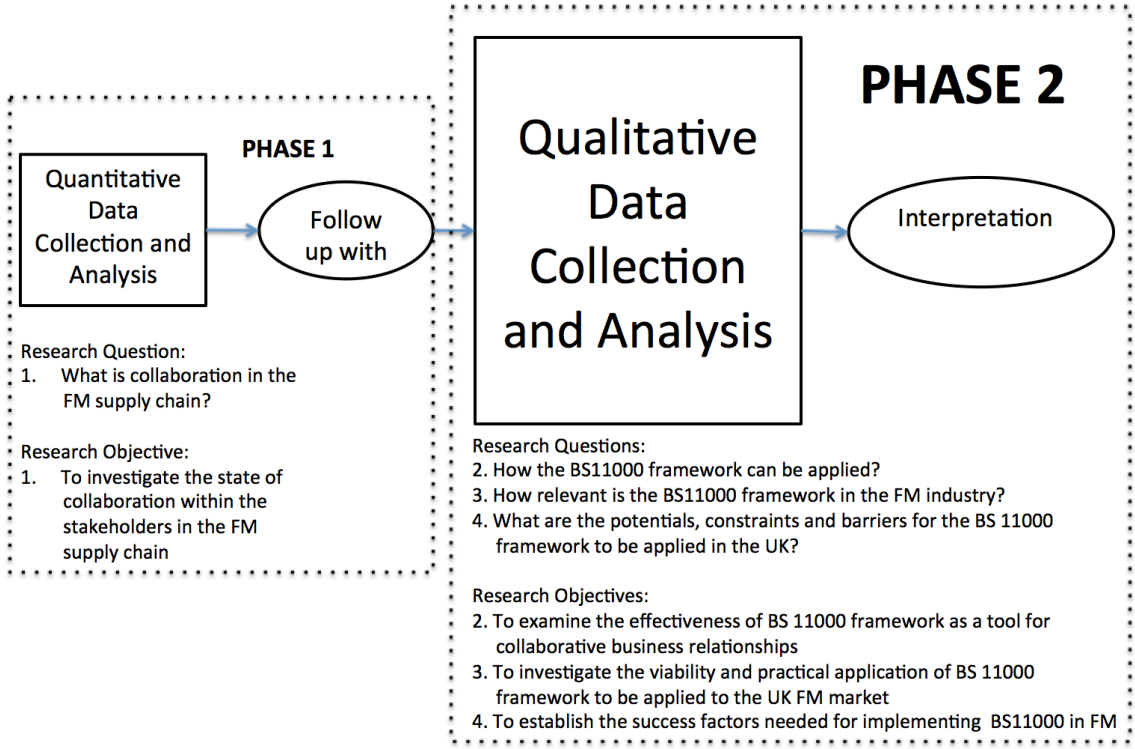
These initial quantitative results feed several important themes for subsequent follow up qualitative design Morgan (1998) in explaining the potential application and challenges of BS 11000 to be used as strategic collaborative tools in enhancing delivery of FM services to an organisation.

Hence, the research adopts a mixture of deductive and inductive methods pragmatically or known as sequential explanatory mixed method research through online questionnaire (quantitative) and interviews (qualitative). As suggested by Gilham (2005), both quantitative and qualitative methods could be differentiated by

undertaking a large scale survey at the initial stage of the research and interview will be used at the later phase of the study in order to gain in-depth discovery to complement the research findings.

Unlike the original explanatory sequential mixed method research suggested by Creswell and Clark (2011) that explain the weightage of application of such method pursuing quantitative strand in nature as depicted in table 13 whereas qualitative approach in this design is used as a supporting method for the quantitative phase, this research is novel since its challenged Creswell and Clark (2011) approach by adopting a reverse this design procedure where qualitative research design in the second phase is more superior and robust than the quantitative approach in the initial phase. The reason behind adopting such approach in non-traditional sequential explanatory mixed method is because the initial stage of this study intends to discover key themes and motives of collaboration among FM stakeholders to answer the first research question and objective of the research as discussed in section 1.5. In addition the quantitative phase is conducted to entice key variables and themes on FM collaboration to be used extensively to study the potential, barriers, potential and critical success factors to apply the BS 11000 as a strategic collaborative innovation framework in delivering FM services highlighted as the second to fourth research questions and objectives of the intended research. Figure 19 below summarizes the revised sequential mixed method design that is adopted in the study.

Figure 19: Sequential Explanatory Mixed Method Design Adopted for The Study



Source: Self Study (Adapted from Creswell and Clark (2011))

Hence this research positioned its continuum within the boundary of qualitative dominant mixed method research since the research process emulate critical view of constructivist-post-structuralist who incline to focus on qualitative method however; concurrently recognising the value and benefits of quantitative data and approaches to support the overall research findings.

5.7 Overall research structure

Figure 20 represents the overall research structure of the sequential mixed methodology that was previously explained in section 5.6.2 which complement all discussions that are made in this overall chapter. The structure of the research is segregated into three phases that outlined as follows:

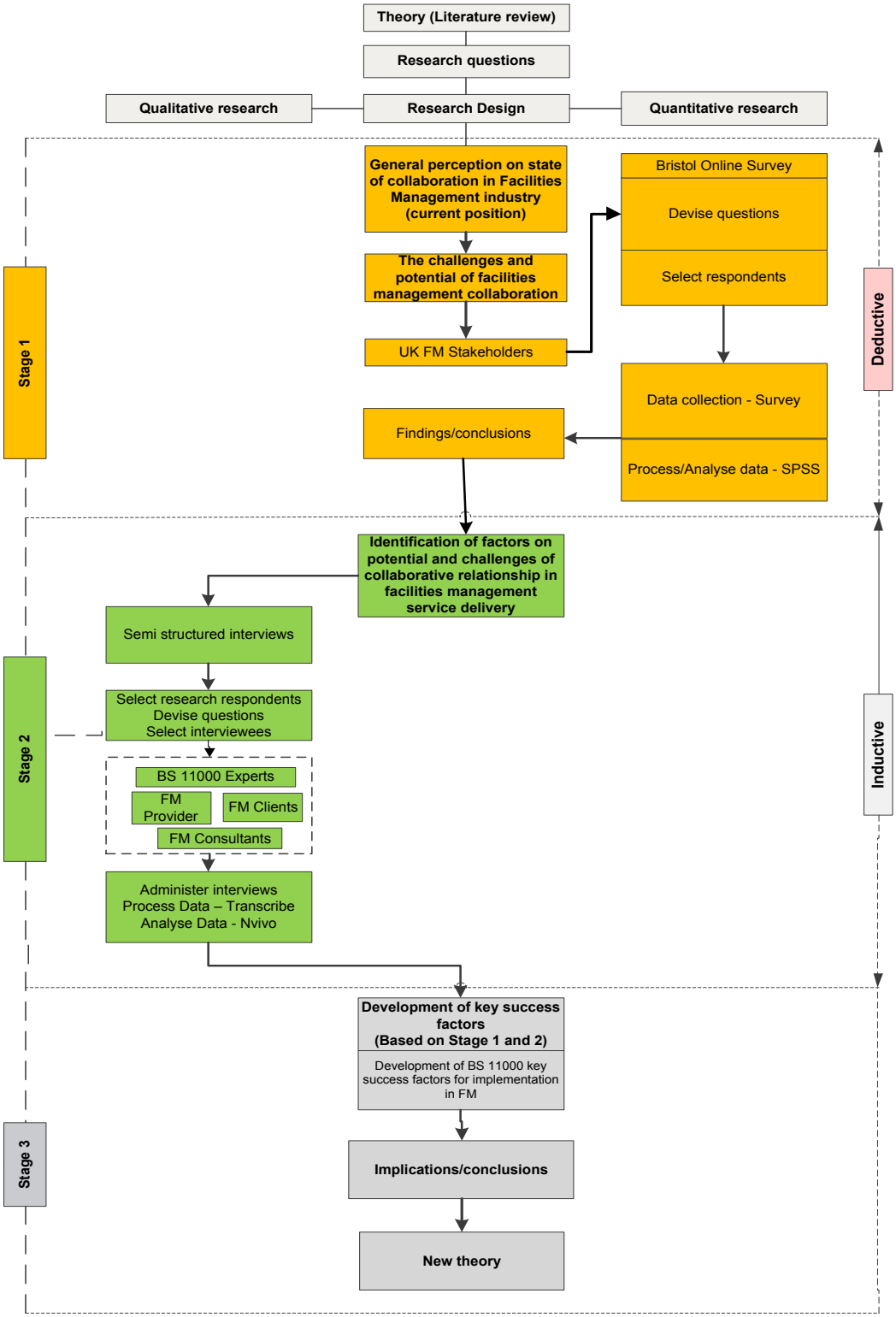
Stage 1: is conducted through a large online survey to all FM stakeholders across the entire FM supply chain to establish generic findings on the status of collaboration

within FM industry and key factors on challenges in pursuing collaboration within FM stakeholders.

Stage 2: is led by selection of specific sample of respondents representing each category of stakeholders within the entire FM supply chain. Two strategies of inquiry are conducted in this stage. Most of the data are gained through face-to-face semi structured interviews. Where the respondents are unable to be reached through this approach, email interviews were undertaken to gain respondents perception on the potential application of BS 11000 as strategic business tool for FM collaboration.

Stage 3 – Combines the data obtained from stage 1 and 2 with focus to establish the conditions needed to successfully implement the British Standard for Collaborative Business Partnerships (BS11000) within the facilities management (FM) industry.

Figure 20: Research structure

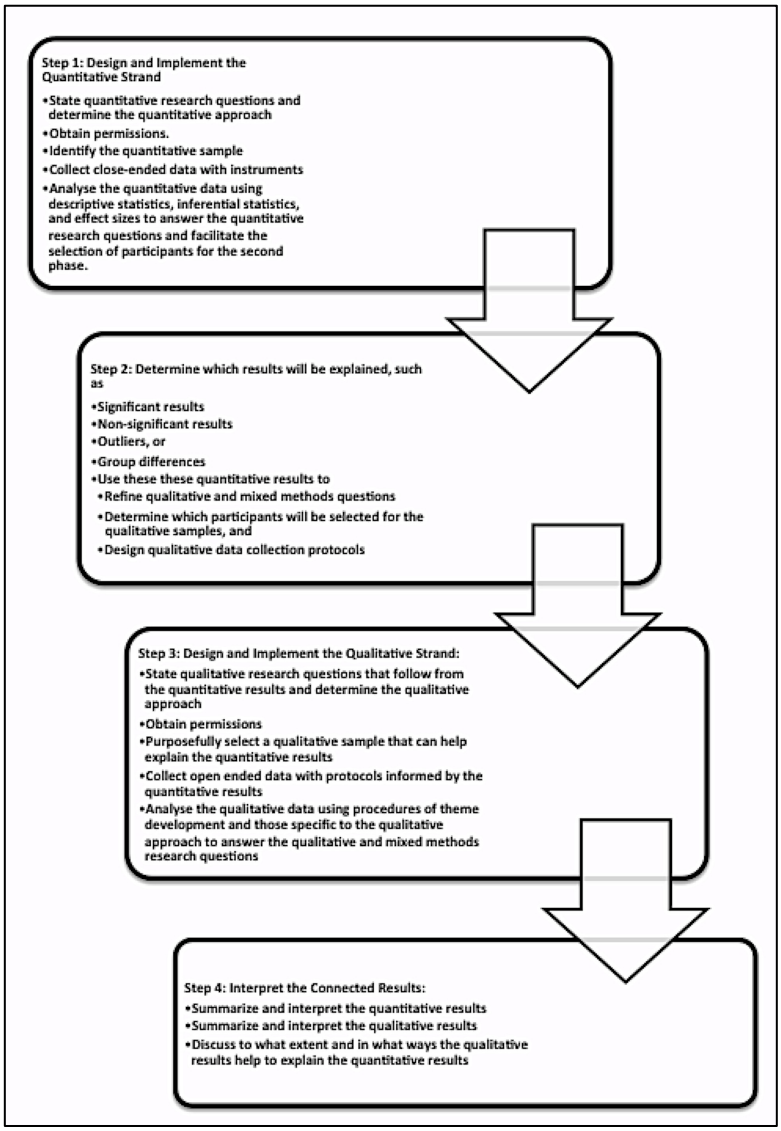


Source: Self study

5.8 Review of quantitative and qualitative methodologies undertaken during research phases

This study espouses sequential explanatory mixed method research in underpinning the research. It follows four steps basic procedures suggested by Creswell and Clark (2011) indicated in figure 21 below.

Figure 21: Flowchart of the Basic Procedures in Implementing Sequential Explanatory Mixed Method Design



Source: Creswell and Clark (2011)

5.8.1 Phase 1 – introduction to quantitative research

Research is objective in nature; due to the nature of this research approach it will be less effective without insight into the undocumented challenges regarding collaboration within stakeholders in the FM supply chain. This method would be useful if the researcher had more relevant experience in FM and could accurately use this approach to find facts about a concept question or attribute. One of the advantages of this deductive method is that factual evidence is gained; this is then used to find a relationship to test a theory or hypothesis (Thietart 2001, Saunders, Lewis et al. 2012), however the nature of the research in this study will require a supplemental approach to fulfil its overall objectives.

In addition to this, the researcher is looking for a more detailed reflection regarding potential application of The BS 11000 to FM. As such quantitative questionnaire will not provide enough detail, as it will be limited by the wording in the questions. This approach could be used in the first stage in sequential explanatory mixed approach to tease factors and themes of variables to be used in the subsequent qualitative stage of the study.

5.8.2 Strategy of inquiry – survey research

The survey strategy is a common strategy in business and management research and most frequently used to answer who, what, where, how much and how many questions. It is therefore tends to be used for exploratory and descriptive research Saunders *et al.* (2012). Surveys are popular as they allow the collection of a large amount of data from a sizeable population in a highly economical way.

Previous experimental research on how to improve response rates is unanimous on the influence of one primary factor on response rates (Dillman, 2011). Often obtained by using a questionnaire administered to a sample, these data are standardised, allowing easy comparison. In addition, people perceive the survey strategy as authoritative in general as is both comparatively easy to explain and to understand.

Every day a newspaper reports the results of a new survey that indicates, for example, that a certain percentage of the population thinks behaves in a particular way.

The survey strategy allows the collection of quantitative data that can be analysed quantitatively using descriptive analysis and inferential statistics. In addition, the data collected using a survey strategy can be used to suggest possible reasons for particular relationships between variables and to produce models of these relationships. Using a survey strategy should give more control over the research process and, when sampling is used, it is possible to generate findings that are representative of the whole population at a lower cost than collecting the date for the whole population (Saunders *et al.* , 2012).

The data collected by survey strategy is unlikely to be as wide-ranging as those collected by other research strategies. For instance there is a limit to the number of questions that any questionnaire can contain. Despite this, perhaps the biggest drawback with using questionnaire as part of survey strategy is to do badly (Saunders *et al.,* 2012). The questionnaire however is not the only data collection techniques to the survey strategy. Structured observation and structured interviews also categorised as survey research strategy.

5.8.3 Defining the objective

The quantitative approach is by means of testing objective theories by examining relationships among variables. The researcher is to make post positivist assumptions and knowledge claims in which they may choose variables, characteristics or attributes that can be measured so numerical data can be analysed. This is important as the strategies of enquiry for the approach are to be surveys and experiments. These strategies will produce numeric date that will make it possible for analysis to be conducted using statistical procedures such as graphs and charts. The predetermined approach used for this approach is to be the use of questions that are be predominantly closed-ended in order to reduce variations, this will make the information more easily analysed numerically. Stage 1 of the primary research

intended to address the first objective of the study (as identified in section 1.5) to identify the motive of collaboration within FM stakeholders in delivering FM services. Thus a questionnaire survey was devised in order to gather this quantitative data.

Post positivist claims are used to develop knowledge for example the researcher will use cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation and the test of theories. Strategies of inquiry such as surveys or experiments are used to collect data on predetermined instruments to gather statistical data

The research should be conducted through tests in order to verify theories or explanations. Once the researcher has identified variables to study it is possible to choose the correct approach, the approach should relates variables in questions or hypotheses. The data observes and measures information numerically; this means that it uses standards of validity and reliability; however it relies on the honesty or those who answer to surveys and questionnaires. An advantage of this approach is that the researcher can remain unbiased as they are only able to analyse what other people have answered. The analysis for this approach should employ statistical procedures.

5.8.4 Target population, sampling and respondents

Surveys generally works by surveying a sample of desired population since research undertaken are limited to availability of resources such as time, cost and the total population of respondents (Tucker, 2010). The survey for this study was intended towards gauging the views of stakeholders within the FM supply chain on collaboration. It is instrumental that the distribution of the proposed survey be distributed to FM stakeholders within all regions of the UK in order to provide practical means whist providing a good representation of the population. However Fellows and Liu (2009) highlighted that what is more critical is to obtain a part of representative which the research project is concerned as the sample for the study. This opinion is enhanced by Sue and Ritter (2012) by saying that a researcher is keen to gather opinions or views of a particular group of respondents because the ability of

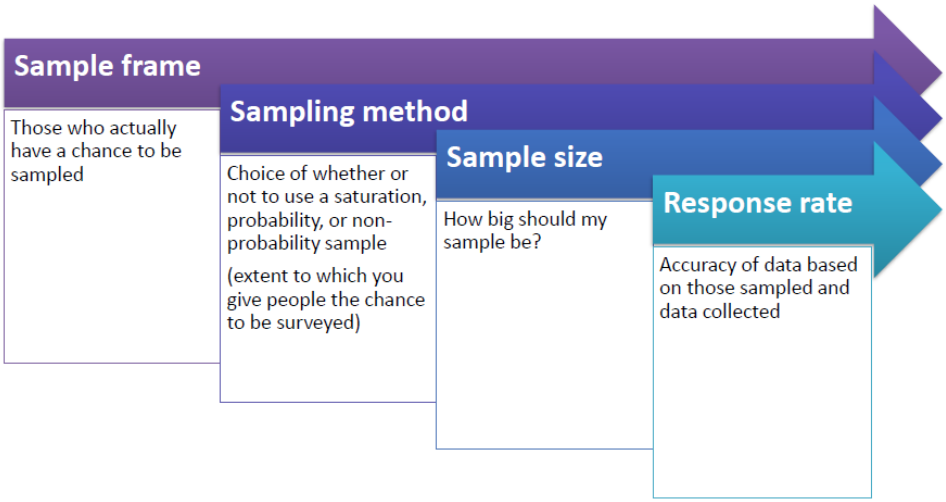
those participants to provide required inputs about the population which they are selected.

Since Tucker (2010) opines that FM population varies in nature, it is acceptable that sampling technique for is carried out through representative sample of FM stakeholders within the FM supply chain through professional institute that governs FM profession. Pursuing Fellows and Liu (2009) definition on forming the basis of representative for sampling, BIFM databases being the most prominent professional institute for FM practices were used in conducting the first stage of data collection. The principle sampling and respondents in cross sectional research design highlighted in Table 11 for this study follows cross sections of FM stakeholders identified by (RICS, 2014) in assessment of professional competence for FM guide which are FM professionals categorised as consultants, facilities management providers, client departments and public sector.

5.8.5 Sampling method

The most important questions to be answered in adopting and sampling method are how big should my sample be and what is the best way to target the respondents? The study population for the first stage of data collection adopts cross sectional research design from several categories of FM stakeholders as indicated in section 5.8.7. While acknowledging that collecting census data is not feasible and practical for many research projects, Sue and Ritter (2012) indicate several key sampling decisions for consideration and this fundamental depicted in figure 22 represent characteristics will be adopted for the initial stage of data collection.

Figure 22: Key sampling decisions



Source: Adopted from Sue and Ritter (2012)

A sample frame refers to a set of people or listing of all units in the population Bryman and Bell (2011) that has a chance to be selected given the sampling methods that is chosen Fowler (2013) that is a subset of a population who is not necessarily the group that completes the research since there are tendencies that some of the individuals are unreachable, non-respondents, chose not to participate or even dropouts from the study (Sue and Ritter, 2012).

Acknowledging the disadvantage of using non-probability sampling which is more suitable for exploratory research and may not representing the population for this research, the study adopts probability sampling which according to Sue and Ritter (2012) suitable for multi method researcher with an aim to keep the sampling error to a minimum (Bryman and Bell, 2011). Hence probability sampling procedures are used to designate respondents units for inclusion in a sample where according to Fowler (2013) using website or Internet survey where the respondents are invited to participate in the survey (Sue and Ritter, 2012).

According to (Bryman and Bell, 2011; Sue and Ritter, 2012; Fowler 2013) there are four categories of probability sampling namely simple random sampling, systematic sampling, stratified sampling and saturated sampling. *Simple random sampling* is the

most basic sampling technique that allows each unit of the population has a chance of being selected randomly from a set of numbers based on desired sample size from the total sample frame. A *systematic random* sampling is a variance of simple random sampling where a fraction of specific number is set to be selected from the total sample frame (i.e. every 2nd person from the total sample frame will be selected) with a skip interval as a distance between each respondent selected (Sue and Ritter, 2012). The most robust probability sampling is called *stratified sampling* where the sample are identified and segregated into several characteristics such as demographic variables (i.e. clients, consultants, service providers). The advantage of using this type of sampling technique is it will ensure even distribution of respondents in relevant category across the identified grouping in the population (Bryman and Bell, 2012). Hence stratified sampling adopts two stages process, firstly to split the sample frame into subgroups and secondly to select a percentage of participants from each subgroup that reflects the population percentages (Sue and Ritter, 2012).

Despite robustness of this sampling technique Bryman and Bell (2012) emphasize that stratified sampling will only feasible to conduct when relevant information is available. Otherwise this sampling technique is not economical and consumes time to be undertaken. As a result all of the three sampling technique will not be adopted in this study since FM industry is sparse and involvement of diverse parties in the delivery of FM services. The study adopts the fourth sampling technique suggested by Sue and Ritter (2012) called saturation sampling that underpins its sampling strategy by providing an attempt to conduct a population census by giving anyone in the sample frame the chance to complete the survey. This alternative sampling technique is commonly used for online surveys that able to overcome traditional barriers of survey implementation as discussed in the other sampling technique. This contemporary sampling technique allows fast distribution of questionnaire though online survey link that is posted though social media, email or FM databases (such as BIFM group email, linkedIn, twitter and online groups discussion databases). The online survey link for this study are designed using Bristol Online Survey and distributed online adopting cross sectional research strategy depicted in table 11 across key cross sections of FM stakeholders in the industry. The sampling method use for the study adopts both probability and non-probability approach since the researcher will not control or specify the respondents that are able to participate in

the survey. Researcher attempts to conduct population census provides opportunity to anyone in the sample frame the chance to complete the online survey. Sue and Ritter (2012) indicate that this technique eliminates coverage error since every member of the population has the opportunity to take part in the survey however it may lead to high non-response error.

5.8.6 Development of online survey design

There are many forms of survey designs such as mail, telephone, online, face to face interview or group administration. Irrespectively, any survey design is chosen should be determined by the sample frame, available resources such as cost, time, staff and facilities available (Fowler, 2013). Sue and Ritter (2012) summarised advantages and disadvantages of adopting each type of survey method in table 14 underneath.

Table 13: Comparison of Survey Methods

Survey Type	Advantages	Disadvantages
Postal Mail	- Low cost - Wide geographic reach - No interview bias - Anonymity allows for sensitive questions	- Low response rate - Lengthy response period - Contingency questions not effective - Don't know who is responding to the survey
Telephone interview	- Limited coverage bias - Fast response - Can ask complex questions - Wide geographical reach	- Fewer land phone lines - Confusion with sales calls - Intrusive - Call screening
Face-to-face interview	- Good response rate - Can ask complex questions - Longer interviews may be tolerated	- Limited geographic reach - Time consuming - Expensive - Susceptible to interviewer bias - Sensitive topics difficult to explore
Online	- Can be low cost - Fast - Efficient	- Coverage bias - Reliance on software - Too many digital surveys,

	- Contingency questions effective - Direct data entry - Wide geographical reach	causing overloads

Source: Sue and Ritter (2012)

Bryman and Bell (2012) classify two types of online survey that are commonly used. Firstly is surveys administered by email (email surveys) and secondly is survey that is administered by the Web (Web surveys). The researcher conducts the first approach by appending the questionnaire in an email whereas the second approach the respondent is directed to a website that hosts the research survey to answer the questionnaire.

Taking into account the advantages and disadvantages highlighted above with consideration on cost and time effective of applying such survey method it is decided that the first stage of data collection for the study adopts online survey strategy of which a survey hyperlink in Bristol Online Survey (BOS) software is generated where the respondents are able to take part and complete the web survey by clicking on the link.

5.8.7 Question design

Bristol Online Surveys (BOS) is a 'hosted service' runs over the internet from the University of Bristol that is used by over 300 organisations including 130 universities and public and private entities (BOS, 2014). BOS allows the user to develop, administer, and collect online survey responses through creation of a hyperlink directing the survey to a central database. The hyperlink could be used and shared via email, text in mobile phone or social media platform such as twitter, LinkedIn or Facebook to potential respondents.

A central database will store the completed survey sent by respondents which later be exported and analysed by the researcher using a statistical analysis tool such as the statistical package for the social sciences software (SPSS) software.

The online survey is structured based on findings from literature review and mainly focuses on achieving the first objective of the study in ascertaining the level of collaborative relationship within stakeholders in the entire FM supply chain. Since weightage of sequential explanatory mixed method research applied is more qualitative in nature, the design of questions in the survey stage are mainly emphases on enticing broad themes and variables to be used in the second stage of qualitative research. The online survey consists of eight questions comprise of number of categorical variables with different level of measurements such as binary, nominal or ordinal variable as suggested by Field (2013). Detail of the questionnaire is attached in Appendix A.

The researcher has approach BIFM through email for assistance to distribute the hyperlink of this quick fire survey centrally to all BIFM regions and Special Interest Groups (SIG). Table 15 below depicted the list of BIFM regions and SIGs in BIFM.

Table 14: List of BIFM Regions and SIGS for Distribution of Online Survey

BIFM Region	BIFM SIGs
• East Region • Home Counties Region • Ireland Region • Ireland Region - South Branch Committee • Ireland Region - North Branch Committee • London Region • Midlands Region • North Region • North-west branch • North-east branch • Scotland Region • South Region • South West Region	• Catering and Hospitality • Education • Fellows Forum • Health & Safety • International • People Management • Procurement • Retail • Rising FMs • Risk & Business Continuity Management • Sustainability • Women in FM • Workplace

• Channel Islands Branch	

Source: BIFM (2010)

In tandem, the researcher has also post hyperlink of the survey onto BIFM LinkedIn group to enhance the rate of response of the survey.

The survey designed as closed questions self-completed survey. Among the advantages of this type of survey is the simplicity of processing the data since the response can be automatically converted into codes. The data gathered are also enhance the comparability of answers as it is easily understood by the respondents (Bryman, 2008). Some of the questions are dichotomous questions that have two possible responses such as yes or no questions (i.e. question 4 and question 7 in the survey) whilst some questions are classified as nominal categorical questions (Tucker, 2010) to order the respondents according to category of key cross-sections of FM stakeholders in FM supply chain.

The first question of the survey intended to ascertain the background and category of each respondent by identifying the role of participants in the FM supply chain. There are six categorical respondents, which are aligned to four RICS (2014) categories as earlier indicated in section 2.2 which allows any respondent to select any one of the categories below;

- In-house FM
- Total FM service provider
- Bundled FM service provider
- Single service specialist provider
- Consultant
- Other category

Six main categories of stakeholders are expanded from RICS (2014) since it is aligned to findings in the literature review whereby most of the clients and public sectors are representing in-house FM. In addition there are several sub-categories of providers

exist demonstrating the supplier side of FM stakeholders. The FM consultant and other category remain as stand-alone category for categorical variable. Merging and re-mapping of the four categories are as depicted in table 16 below.

Table 15: Re-mapping categories of FM stakeholders for stage 1 data collection

Original category of FM stakeholders in RICS (2014)	**Aligning FM sub-categories identified in literature into FM stakeholders in RICS (2014)**
FM consultants	FM consultants
Service Providers	Service providers Total FM service provider Bundled FM service provider Single service specialist provider
Clients department	In-house FM Clients department Public sectors
Public sectors	Others

Source: Self study (adapted from RICS (2014))

The sixth option indicated as others to allow other categories of respondents to indicate the stakeholders that they are representing such as academics or others that are not indicated in the five former choices for selection. This information is critical for the second stage of data collection to ascertain opinion of FM stakeholders with regards to potential application of the BS 11000 at the qualitative stage of the study.

The second question sought after the types of FM service contracts that are applicable to the respondents in delivery of FM services in their organisation. Based on literature review undertaken in the earlier chapter, there are four types of FM contracts are identified are in house, outsourced – Total FM, outsourced-bundled services or outsourced-single service contract. This question will allow the researcher to identify the most popular contract types for delivery of FM that are currently being used by the survey participants.

Question three; question four; question five; question seven; and question eight intend to elicit views and hope of FM stakeholders on collaborative relationship in delivering FM services based on their present experiences. The answer to these questions will provide a snapshot of present state of collaboration in the FM supply chain and their hope and aspiration regarding collaboration avenues in the future that may require an adoption of collaborative framework like the BS 11000 as a strategic collaborative innovation tool for effective delivery of FM in the future.

Finally, question six is the most important question in the survey stage as findings from this question will be used to develop qualitative instrument in the second stage of the study. The main point of question six is to understand challenges and barriers of collaborations among FM stakeholders. Seven sub-questions (known as question 5a to 5g) are rated using three-point scale that explained in Table 17 below:

Table 16: Challenges in developing collaborative relationship among FM stakeholders

Challenges in developing collaborative relationship	Criteria of challenges	Explanation on criteria of challenges
a. Driven by cost b. Mutual agreement on performance target c. Lack of clear roadmap to aid collaborative development d. Time commitment e. Adequate staffing and resources f. Organisational priorities	Major Challenge	The challenges totally hinder any potential avenues for collaboration in delivering FM services within FM supply chain
	Moderate challenge	The challenges might have some impact to potentially pursue collaboration in delivering FM
	Not really an issue	The identified variables are not an issue in fostering collaboration in delivering FM services

Source: Self-study (adopted from Tucker (2010))

Extraction and analyses of data from this stage will be discussed later in chapter 6 of this research.

5.8.8 Phase 2 – Introduction to Qualitative Research

Qualitative research has been selected due to it being a means for exploring and understanding the perceptions of individuals and groups (Creswell, 2007) that this study is concerned with. The author selected this method with the aim of delving deeper into interviewee's opinions in a more complex fashion, based on their understanding and experiences on the BS 11000. Indeed when understanding the perceptions of four categories of respondents namely FM clients, FM service providers, FM consultants and experts that have had experience with the BS 11000 framework.

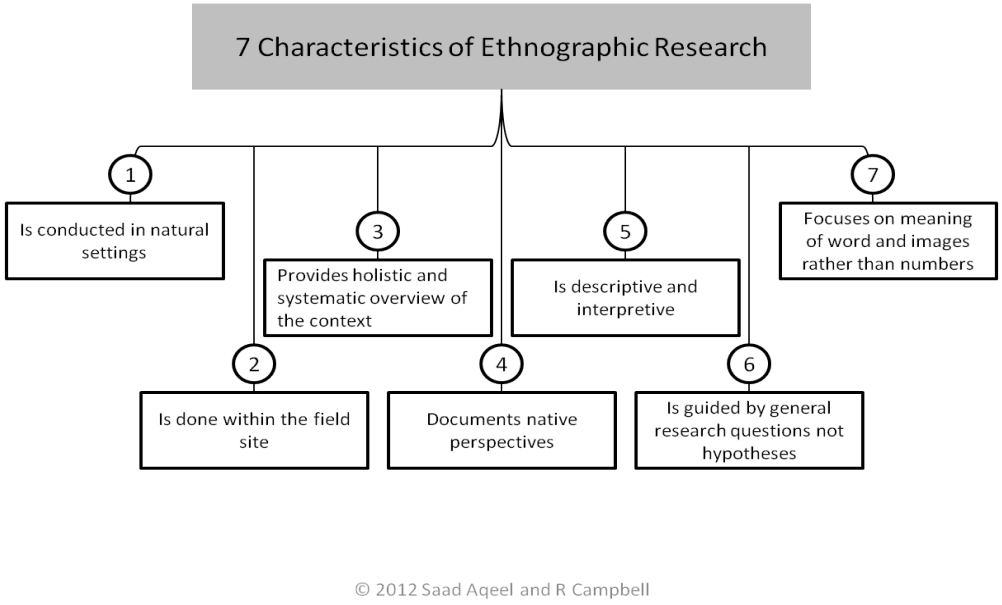
The first stage of research design, which espouses quantitative analysis, would not have been appropriate due to the fact that the many subtleties of human communication would have been missed while qualitative research allows for detailed perceptions to be examined in depth (Anderson, 2010). Within qualitative research the focus is on emerging questions and procedures (Creswell, 2007) with data collected through interaction with individuals through words. The questions asked within the study (Appendix B) have been designed to be concise and open ended with the aim of expunging deeper opinions and perceptions through the four categories of respondents' experiences (Farrell, 2007). Such an approach is a powerful concept within the built environment where the views of professionals can be utilised in research. The author has aimed to engage in an inductive style of inquiry (Farrell, 2007). This focuses on the individual meaning of the responses in attempt to illustrate the complexity of the evolution of the facilities management industry that requires a strategic tool to manage collaboration in the delivery of FM services. After the analysis, the resulting data has been structured into generalised themes that are congruent with the studies objectives and will then shape the authors final conclusion (Creswell, 2007)

5.8.9 Defining the objective

Harris (1968) defines ethnography as a qualitative research method in which the researcher describes and interprets the shared and learned patterns of values,

behaviours, beliefs and language of a culture sharing group(Harris 1968). Figure 23 by Aqeel (2012) summarizes seven characteristics to be pursued in order to conduct an ethnographic research whilst figure 24 highlighting important feature of ethnography research.

Figure 23: 7 characteristics of ethnographic research



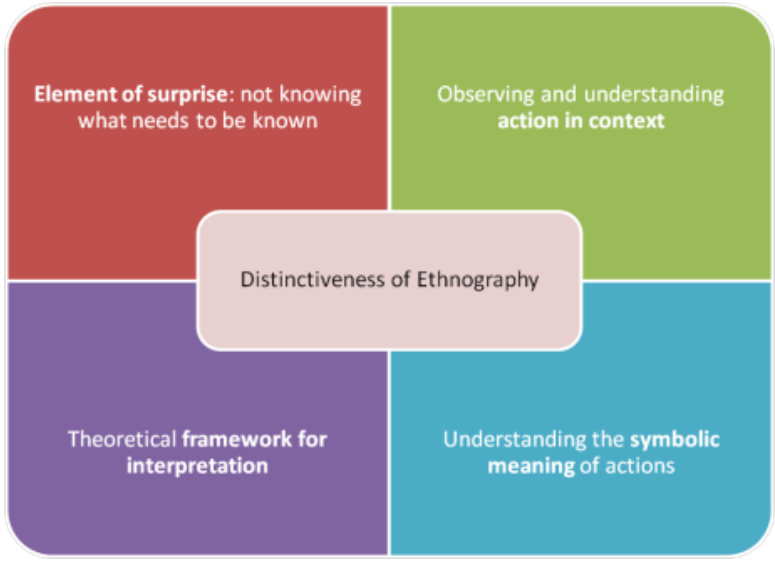
Source: (Aqeel 2012)

In this case, the culture-sharing group is facilities managers. As described previously facilities managers are frequently marginalised and misunderstood (Thompson, 1990). Persecuted may be too strong a word to describe facilities managers but they are certainly outcast from the traditional construction process. From an anthropological perspective this makes facilities managers most interesting subjects as they are likely to all have shared similar experiences outlined previously such as not having their valuable opinions properly listened to or having to deal with the inadequacy's of information exchange throughout the construction process giving them a kind of cultural unity (Creswell, 2007).

This stage intends to pursue the second, third and fourth research questions of the study as detailed below;

- To examine the effectiveness of BS 11000 framework as a tool for collaborative business relationships
- To investigate the viability and practical application of BS 11000 framework to be applied to the UK FM market
- To establish the success factors needed for implementing BS11000 in FM

Figure 24: Features of ethnography



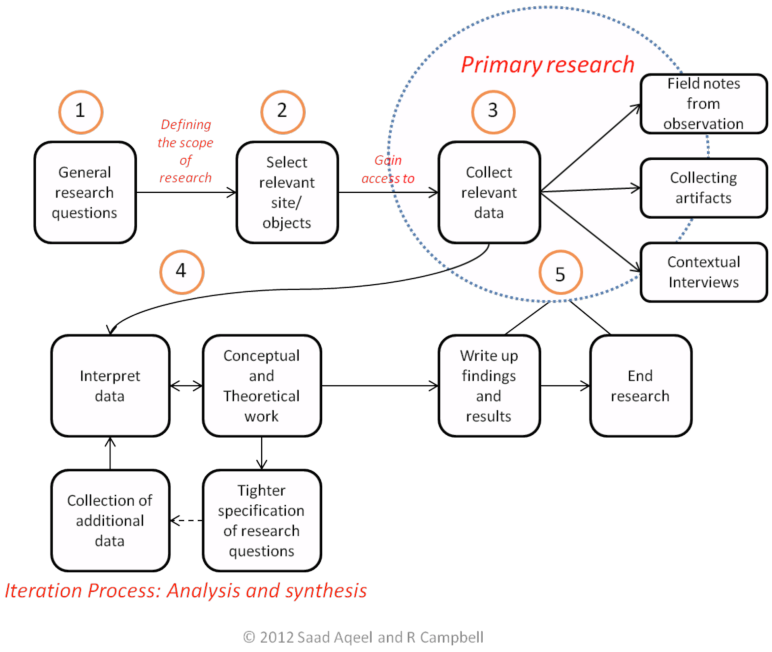
Source: Aqeel (2012)

To prepare for research the ethnographer immerses himself or herself in the subjects' environment. Haenfler (2004) in a research of the straight edge movement in the United States adopted ethnography research strategy that aimed to describe the core values of the straightedge movement that emerged on the east coast of the United States in the beginning of the 1980's. Those within the movement adopted a "clean leaving" philosophy, rejecting what they saw as nihilistic tendencies (alcohol abuse, casual sex and the use of tobacco and illegal drugs) that had become rife within the punk subculture that straightedge grew from. In order to achieve his objectives participated in the movement for 14 years, attending over 250 music shows, interviewing 28 people and gathering documents from a variety of traditional sources (Creswell, 2007).

However as this study is explanatory in nature with very scarce research undertaken on BS 11000 particularly within the FM industry, lesser immersion techniques have been employed. This is congruent with Agar (1980) who states that ethnography is both a process and an outcome of research. As process ethnography involves external observation, most frequently through participant observation, in which the author is immersed in the day-to-day lives of the people he observes and interviews the group participants. Essentially ethnographers study the meaning of the behaviour, the language and the interaction among members of the culture-sharing group (Creswell, 2007).

Obviously, the author is not able to undertake this level of immersion as a consequence of financial, time and logistical constraints. As such Wolcott (1990) and Bryman (2008) micro-ethnography approach is adopted in this stage of the study. Micro-ethnography refers to hybrid ethnographers than the 'pure' type that focussing their study on specific aspects of professional and applied field under constraints of time and scope (Wolcott, 1990). FM stakeholders' group culture behaviour across the entire supply chain perception, barriers, experiences and practical application of BS 11000 as a strategic business support tool for collaboration in FM service delivery are set to be key manageable objectives as indicated in chapter 1 of the study. Figure 25 by Aqeel (2012) summarizes iteration process, analysis and synthesis in adopting ethnographic research cycle of the research.

Figure 25: Ethnographic research cycle



Source: Aqeel (2012)

5.8.10 Strategy of inquiry – Interviewing

The nature of qualitative research is the collection of non-numerical data. It is has been selected due to a desire to see beyond the author's present level of awareness of BS 11000 and its challenges and potential application into the environment of the FM (Kvale, 1996) which is a key staple of ethnographic research (Creswell, 2007). Therefore, perhaps the most common method of qualitative research has been selected in the interview (Creswell, 2007).

5.8.11 Interview structure

Interviews are Interactive conversations with chosen participants, which will aid the understanding of opinions and perceptions about particular topics, in this case, partnering and collaboration and views of participants on BS 11000 as collaborative tool for business collaboration. This interaction allows the discovery of what has been or is being observed by others. The researcher is able to gain spontaneous responses

and give the respondents opportunity to clarify issues on which they are questioned. Kumar (2011) believes that 'interviews are the most appropriate for complex sensitive areas'.

5.8.12 Development of interview design

Face to face interviews were the preferred option where possible due to the ability to create an interactive environment where trust is recognised and disclosure becomes a possibility (Gilham, 2005). This allowed the author to observe subtle behaviours and non-verbal cues such as a wry smile (Creswell, 2007). Indeed for face to face interviews the author has aimed to interview individuals who are not hesitant to speak and share ideas (Creswell, 2007). Where this was not possible, email interviews were selected as the next best option. Email interviews were useful as they provide the best source of information when the researcher does not have direct access to participants but the drawback is that one cannot view the subtle, nonverbal cues that often provide a rich source of unspoken information (Creswell, 2007).

A dictaphone was used to improve the accuracy and eligibility of the data and the ability to give the author a better chance to concentrate on the dynamics of the interview (Kvale, 1996). Questions were refined through pilot testing and undertaking gained through research based piece of coursework with the author acting as the role of a facilities manager (Creswell, 2007). The interviews were undertaken in quiet places as a consequence of the audio recording and in order to remove the "nuisance" factor of telephone interviews, each interview was pre-arranged with explicit consent on the time, date and length of the interview (Creswell, 2007).

5.8.13 Types of interviews and respondents

It is suggested by Miles and Huberman (1994) to identify interviewees based on purposeful sampling in a manner which is congruent with ethnographic principles, in this case the rationale for sampling has adhered to through behavioural observation, a key tenant of ethnographic research (Creswell, 2007).

A discussion was started on social networking website LinkedIn regarding the evolving position of the FM with the aim of generating discussion. From this, 16 respondents from four categories of respondents were selected however to provide a balanced study (it could be argued that impassioned respondents on the topic are biased) and due to time constraints, a wide sample size congruent with the methods of undertaken by traditional ethnographic researchers is not possible and therefore this number was not extended further. The sample provides a broad mix of perspectives from a number of FM roles, clients, service providers' and consultants based on the findings from the first quantitative stage of the research in with the identified FM stakeholders as mentioned in section 5.9.7. What is interesting that the result in 'others' category in the quantitative stage revealed several respondents that had experience with the BS11000. The participants are either academics, management representing professional institution like BIFM or British Standards Institution that had wealth of knowledge of BS 11000 thus triggered the researcher to re-categorize the fourth category FM stakeholder as BS 11000 experts which will provide a fresh insights on BS 11000 for the qualitative phase of the research. Summary of amended categories of FM stakeholders is as depicted in table 18.

Table 17: Re-alignment of FM stakeholders as respondents for the qualitative stage

Original category of FM stakeholders in RICS (2014)	Re-aligning FM sub-categories identified in literature into FM stakeholders based on RICS (2014) and findings in quantitative stage
FM consultants	FM consultants
Service Providers	Service providers • Total FM service provider • Bundled FM service provider • Single service specialist provider
Clients department	In-house FM • Clients department • Public sectors
Public sectors	**BS 11000 Experts**

Source: Self study (adopted from RICS (2014))

5.8.14 Interviewing

The interviews are carried out privately; ensuring respondents are anonymous and feel comfortable about expressing their opinions that may conflict with the respondents organisational views. The rationale behind the selection of the interviewing technique was for interviewees to provide their own answers and not be restricted to specific choices. Therefore open ended questions were predominantly used as a consequence of their flexibility for elaboration (Creswell 2007). Further to this, semi-structured interviews were chosen due to the facilitation of potential new discovery while providing a structural focus which gives evidence of commonalities and his more straightforward to analysis.

5.8.15 Transcribing

Transcription is the process of converting data into written form and is the first phase of thematic analysis as it allows the author to familiarise himself with the data. In this case good practice was adhered to by accurately transcribing word for word. This was made considerably easier due to the author's Dictaphone having the ability to slow down during playback. This provided the ability to transcribe interviews in a more formal manner as suggested by Kvale, (1996) into an interview protocol template provided in Appendix C.

5.8.16 Thematising

The analysis of the raw data was approached in a systematic manner through thematic analysis. Thematic analysis can be defined as "a process of data reduction" which reduces the research data into meaningful groupings or commonalities (Grbich, 2007). As indicated in figure 26 Boyatzis (1998) explain that there are three phases of thematic analysis as shown below:

Figure 26: Thematic analysis profile

Seeing	Encoding	Interpreting

Source: Boyatzis (1998)

Once the author was familiarised with the data, he coded the transcripts began to code the data. Coding can be defined as "the process of identifying features within the data which the researcher finds interesting" (Braun and Clarke, 2006). Therefore the research has been approached with the aim of developing a number of themes (such as the opinions of FMs on collaboration and applicability of BS 11000 into FM) and then further breaking them down into higher, medium and level themes. Each transcript was read in-turn with any substantive passages highlighted using "computer assisted qualitative analysis" software Nvivo 10 (See Appendix D). These substantive passages have been restructured into broader themes and amalgamated into a logical thematic structure, which is tired into the objectives of the study. The data has then been named, defined and data analysed with the use of thematic illustrations. As a consequence of the inductive approach the author has developed a general theory and has made a number of conclusions and recommendations.

5.9 **Method for Data Analysis**

5.9.1 Quantitative data analysis

There are two stages of analysis for quantitative analysis namely descriptive and inferential analysis. Whilst the focus of descriptive statistics is basic and generic, inferential analysis provides in-depth relationships among categories of population and variables. However the focus of the first stage is used as catalyst to trigger input for the second stage of qualitative study, this justifies the simplicity of the survey to keep the quantitative data analysis to descriptive univariate analysis to trigger high impact and response to get an initial gauge the views of FM stakeholders on

collaborations. Hence eight questions in the survey conducted are sufficient to meet the first objective of the research.

5.9.2 Data extraction and validation

As mentioned in the previous section that BOS is used to create and administer the survey phase in stage one of the research. Hence the data from respondents are stored in BOS database. It is vital that the data to be exported to more powerful quantitative data analysis tool to enable more advanced analysis to be undertaken since BOS only has limited capability of analysing such data. As such the raw data from BOS are initially coded to MS Excel the later be exported to SPSS to maximise data manipulation for rigour analysis in the quantitative stage of the study. It is critical that the data to be stored and backed up carefully to emulate a robust data management strategy. Therefore the data was stored on three storage areas namely the researcher's hard drive, a pen drive and also sync to a dropbox online storage database for safety reason.

BOS enable the survey result to be exported in files in Comma Separated Value (CSV) format that is a common and compatible data format to be used in MS Excel and SPSS. However Field (2013) suggests that the easiest way to export the data to SPSS is using MS Excel tab-delimited or comma separated text (.xls, .txt, .dat or .csv). After such the 'read text data' menu in SPSS will activate the wizard for importing the data into SPSS. Among the benefit of using BOS is the results are coded automatically (BOS, 2014). A coding variable uses numbers to represent different groups of data (i.e. in this research refers to different category of FM stakeholders such as service provider, client and consultant) that is assigned in SPSS to specific category that is allocated a numerical value (i.e. 1= in-house FM, 2= Total FM service provider and so on). The rationale of such labelling is to enable each entity to represent as a participant in the survey for ease of measurement in data analysis stage (Field, 2013).

However in order to fully maximise the capability of SPSS for analysis of quantitative data is the ability of SPSS to code and recode the variables particularly to increase the accuracy of categorical variables and better representation of the analysis and

findings (Bryman and Bell, 2011). Details of the coding for each question are depicted in table 19 to table 27 below.

Table 18: Question 1 - Classification of FM stakeholder

Code	Role and classification of FM stakeholder
1	In-house FM
2	Total FM service provider
3	Bundled FM service provider
4	Single service specialist provider
5	Consultant
6	Other (please state)

Source: Self study

Table 19: Question 2: Types of FM contract that FM stakeholders are using at present

Code	Are the FM service contracts within your organisation predominantly provided:
1	In-house
2	Outsourced – Total FM
3	Outsourced – Bundled FM
4	Outsourced – Single service contracts

Source: Self study

Table 20: Question 3: FM stakeholders' present experience with collaborative relationship

Code	Do you feel you have a collaborative relationship between yourself and your clients/providers
1	Yes with all of them
2	Yes with most of them
3	Yes with some of them
4	No not at all

Table 21: Question 4 - Sharing of knowledge between FM stakeholders

Code	Do you promote the sharing of knowledge between you and your clients/providers?
1	Yes
2	No
3	Other

Source: Self study

Table 22: Question 5 - FM stakeholders' intention to seek long-term collaboration

Code	To what extent does your organisation actively seek to establish long-term partnerships?
1	All the time
2	Some of the time
3	Not at all

Source: Self study

Table 23: Question 6(a) - 6(g) Challenges on developing collaborative relationship within among FM stakeholders

What are the biggest challenges in developing a collaborative relationship between clients and providers?			
Sub-questions		Choice of answers	Code
6(a)	Driven by cost	Major Challenge	1
6(b)	Mutual agreement on performance target		
6(c)	Clashes in organisation culture	Moderate Challenge	2
6(d)	Lack of roadmap to aid collaborative development		
6(e)	Time commitment		
6(f)	Adequate staffing and resources	Not really an issue	3
6(g)	Organisational priorities		

Source: Self study

Table 24: Question 7 - FM stakeholders' aspiration for future collaboration

Code	Would you like to see more collaborative working amongst the contractual relationships within your organisation?
1	Yes
2	No

Source: Self study

Table 25: Question 8 - Overall satisfaction level of FM stakeholders' on collaborative business relationship in their organisation

Code	How satisfied are you with the level of collaborative business relationships that your organisation is involved in?
1	Very satisfied
2	Fairly satisfied
3	Neither satisfied or dissatisfied
4	Fairly dissatisfied
5	Very dissatisfied

Source: Self study

In order to increase the validity and criticality of the output from the data gathered, the researcher is required to omit invalid response during extraction of data. Inclusion of such data will skew the results as mentioned in Tucker (2010) thus Field (2013) suggested that all of missing data reported to be excluded from analysis. SPSS allows all missing data to be re-coded by choosing a number or assigning a value to the missing data point. This value will tell SPSS to ignore result from any participant for a certain variable while running the analysis of the data (Field, 2013).

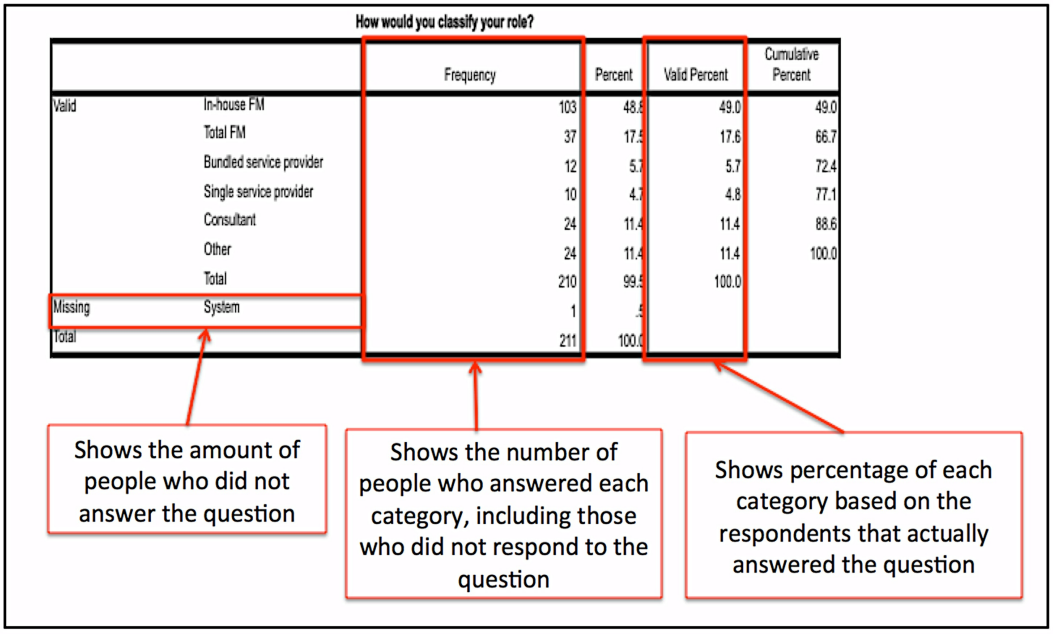
5.9.3 Descriptive analysis

There are two levels of analysis in quantitative research and as indicated in section 5.9.1, the focus of quantitative results in stage one will solely focus on descriptive or univariate analysis (Bryman and Bell, 2011) since it provides sufficient data for robust analysis in the qualitative stage. There are two types of analysis will be adopted namely frequency distribution or percentages and central tendency which include the mean, median and mode while measures of variability or dispersion (Field, 2013). Since it aim to summarize a sample and presented in simplistic representation such as graph or summation of summary statistics like percentage unlike inferential analysis that focuses in testing the relationships between two different variables (Fisher and Marshall, 2009).

5.9.4 *Frequency percentages*

Frequency percentages refer to the number of times of each value or variable been answered in a data set or in other words the number of people and the percentage belonging to each of the categories for the variable in question (Bryman and Bell 2011; Field 2013). Figure 27 provides an example of frequency distribution within SPSS software.

Figure 27: Example of Frequency Distribution Table in SPSS



Source: Self study

5.9.5 *Central tendency and dispersion*

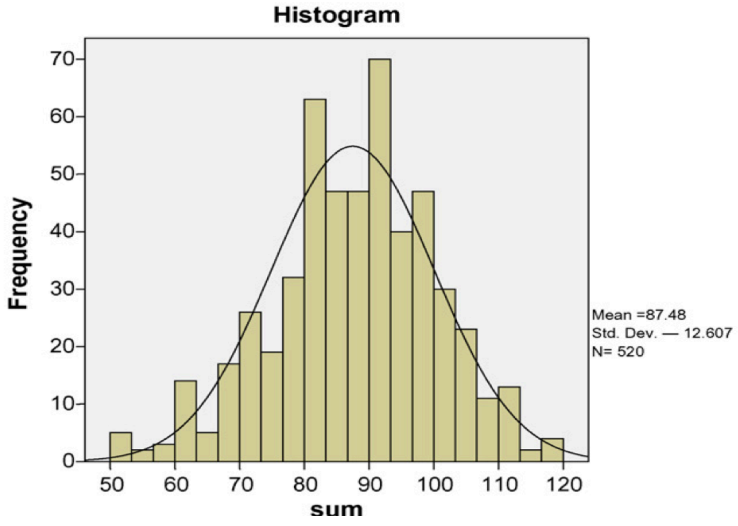
Measures of central tendency refers to calculation which the value of centre of a frequency table that best represents an entire group that commonly measured through three context of measurement namely 'mean', 'median' and 'mode'. Mean is defined as the average score while median refers to the middle score of a rank ordered distribution and mode simply means the numerical value with greatest frequency (Bryman and Bell, 2011). Another measure of dispersion is standard deviation that means the average amount of variation around the mean or the spread

of scores in the data. The standard deviation is calculated by taking the difference between each value in a distribution and the mean then dividing the total of the difference by the numbers of values. A lower score of standard deviation from the mean score justify a stronger representative the mean score becomes to the other variables as compared to a higher score (Fisher and Marshall, 2009; Tucker, 2010, Bryman and Bell, 2011; Field, 2013). Sometimes outliers resulting high values of standard deviation skew the data. In order to minimise weak mean resulting from large standard deviation value Fisher and Marshal (2009) suggested three methods to rectify this situations:

1. Examine the data for outliers, delete them and recalculate measures of central tendencies
2. Correct the distribution by using the logarithm of the scores
3. Use nonparametric statistics

In this stage standard deviation is used solely for question 6 to complement statistics for frequency since the findings for this data is important for the subsequent qualitative stage of the study. Figure 28 represent a sample of descriptive statistics of frequency and standard deviation adopted in a research.

Figure 28: Example of descriptive data presentation



Source: Fisher and Marshall (2009)

5.10 **Qualitative data analysis**

Qualitative data analysis for this research is the major part of sequential explanatory mixed research design for the study. Integration of non-numerical (Tucker 2010) sequential data as Guest (2013) collected at this qualitative stage adopts inductive constructivism philosophy using micro ethnography approach led by former quantitative method in phase one of the research undertaken. Figure 19 in section 5.7.7 illustrates three research questions and research objectives that that explicitly suggested by Tashakkori and Creswell (2007) need to be answered and achieved in this stage of the study.

5.10.1 Analysing qualitative data

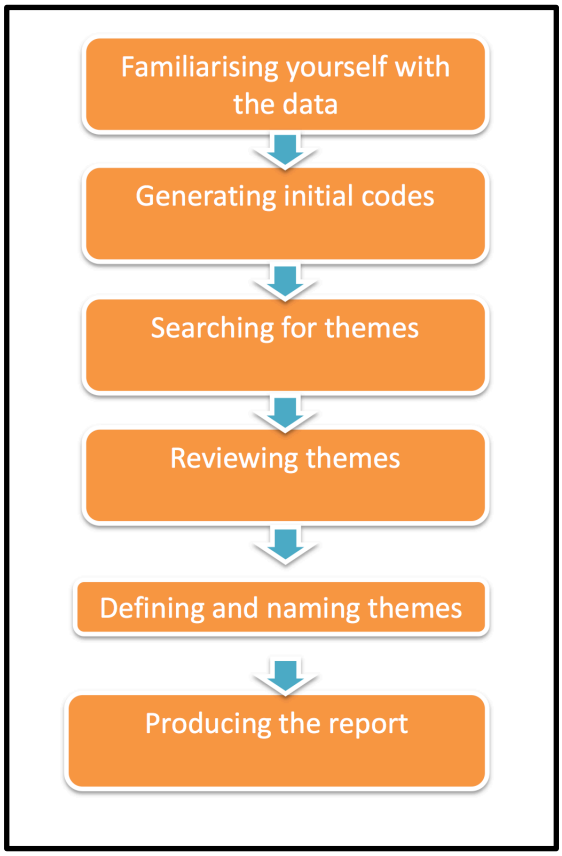
According to (Buck, Cook et al. 2009) traditional procedure of analysing qualitative method is through transcribing interview verbatim, coding and developing themes. This research emulates Fakis *et al.,* (2013) view using qualitative information from semi-structured interviews which the results were produced by qualitative analysis and presented as themes. The themes identified will be merged, reduced and displayed for cross case analyses through semi-structured interviews with 16 purposefully selected respondents proposed by Ivankova (2014) that are identified within categories of FM stakeholders depicted in table 18 of section 5.9.13. As such thematic framework is adopted for this qualitative phase since the information could be systematically analysed and presented through creation of themes, sub-themes, categories and determinants suggested by Fakis *et al.,* (2013) in identifying critical success factors, barriers and potential application of BS 11000 as collaborative innovation framework for delivery of FM services between FM stakeholder and the UK FM industry.

5.10.2 Undertaking thematic analysis

Braun and Clarke (2006) emphasis that thematic analysis is the foundational method for qualitative studies that should be adopted by any qualitative researchers that focuses on a method for identifying, analysing and reporting patterns (themes) within

data. This method of thematic coding has been a major traditional analytical process for pure qualitative research such as grounded theory Corbin and Strauss (2008). One of the benefits of using thematic analysis is its flexibility and provides useful research tool, which can potentially provide extensive, rigour and yet complicated sets of data (Braun and Clarke, 2006). Since this phase of the study underpins its theoretical framework as constructivists though inductive qualitative method overarching by overall pragmatist philosophical paradigm, the adoption of thematic analysis has perfectly provides flexibility for the researcher to wide range of pattern types analysis without stringent commitments to any social constructionist epistemology (ibid, 2006). There are six steps of thematic analyses, which is summarised as figure 29 and details of application of thematic process adopted in this stage of the study are explained in Appendix D.

Figure 29: Thematic analysis process



Source: Braun and Clarke (2006

5.10.3 Familiarising yourself with the data

Qualitative data through interview strategy gathered for this stage is following the steps indicated in section 5.9.10 to section 5.9.16. In order to embark on the first stage of data analysis the researcher has to be familiarised with the data set by understanding the breadth and depth of the data.

Since qualitative data is non-numerical in nature, repeated readings with intention to gather meaning and possible patterns for potential coding ideas. Verbal data gathered in the semi-structured interviews using an electronic voice recorder like Dictaphone need to be transcribed into a written form (Braun and Clarke, 2006). The are several transcription advantages highlighted by Bryman and Bell (2011) such as it will eliminate researcher's value of biases, enable more thorough examination of the data, permits repeated analysis of the input and eliminate natural limitations of researcher's memories of the data. The main objective of transcribing the data is to retain critical information rather than overall conversation of the interviews. As such close repeated reading and interpretive skills needed to avoid this stage from becoming daunting and time consuming.

5.10.4 Generating initial codes

The focus of this stage is to signpost interesting features of the data in a systematic fashion across the entire data set and collating data relevant to each code (Braun and Clarke, 2016). Codes consist of basic raw attributes of transcribed data that are relevant and interesting to the researcher (Boyatzis, 1998). At this stage 'Nvivo' computer software could be used to aid of creating a free flow idea identified as a 'free node' from passages of transcribed data (Bazeley and Jackson, 2013). The coding process is undertaken by ascertaining frequency of words thorough line-by-line reading process carried out repetitively until discovery of patterns from the transcription passages. According to Basit (2003) coding can be carried out through selection of segments within a text using line numbering in the document or simply by highlighting specific quotation in the interview transcripts.

5.10.5 Searching for themes

At this phase, a careful observation and identification from the long list of raw nodes and three nodes will be dissected into key thematic for low, mid and high level themes. The outcome of this stage is convergence of the long list of codes or nodes into a grouped or logical chain of evidence known as a 'tree node'. At this stage nodes from free structures are merged with related key themes or tree structures accordingly. This stage is also known as cognitive mapping technique that can be developed using Nvivo application. This qualitative analytical tool allows effective data management due to flexibility in allowing mistakes through trial and error attempts in order to discover the best thematic outputs from the data (Bazeley and Jackson 2013; Tobi *et al.,* 2013)

5.10.6 Reviewing themes

At this juncture the high, mid and low-level themes are identified successfully. In this study three high level themes acknowledged are based on the second, third and final objectives or the research undertaken. It is important for the researcher to review these themes to assure that they fit and accurate as Miles and Huberman (1994) contend, codes will change and evolve thus generates other codes that could trigger duplication of themes and codes. As such reviewing the themes will lead to refined and ultimate themes that will aid to accomplishment of research aim and objectives.

5.10.7 Defining and naming themes

At this stage the structure of the thematic analysis is practically complete. As such it is vital to assure that all of the themes generated are all self-explanatory. It is fundamental to assure that the final themes are not cluttered with too many information and complicated. Any ambiguity in themes generated should be revisited, redefined and perfected as suggested in the former stage (Braun and Clarke, 2006).

Good themes will allow the researcher to conduct detail explanation about findings of the analysis stage. Braun and Clarke (2006) suggest that each theme should not

overlap with one another and able to relate the findings back to answer research questions and aim and objectives.

5.10.8 Producing the report

At this stage the analysis of qualitative stage is completed and final report could be produced. At this stage the main focus is to show the final outcome of the research findings in a valid and rigour manner. The final report should provide concise, coherent, logical and non-repetitive and conclusive findings that sum up the overall research (Braun and Clarke, 2006).

There are potential tools that the researcher could look into in order to advance the qualitative analysis via the NVivo software. For instance the researcher uses matrix-coding analysis to dissect findings regarding challenges and potential application of BS 11000 on each category of respondents of FM stakeholders to investigate common and diverse attributes of categorical variables towards defining critical success factors of implementing BS 11000 into FM. Appendix D provides an example of the matrix coding procedure. This is extremely useful as traditional coding will only identify what the themes in the qualitative data are, but doesn't drill down into "who said what" within those themes, unless matrix-coding analysis is undertaken. In addition one could also use word frequency analysis to identify the regularity of importance of key themes, which can be displayed effectively as "word clouds" which show visual representations of the key words being mentioned among respondents. Although these are effective in seeing overall words, they do not explain the meanings behind the words. Hence, word frequency analysis is predominantly used within this analysis to ascertain a broad summary on what key terms were discussed within particular themes. Appendix D provides an example of the word frequency analysis procedure. Finally the researcher needs to assure that all of the analysis findings are accurate, reliable, rigour and ethically conducted.

5.11 **Chapter summary**

This chapter elaborates the methodology that will be undertaken for this research in order to fulfil the research questions, aim and objectives of the study.

The research adopts pragmatist philosophical paradigm though adoption of sequential explanatory mixed method research. The weightage of mixing both methods is incline towards qualitative phase thus novel in manner since its challenge the traditional sequential explanatory suggested by Creswell and Clark (2011) that underpins quantitative method as the main approach for this research methodology.

The main objective of the first quantitative stage of data collection is simply to trigger FM stakeholders to share their views on collaboration within the FM supply chain in delivering FM at current state where variables from this stage will be used for the sequential qualitative phase of the research. As such, simple univariate descriptive analysis of the data obtained is analysed using SPSS software is sufficient to be used in founding the conclusion for this stage to achieve the research first objective.

The research takes on a second phase of qualitative study through micro ethnography approach via semi structured interviews where the initial findings in stage one are used to identify 16 respondents representing four category of FM stakeholders. The views of these participants are analysed robustly to achieve the second, third and final research questions and objectives of the research. All of the data obtained are analysed using Nvivo software in concluding the themes of critical success factor to potentially embrace BS 11000 framework as collaborative business tool to be adopted in enhancing delivery if FM services in the UK FM industry.

Chapter 6

Quantitative analysis

This chapter provides key findings from the first quantitative stage of the research. As indicated in section 5.12, findings from the analysis undertaken from this phase will provide the researcher with important inputs in understanding the state of collaboration within FM stakeholders in the industry. A quick fire online survey was conducted using Bristol Online Survey with the assistance of BIFM headquarter that assist in distributing the online survey hyperlink to BIFM regional and relevant SIGs groups databases as shown in table 15. Concurrently the online survey hyperlink is also being distributed through social media via BIFM LinkedIn page to increase participation of the survey conducted. Since the intention of this quantitative phase is focussing on understanding the view of FM stakeholders in the FM supply chain on collaboration and trigger key themes for the sequential qualitative stage as explained in section 5.9.4 thus application of descriptive statistics analysis is justified to be used in meeting the need of study.

6.1 Response rate

A saturation sampling technique was adopted through a quick fire survey that enabled 210 numbers of valid respondents to participate in the survey. Frequency on the category of respondents across the FM supply chain is as indicated in table 27.

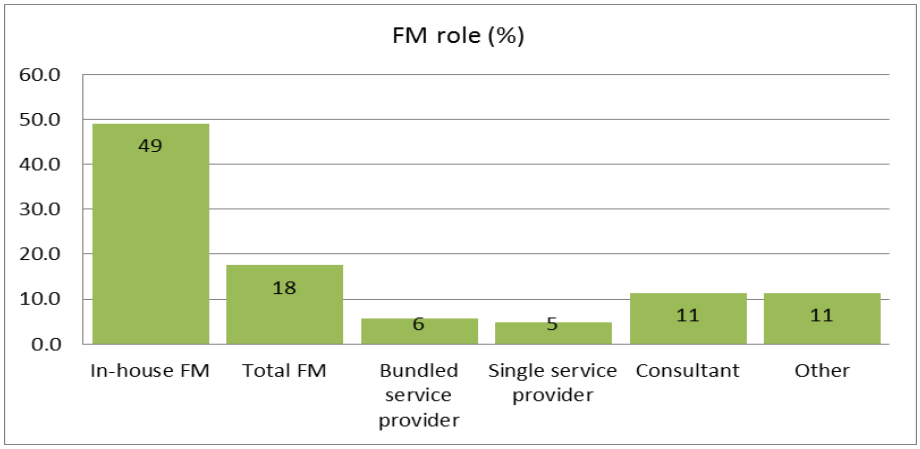
Table 26: FM stakeholders' profile of survey respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	In-house FM	103	48.8	49.0	49.0
	Total FM	37	17.5	17.6	66.7
	Bundled service provider	12	5.7	5.7	72.4
	Single service provider	10	4.7	4.8	77.1
	Consultant	24	11.4	11.4	88.6
	Other	24	11.4	11.4	100.0
	Total	210	99.5	100.0	
Missing	System	1	.5		
Total		211	100.0		

Source: Self study

The result had shown that almost half of respondents representing in-house or the clients' side of FM. Total combination of service providers (Total FM, Bundled and Single service provider) contribute to 28.1% of the total respondent whilst FM consultant and other category shares the same proportion number of participants. Upon viewing the classification of data that respondent that categorised under others are academics or hybrid of managing agent for FM service provider that run a special purpose vehicle private finance initiatives (PFI contracts) and suppliers to either FM client or service providers. Figure 30 presents the distribution of FM stakeholders that participated in the survey undertaken.

Figure 30: Q1: Distribution of FM stakeholder in the survey



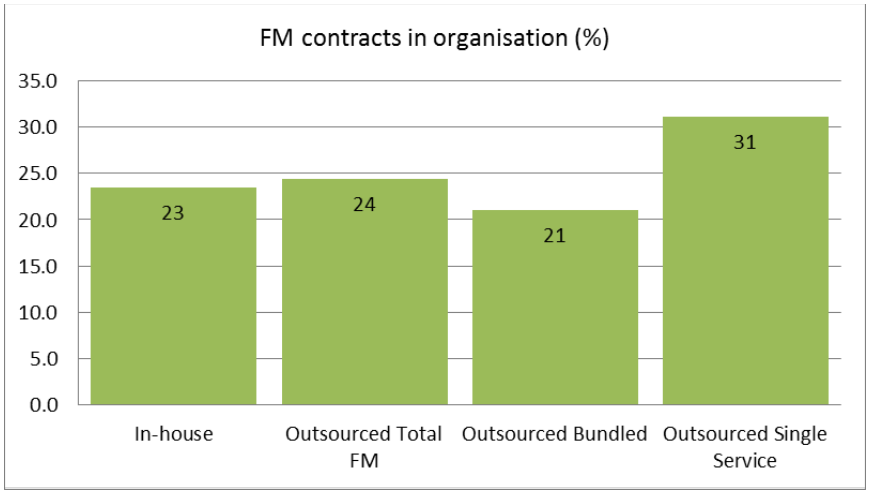
Source: Self study

6.2 **Analysis Procedure**

6.2.1 Frequency distribution analysis

Question no.2 in figure 31 of the survey intends to view respondents' present state of FM service delivery by looking at the types of FM contract involving the FM stakeholders. The frequency analysis shows that 23% of the respondents deliver FM services internally whilst 76% of respondents adopting outsourcing FM contract for delivery of the FM services, being majority of the contracts being single or multiple contract management. The findings correlate with discussions depicted in table 3 of the literature review chapter.

Figure 31: Q2: Respondents view on types of FM contract adopted in their organisation

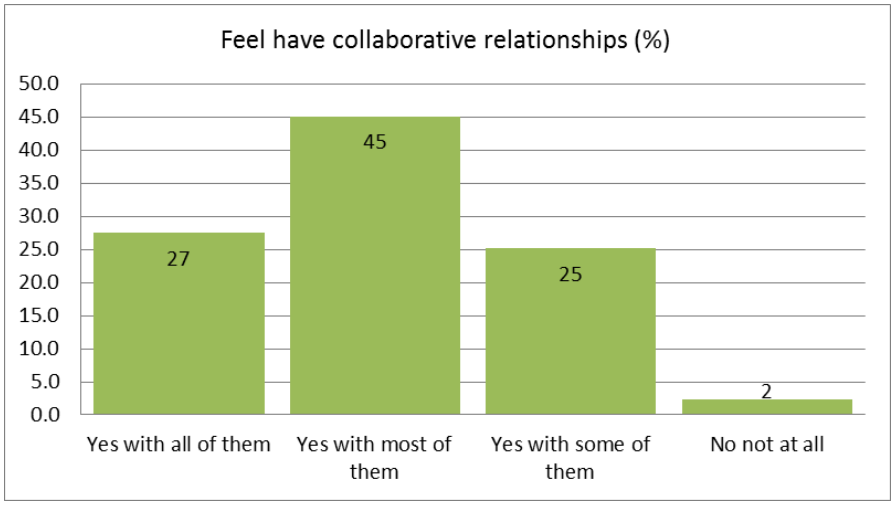


Source: Self study

Question three (figure 32); question four (figure 33); question five (figure 34); question seven (figure 35); and question eight (figure 36) intend to elicit views and hopes of FM stakeholders on collaborative relationship in delivering FM services based on their present experiences. The answer to these questions will provide a snapshot of present state of collaboration in the FM supply chain and their hope and aspiration regarding collaboration avenues in the future that may require an

adoption of collaborative framework like the BS 11000 as a strategic collaborative innovation tool for effective delivery of FM in the future.

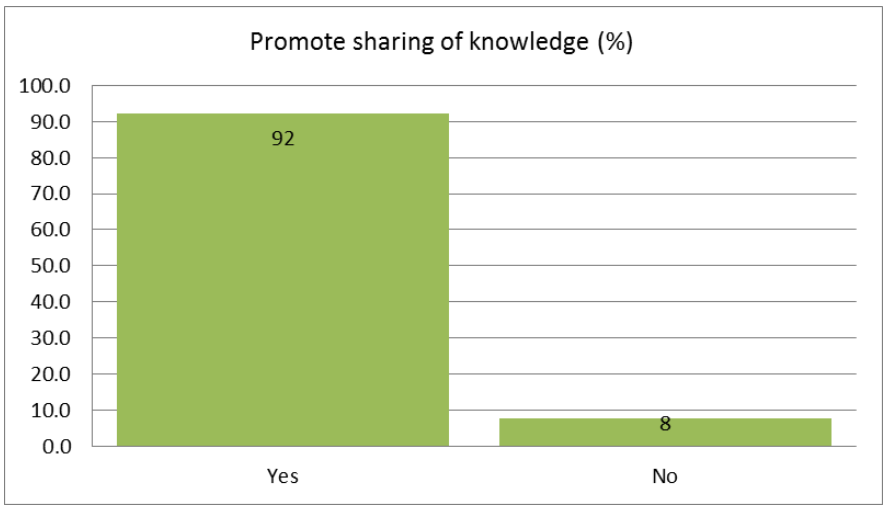
Figure 32: Q3 - Respondents view on practice of collaboration in FM service delivery



Source: Self study

Generally almost all the respondents feel that they are having collaborative relationships in provision of FM service delivery with a total combination percentage of 98% with majority 45% indicated that they are having collaboration agenda with most of their FM providers. A balance of the respondents shares the same opinion that they have total collaborations (27%) or with some of their providers in the FM supply chain (25%). It is marginal 2% of the survey result shown negative views on collaborative relationship. The literature review revealed that focus on cost pressures and transactional arm-length contract hinders collaboration in FM supply chain. This theme will be used further in the second stage of the data collection to investigate the rationale of motivation and challenges among FM stakeholders in pursuing collaboration agenda.

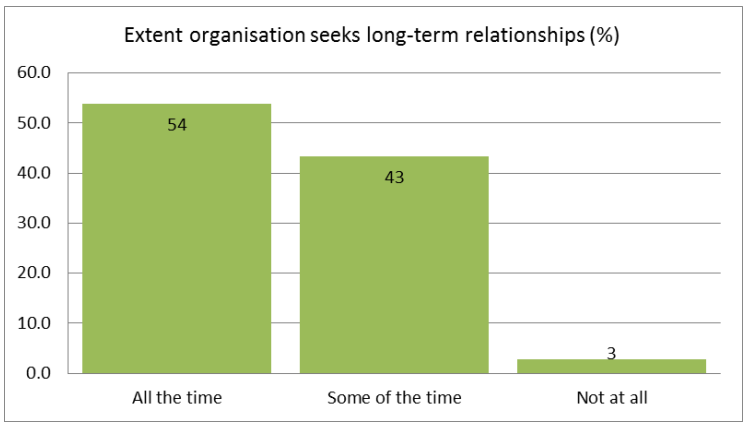
Figure 33: Q4 - Respondents view on knowledge sharing with parties in FM collaboration



Source: Self study

The majority (92%)of respondents positively promote sharing of knowledge in their contractual arrangement of FM services. (Barret 2000) in figure 6 explains that evidence of collaboration in FM exists with sharing of knowledge between the parties in an FM contract by introducing a hierarchy of collaboration in FM supply chain through escalation level in sharing of knowledge among the FM stakeholders. As such this variable will further be investigated in the second stage of the research to explore the extent of knowledge sharing among the FM stakeholders in UK FM industry. The findings in this stage of research also revealed that majority of the stakeholders are keen to foster long-term relationship in their collaborative arrangement as depicted in figure 34 however the extent of duration will be explored further in the subsequent stage.

Figure 34: Q5- Respondents view on potential of long term relationship in FM contract



Source: Self study

Table 27: Question 6 - Challenges in Implementing Collaboration

	Driven by cost	Mutual agreement of targets	Clashes in organisational culture	Lack of clear road map	Time	Staff and resources	Organisational priorities
Major challenge	56.5	21.0	16.7	25.1	26.5	34.3	23.6
Moderate challenge	35.9	51.0	40.7	47.9	50.2	43.3	56.7
Not really an issue	7.7	28.1	42.6	27.0	23.2	22.4	19.7

Source: Self study

The objective of question 6 is to ascertain challenges that FM stakeholders might encounter in order to implement collaboration in FM service delivery. Eight questions that are set as variables are based on findings in Chapter 2, 3 and 4 of the literature review chapters whilst 3 scales are set as major challenge, moderate and not really an issue. As such the highest percentages in scale of challenges will be explained as major, moderate or not really an issue towards implementing collaboration in FM. A traffic light colour coding approach is used in order to differentiate the highest percentages in each challenge for implementing collaboration. Red colour represents the highest percentage for major challenge, orange colour represents the highest percentage for moderate challenge whilst green colour the highest percentage of not really an issue for challenges in implementing collaboration in FM.

Major of respondents as depicted in table 27 indicate that driven by cost is the most challenging factor to implement collaboration in FM (56.5% in major challenge scale). Interestingly this result contradicts to Nelson (2004) view in section 3.3 where collaboration in the FM supply chain is identified as a factor to reduce cost in delivering FM due to integration of parties in partnership strive collaboratively to enhance value creation for mutual benefits. Perhaps clarity of pursuing collaboration process is unclear that steer respondents to have perception that implementation of any collaboration agenda would incur high cost and benefits in embarking into any collaborative arrangement in delivering FM is not resulting immediate positive impact to the bottom line of the organisation.

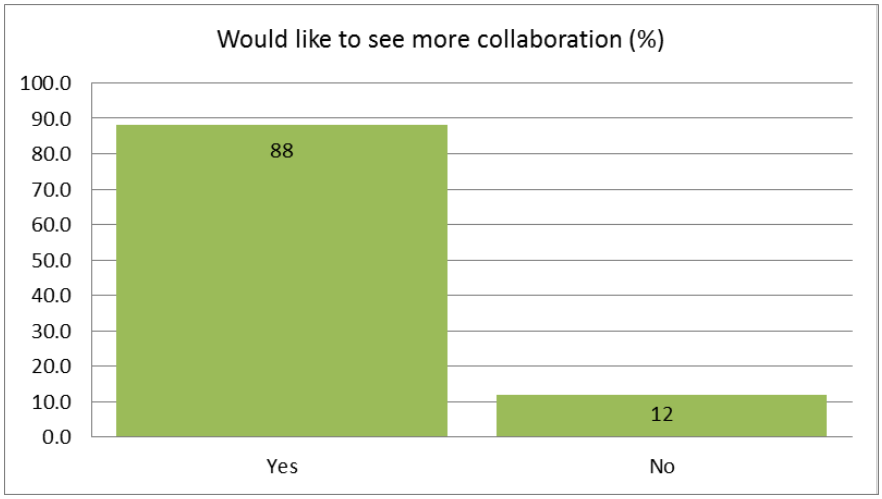
Organisational priorities are found to be a moderate challenge by the survey participants (56.7%). With many organisation are focussing on aligning internal processes to support core business in a limited available resource, it would be fairly understood that decision to collaborate with external parties could sometimes becoming a non-priority avenue for an organisation especially when delivery of FM services are carried out internally by in-house FM team.

Respondents in the survey reckon clashes in organisational culture as not an issue in forming collaborative efforts among the FM stakeholders (represented by 42.6%). Chen and Paulraj (2004) view that parties that wish to pursue strategic collaboration in supply chain have to fully embrace and integrate with the partner organisation ethos since convergence of values in both organisation objectives is extremely an important process to foster win-win alliances in collaboration. It could be concluded that majority of the survey respondents are aware on the importance of this factor to successfully implement sustainable collaboration.

Other potential challenges such as mutual agreement on target, lack of clear road map, time and adequate staff and resources are identified as moderate challenges in adopting collaborative efforts among the stakeholders. As such the main three challenges variables that explained in great depth (cost, organisational priorities and clash in organisational culture) are selected as core variables in formulating interview questions for the sequential stage of the research whilst the remaining

variables will act as supporting theme for probing strategy in the semi structured interview process.

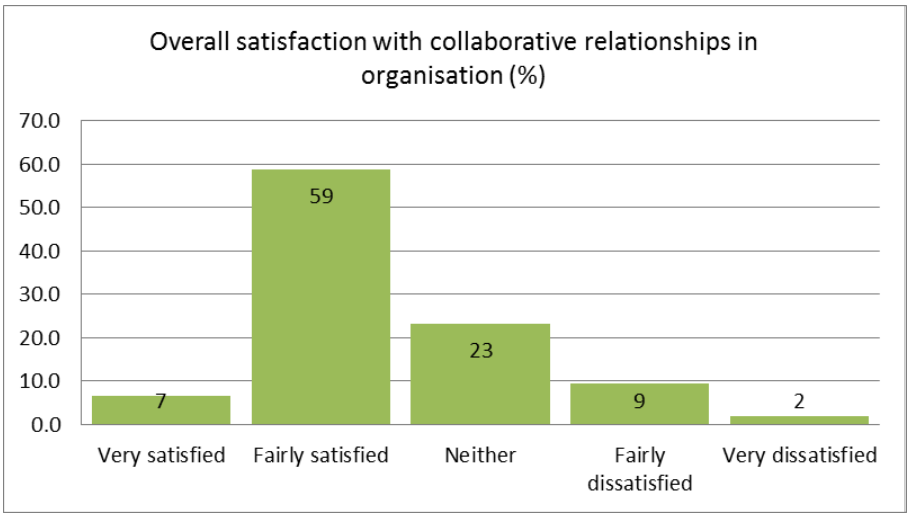
Figure 35: Q7- Respondents interest to see more collaboration among FM stakeholders



Source: Self study

Chen and Paulraj (2004) in section 3.2.5 explain that establishing a long term relationship is an important element for sustainable supply chain management as the supplier would have a greater span of time in understanding the culture and ethos of the clients that enable them to create value and implement innovation in delivery of services. Within FM context this opinion is supported by Lehtonen (2006(a)) who highlighted that long-term relationship is a significant variable for strategic FM relationship, which should exceed the operational FM, contract duration of five years period. More than half of the surveys participants agree that they are actively seek avenues to foster longer relationship in provision of FM services (in question 5) and welcome opportunity to foster collaboration agenda (evidence by 88% that answer yes in question 7) which provides positive outlook for application of a strategic collaborative framework like BS 11000 as a business support tool to aid collaboration in FM.

Figure 36 : Q8 - Respondents overall satisfaction with FM collaborative relationships



Source: Self study

In general, a majority of FM stakeholders showed positive response on satisfaction level of the existing practice of collaborative relationships as represented in figure 36. Even if the percentages of respondents that answer neither, fairly dissatisfied and very dissatisfied are combined, vast majority of 66% of survey participants are satisfied and very satisfied with the state of FM collaboration at present state. This provides a huge potential opportunity for adapting a collaborative framework like the BS 11000 to aid strategic collaboration among FM stakeholders.

6.2.2 Central tendency analysis

Descriptive statistics were used to determine the importance/significance factors that influence collaboration in FM. The mean score of importance was calculated for each criterion as this subsequently allowed criteria weightings to be established. Central tendency strength is calculated by the value the standard deviation that reflects the level of dispersion in a set of data. The mean becomes more representative if a lower score of standard deviation as compared to a higher value

Table 28: Mean and standard deviation result for the survey

		How would you classify your role?	Are the FM service contracts within your organisation predominantly provided:	Do you feel you have a collaborative relationship between yourself and your clients/providers	Do you promote the sharing of knowledge between you and your clients/providers?	To what extent does your organisation actively seek to establish long-term partnerships?	Driven by cost	Mutual agreement on performance targets	Clashes in organisational culture	Lack of clear roadmap to aid collaborative development	Time commitment	Adequate staffing and resources	Organisational priorities	Would you like to see more collaborative working amongst the contractual relationships within your organisation?	Taking everything into account, how satisfied are you with the level of collaborative business relationships that your organisation is involved in?
N	Valid	210	209	211	208	210	209	210	209	211	211	210	208	210	211
Mean		2.46	2.60	2.02	1.08	1.49	1.51	2.07	2.26	2.02	1.97	1.88	1.96	1.12	2.41
Std. Deviation		1.843	1.157	.789	.267	.555	.636	.698	.727	.723	.706	.745	.658	.325	.826

Source: Self study

Based on the table 28 it can be concluded that two questions that have the lowest score of standard deviation are question no. 4 and no.7 (SD .267 for question no. 4 and SD .325 for question no.7) indicating that the mean scores given a strong representation whilst question no.1 and no.2 have huge deviation score that represent weak representation of central tendency strength.

6.2.3 Chapter Summary

The quantitative stage undertaken with participants representing FM stakeholders in FM supply chain provides vital information to be used in subsequent qualitative stage of the data collection process. Based on descriptive analysis that was carried out, several key themes concerning collaboration in FM were identified that will be used as variables in the qualitative stage to determine potential application and challenges for applying BS 11000 in FM.

Several findings in this stage conforms to the initial literature findings particularly regarding motive and challenges of stakeholders in fostering FM collaboration at the present state. However some of the results were contradict with literature review thus spark motivation for the researcher to explore this further in the qualitative stage through in-depth interviews with key FM stakeholders across several FM categories.

Univariate descriptive analysis was used in this stage provides sufficient results in achieving the first research objective and allows the author to take on the second stage of data collection and analysis to fulfil

Chapter 7

Qualitative analysis

This chapter analyses the qualitative findings from the semi-structured interviews in order to inform the findings of the initial quantitative survey. This was achieved using NVivo, in which the following thematic analysis was undertaken (an example of the qualitative analysis procedure undertaken is provided in appendix D):

- Establishing low level 'free node' themes from the interview transcripts
- Establishing higher level 'tree node' themes and associated mid-level 'child node' themes to provide a structured hierarchy
- Producing thematic models illustrating the thematic structures identified
- Creating node matrices to cross-tabulate the nodes by interviewee set
- Creating word clouds through word frequency analysis to consolidate the node trends

The qualitative analysis was structured by firstly analysing the higher level tree nodes and associated mid-level themes followed by more detailed analysis of each individual tree nodes, their mid-level themes, and associated lower level themes.

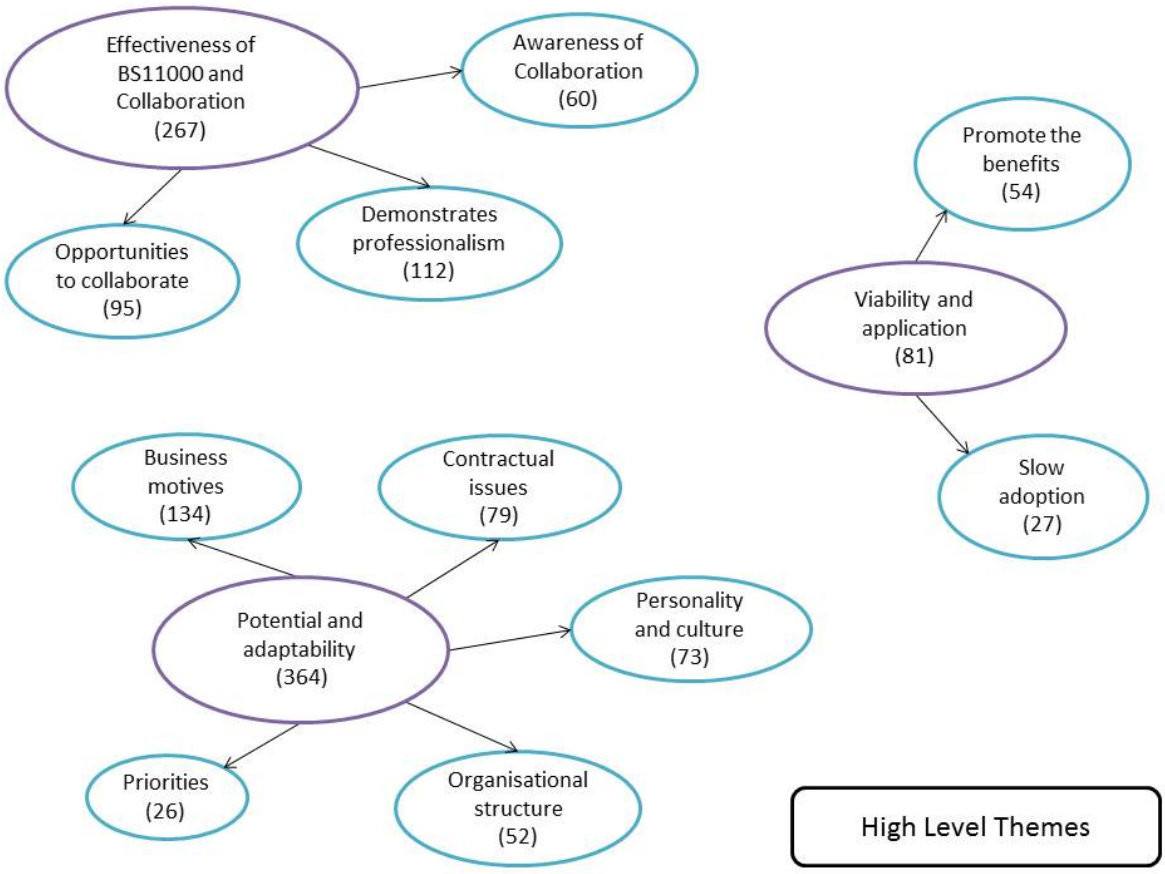
7.1 High level themes

Three high level themes were discussed during the interviews. Figure 38 provides a thematic model of the high level themes and associated mid-level themes that were then identified. The purple themes indicate the high level themes and the blue themes indicate their associated mid-level themes.

Each theme was then quantified by producing node matrices by analysing the number of passages that were attributed to each particular theme, and cross-referenced

against the four sets of interviewees. A total of 712 related passages were established across the 16 interviews undertaken.

Figure 37: Thematic model: high level themes



Source: self-study

The first key theme discussed was the *'effectiveness of BS11000 and collaboration'*, which produced 267 related passages. This was then further broken down into three associated mid-level themes. The most prominent was that BS11000 'demonstrates professionalism' (112 passages), followed by providing 'opportunities to collaborate' (95 passages), and finally discussion around the level of 'awareness of collaboration' (60 passages).

The second key theme discussed was regarding the 'potential and adaptability' of BS11000 within FM, which produced 364 related passages. This was further broken down into five associated mid-level themes. Interviewees commented most on the

'business motives' of the FM industry which inhibits the ability to collaborate (134 passages), particular 'contractual issues' (79 passages), the 'personality and culture' of individuals and organisations dealing with collaboration (73 passages), the 'organisational culture' (52 passages), and the issue of 'priorities' regarding time and resources available (26 passages).

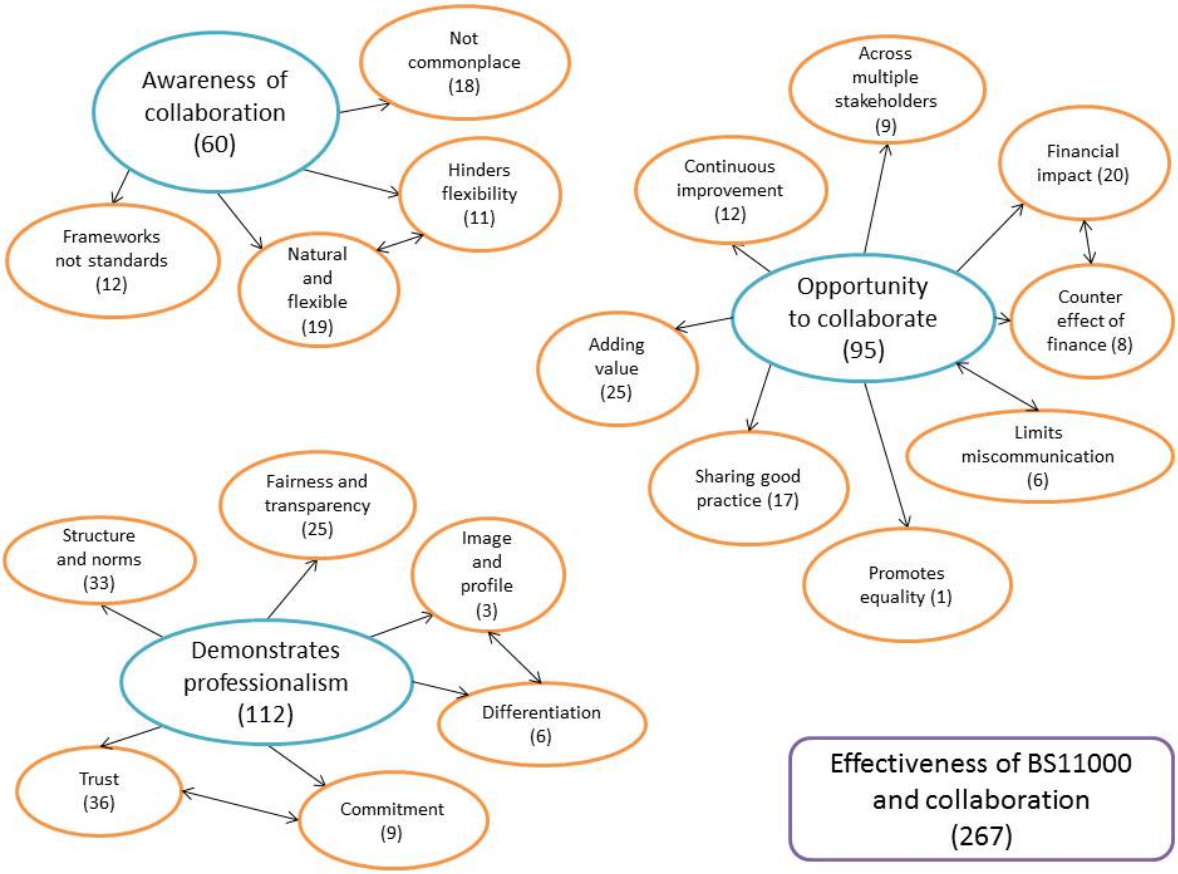
The third key theme discussed was regarding *viability and application'* of BS11000, which produced 81 related passages. This was further broken down into two associated mid-level themes. Interviewees commented on the need to 'promote the benefits' of BS11000 (54 passages) and the fact that there has been a relatively 'slow adoption' of the standard within FM so far (27 passages).

The following sections discuss each mid-level theme in greater detail, providing analysis of the more detailed lower level themes identified. The mid-level themes are highlighted in blue in with thematic models whilst the lower level themes are highlighted in orange.

7.2 Effectiveness of BS11000 and collaboration

Figure 39 shows the thematic model for the 'effectiveness of BS1000 and collaboration' (267 passages). This theme discusses the effectiveness of BS11000 and collaboration in general and also focuses specifically on the FM industry.

Figure 38: Thematic model: effectiveness of BS11000 and collaboration



Source: self-study

7.2.1 Awareness of collaboration

Awareness of collaboration within the FM industry was the first main theme discussed within interviewees, producing 60 related passages. This theme was broken down into four key areas as identified in the thematic profile in table 29:

Table 29: Matrix coding by set: awareness of collaboration

	BS11000 experts	FM clients	FM consultants	FM suppliers
Frameworks not standards	0	3	6	3
Natural process and flexibility	10	0	1	8
Hinders flexibility	0	5	5	1
Not commonplace	5	6	4	3

Source: self-study

Interviewees frequently commented on the fact that they wanted ***frameworks not standards*** to work from, emphasising that the term "standard" can mislead and inhibit the ability to collaborate (12 passages). A framework was thought to be something easier to relate to, providing a road map to the collaborative process. This was mainly enforced by FM consultants and also suppliers and clients, in which one interviewee said that "there is a danger that introducing a standard opposes innovation", in which another interviewee raised a critical question saying "do we need a standard or do we need a guide?". The interviewee goes on to say that the FM industry needs a simple document with basic pointers that guide people what they should do. Generally it was felt by the FM professional groups that the term standard doesn't represent this. Interestingly, this was not mentioned at all by the experts, implying that those with less prior knowledge of the standard may not be completely aware of its purpose.

Figure 40 summarises this effectively via word frequency analysis with the word cloud emphasising key words such as "introducing" "another" "standard" and there is a "need" for a "guide" to "follow". Although this could be interpreted in different ways it is argued that these conflicting terms corroborate the views expressed through the coding process and the passages highlighted above.

Figure 39: Word cloud: frameworks not standards

Source: self-study

Collaboration produces a ***natural process and flexibility***, which was discussed 19 times. The experts and FM suppliers mainly discussed this theme. The experts mainly related to the fact that the standard offers lots of flexibility to adapt to different industries and scenarios; with one expert interviewee noting that "the standard has enough flexibility within it to allow it to suit all kinds of relationships and all kinds of business arrangements and different types of businesses". This theme was explored further by more opinionated comments that that BS11000 can ***hinder flexibility*** in terms of the amount of freedom to naturally collaborate with people (11 passages). One interviewee argued, "if it's followed by the book it doesn't allow for innovation and flare and creativity because you are always working to manuals if you like. So I do think it's got its limitations which need to be explored". Again, all groups apart from experts, implying that the motives behind the standard are maybe not completely understood, mentioned this.

The final theme within the awareness of collaboration was regarding the fact that BS11000 is still ***not commonplace*** within industry, with a general lack of awareness across the board (18 passages). This was unanimously discussed across all groups with a relatively even distribution of passages. This was exemplified best by one

interviewee stating that "I still don't think people are aware of it. They might have heard of it but they probably don't know quite what it is, I think there's a danger that it can be seen as yet another standard, yet another thing to do". This apprehension is explored further when discussed the potential and adaptability of BS11000.

7.2.2 Demonstrates professionalism

The fact that BS11000 can help Demonstrate professionalism and commitment towards collaboration within organisations was generally perceived as a benefit of the standard. This theme produced the most passages (112) regarding the effectiveness of BS11000, which was broken down into six key areas as identified in the thematic profile in table 30:

Table 30: Matrix coding by set: demonstrates professionalism

	BS11000 experts	FM clients	FM consultants	FM suppliers
Trust	13	3	2	18
Commitment	3	0	5	1
Fairness and transparency	3	2	4	16
Image and profile	2	0	1	0
Differentiation	3	0	0	3
Provides structure and norms	11	3	9	10

Source: self-study

The issue of ***trust*** was frequently debated (36 passages) and although it was mentioned across all four interviewee groups, it was dominated by the experts and FM suppliers. Generally the experts (13 passages) had a viewpoint that trust was key to generating sustainable collaborative relationships, expressing comments that "if you don't have trust and you don't have that integrity those relationships will only ever be superficial so there is a real text in there about how you measure trust". From a supplier perspective, they were of the opinion that the standard provides a symbol that there is a trust being built within the collaborative relationship, with one

interviewee stating that "in essence it is a badge of trust". Another interviewee noted that collaborative relationships very much fail without trust, saying that "trust is fundamental and a lack of trust is why collaborations fail". The issue of trust was excellently emphasised via word frequency analysis with the word cloud in figure 41 closely linking terms such as "customers" "want" "collaboration" and that there has "got" to be "trust" in "relationships". A side theme to trust related to the level of ***commitment*** shown by organisations towards collaboration. This relates heavily to the issue of trust as consultant interviewees generally felt that BS11000 demonstrated that organisations were serious about investing in collaborative business relationships.

Figure 40: Word cloud: trust

Source: self-study

Another strong theme related to the fact that the standard provides ***structure and norms*** (33 passages). Interviewees generally agreed across all four groups that the standard allowed organisations to follow a clear structure to collaboration, which can sometimes be perceived to be a loose term within organisations. The word frequency analysis in figure 42 confirmed this with the term "framework" being referred to the most as interviewees felt that it helps provides a common road map for organisations to follow. This was expressed nicely by one interviewee, saying that "it helps put a

little bit of a methodology about how you might work towards achieving the standard". Another interviewee commented on the balance that the standard provides, which is not over-prescriptive but still provides enough of guidance to keep professionals on a clear pathway, saying that "you have a set of processes in place which are not over gilded, they are appropriate but neither are they too thin and they are documented". The interviewee goes on to say that it allows others in an organisation to easily pick up and follow if needed, essentially minimising the risk that collaborative relationships operate in particular silos with particular individuals.

Figure 41: Word cloud: Structure and norms

Source: self-study

Closely linked to the fact that BS11000 can provide trust, structure and norms, interviewees felt that it also allowed ***fairness and transparency*** to be developed within business relationships. Overwhelmingly FM suppliers discussed this with one interviewee stating "what a customer wants is transparency, if than FM company is not being transparent that creates that area of mistrust". This issue was expressed via word frequency analysis in figure 43 and emphasised by words such as "clients, customers, suppliers" "want" "openness" or to be "open". This provides some contradictory perspectives however when exploring some of the issues discussed in

the literature review chapter around business motives, where generally it was felt that organisations in the FM industry are quite suspicious and consequently not willing to share information and ideas. This creates a potential dichotomy of motives and priorities when trying to develop collaborative business relationships.

Figure 42: Word cloud: Fairness and transparency

Source: self-study

The final theme within regarding demonstrating professionalism related to companies' ***image and profile*** (3 passages). Although this wasn't spoken about frequently, it provided very positive comments regarding BS11000 from one interviewee who had already worked with BS11000, saying that "it's certainly raised our profile and people think about us in a different way". Closely linked to this was that BS11000 provided the opportunity for ***differentiation*** within the FM industry, with suppliers and experts generally feeling that they would like to think that the standard allows them to be seen in the FM market as being different from their competition. This was seen as a big incentive to invest in the standard.

7.2.3 Opportunity to collaborate

The final theme regarding the effectiveness of BS11000 and collaboration relates to the ability to create an opportunity to collaborate, generating 95 passages across 8 different lower level themes (table 31). This was a very positive theme generating themes regarding the positive impact collaboration can have.

Table 31: Matrix coding by set: opportunity to collaborate

	BS11000 experts	FM clients	FM consultants	FM suppliers
Across multiple stakeholders	3	0	2	2
Adding value	8	3	2	11
Enables continuous improvement	0	0	4	8
Financial impact	7	3	7	3
Counter effect of finance	0	7	0	1
Limits miscommunication	2	0	0	4
Promotes equality	0	0	1	0
Sharing good practice	4	3	9	1

Source: self-study

A very positive theme that was spoken about the most regarding opportunities to collaborate was the fact that it can ***add value*** (25 passages) to your operations. Unanimously interviewees felt that the opportunity to collaborate with business partners would add value to your operations. Although this was discussed by all interviewee groups, it was mainly discussed by experts and FM suppliers. One FM supplier stated that "we all spend money, but it's how you spend that money". Another FM supplier stated that "todays modern FM industry is all about going above and beyond and bringing more to the table". Similarly experts made reference to what customers will want to look for in their supply chain, saying that "you're looking for something that endorses that you're capable of delivering that sustainable value". The word sustainable is used in this instance to demonstrate that collaboration can help minimise the risk of shorter-term relationships turning over. This was

summarised through further word frequency analysis with key terms being expressed in the word cloud (figure 44) closely to value such as “risk” “supply” “chain”, demonstrating that collaboration can not only add value but influence the minimisation of risk within your supply chain as parties are working closer together in a more transparent way. This was summarised very concisely by one interviewee who concluded that “there will always be a value-cost judgement” and this is one of the challenge of implementing BS11000 within the FM industry.

Figure 43: Word cloud: Adding value

Source: self-study

Linked to adding value, FM consultants and suppliers discussed that collaboration ***enables continuous improvement*** (12 passages). This was summarised well by one interviewee stating that “most successful around that work on constantly improving and coming up with innovation, there’s always a spirit of collaboration”. This solidifies the concept that collaboration and improvement are synonymous.

Another frequently discussed theme was how collaboration can have a ***financial impact*** (20 passages) on operations. Like adding value, the financial impact that comes with collaboration was unanimously discussed by interviewees. This was mainly discussed by FM consultants and experts. This was mainly discussed

regarding the economic recession that industry has recently experienced, with some views saying that the recession has almost forced businesses to collaborate more creatively, with one interviewee crediting the concept of BS11000 as a way of using collaboration effectively, saying that "we are going through a fairly tumultuous time in terms of the economic environment and I think that doing it right and doing it properly and actually get some value for both organisations or the partaking organisations is probably more important than ever now".

Whilst others, mainly clients, felt that this can have a ***counter effect on finance*** (8 passages) and that collaboration is a cost burden that is a luxury rather than a necessity, with one interviewee stating that "all the fluff within companies is being thrown out because to make savings everything is being cut to the bone". These points were emphasised effectively via further word frequency analysis in which the word cloud in figure 45 highlights terms such as "economic", "recession", "savings", "cost" and "value".

Figure 44: Word cloud: Financial impact

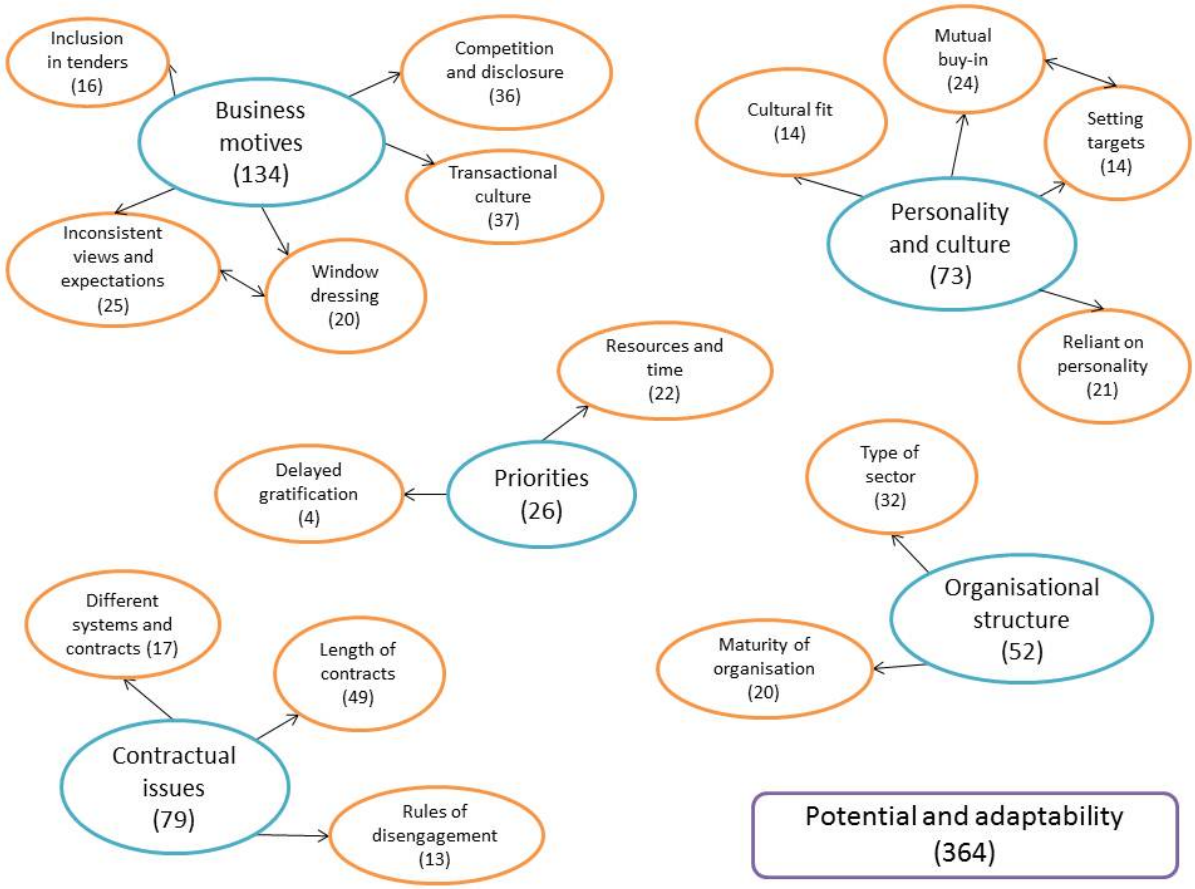
Source: self-study

A theme that linked closely to issue around fairness and transparency was the fact that collaboration allows the ***sharing of good practice*** (18 passages). This was mainly discussed by FM clients with one interviewee stating that "in good collaboration you are sharing knowledge and information about yourself, your organisation, your goals and so the supplier should be doing exactly the same". Other notable themes discussed within the area of providing opportunities to collaborate are that it ***limits miscommunication*** (6 passages) and that it ***promotes equality*** (1 passage). Although these final two themes were not frequently mentioned, they are worthy of mentioning as they raise important points that relate to other themes discussed, particularly fairness and transparency, with one interviewee stating that "within a complex model like collaboration, a standard provides a neutral platform to begin new collaborative relationships as equals rather than one party imposing a system on the other". Finally, interviewees commented on the fact that the FM industry has to ***deal with multiple stakeholders*** (7 passages), which reinforces the importance of the issues discussed around transparency and communication of information.

7.3 Potential and adaptability

Figure 46 shows the thematic model for the *'potential and adaptability'* of BS11000 within the FM industry (364 passages). This second major theme discusses some of the challenges and critical issues that the FM industry need to be aware of and work through in order to effectively adapt to a collaborative working mentality and adopt BS11000 as a framework to deliver this.

Figure 45: Thematic model: potential and adaptability



Source: self-study

7.3.1 Business motives

The ***business motives*** of FM organisations provided the most frequent discussion (134 passages) regarding the potential and adaptability of BS11000. This is arguably the most critical area of the data findings as it raises some challenging issues of how to adapt and apply BS11000 within the FM industry, generating five critical themes (table 32).

Table 32: Matrix coding by set: business motives

	BS11000 experts	FM clients	FM consultants	FM suppliers
Competition and disclosure	4	12	13	7
Inclusion in tenders	6	5	0	5
Inconsistent views and expectations	11	7	4	3
Window dressing	7	5	4	4
Transactional culture	12	4	7	14

Source: self-study

The most frequently discussed theme within the business motives of the FM industry was the ***transactional culture*** that exists (37 passages). This theme was highlighted due to the frequent comments being made that regardless of how much FM companies want to collaborate, every comes down to cost and savings. This was frequently discussed by all interviewees but mainly by experts and FM suppliers. The main concerns from experts were around trying to shift the traditional cost driven mentality within the industry with one interviewee expressing that "there is a mind-set change… that this transactional purely cost driven approach is not sustainable". Suppliers shared these views but also emphasised that the "FM industry is becoming commoditised where it is all about cost reduction, lowest price, we are doing ourselves a disservice and we are disadvantaging the people in the industry, attracting people to the industry and there needs to be more collaboration". A critical question by one interviewee was therefore "if you want a transactional approach then perhaps collaboration isn't going to work". Key terms that were highlighted in the word frequency analysis (figure 47) of this theme included "cost", "driven", "contracts" and "value", which create the argument that value is only really evidenced by costs.

Figure 46: Word cloud - transactional culture

Source: self-study

A closely followed theme was regarding the ***competition and disclosure*** of information within the FM industry (36 passages). This linked closely to the transactional culture discussed above where organisations are generally suspicious to disclose information to other stakeholders in the industry. This creates a major barrier in terms of generating collaborative business relationships and ultimately the ability to implement a standard like BS11000. This was noted by all interviewee groups but less frequently by experts, emphasising that this is a local issue raised by those more knowledgeable about the dynamics of the FM industry. For example, one interviewee expressed that "we live in world where everybody competes against each other instead of working with each other". Moreover, another interviewee noted that "generally a lot of businesses (in FM) are suspicious" of sharing information. When analysing the results of the word frequency analysis in figure 48, this is clarified particularly in the bottom half of the word cloud where key terms such as "suspicion", "competitive" and "scared" are in close proximity to key words around information and business.

Figure 47: Word cloud: competition and disclosure

Source: self-study

Another theme that perhaps exacerbates the transactional culture issues discussed above is around the fact that there are ***inconsistent views and expectations*** (25 passages) about what the term collaboration actually means. It was generally perceived that it is a term used fairly loosely in the FM industry with many people saying they collaborate without actually doing anything different other than operating under the terms of the contract assigned to that particular business relationship. For example, one interviewee noted that "lots of people aspire to it but don't necessarily quite understand how to get there or that they're driven by the term of partnering in collaboration but not necessarily actually doing and turning it into a reality". A more critical perspective of this came from an FM client who stated that "if you actually look at the true meaning of collaboration it is about being open and transparent and partnering and I think there is very little of that out there… organisations will say they partner but they don't, they contract the services, it's not a

partnering arrangement". Because there were so many comments around this theme, it generated a sub-theme closely linked to this inconsistency of views and expectations which was that there appears to be a lot of ***window dressing*** (20 passages) when it comes to promoting the fact that FM organisations are collaborating. The term window dressing is used to describe this theme as there were many comments, which were fairly evenly distributed across all groups, that people in the FM industry are quick to promote that they collaborate, but in reality when their business operations are analysed behind the scenes there is minimal collaboration taking place. This relates to some of the original issues discussed in this chapter in section 7.1 regarding the awareness of what collaboration means. This is expressed excellently by via word frequency analysis within the word cloud in figure 28, where key terms such as "lip" and "service" are used alongside "tick" and "box", highlighting the fact that many in the FM industry perhaps say they are collaborating in order to tick a box and really they are just paying lip service to the issue.

Figure 48: Word cloud: Window dressing

Source: self-study

The notable inclusion of collaboration being a tick box exercise is also expressed in the final theme within this section around the ***inclusion in tenders*** (16 passages). All groups apart from FM consultants expressed the view that BS11000 would become an important component in future tender submissions and has the potential to be as important to tendering organisations as other standards such as ISO9000 and ISO14000. For example, one FM client interviewee stated, "when we tender for business we're always asking businesses how innovative they are and what they are going to bring to the table". This was concurred by the FM supplier side with one interviewee saying that "having been used to tendering for nearly ten years now I've seen a shift towards a greater desire for collaboration now… particularly because there are more statutory obligations for certain clients for carbon reduction commitments for example… and certainly in some of the tender questions and pre-qualifications we get asked now they want evidence of that collaboration, they want evidence of that partnership rather than just saying yes we believe in partnering, they'd like to know more".

7.3.2 Contractual issues

Despite the motives of BS11000, it cannot be hidden that like most industries the FM industry relies on the contractual agreements and terms of its business relationships. This creates various *'contractual issues'* that were discussed by interviewees in regards to their view on the potential and adaptability of BS11000 to the FM industry (79 passages). This generated three critical themes as highlighted in table 33.

Table 33: Matrix coding by set: contractual issues

	BS11000 experts	FM clients	FM consultants	FM suppliers
Different systems and contracts	2	1	13	1
Length of contracts	17	13	6	13
Rules of disengagement	7	2	1	3

Source: self-study

The most significant theme within this section was regarding the ***length of contracts*** within the FM industry (49 passages). All interviewee groups frequently mentioned this theme. Many comments related to the fact that contracts are increasingly being signed on a longer term basis, meaning that organisations are actually embracing the idea of collaboration and being able to continually improve through increased trust and loyalty with business partners. This was summarised effectively by one interviewee stating that "longer term relationships allow the contractors or the FM's to really appreciate and understand the needs of the client and adapt their service to match that which can also benefit not only that individual client but other clients that they are collaborating with, so the long term allows for potentially better investment internally".

In contrast, some interviewees were still hesitant that there are still large numbers of shorter term contracts, typically around 3 years in length where the inhibit the ability to continually improve as contracted companies barely have time to perfect their operations before they are being shown the door and the contract is retendered and awarded to a new provider. For example, one interviewee used the term "short term-ism" in the FM industry in terms of contract duration, with another interviewee arguing that "some FM contracts are failing because they are too short term and if you place a contract for a year you have got pretty much no chance of building a strong relationship… the longer you can build the relationship the more value you can drive out of the process. When looking the word cloud in figure 50, the word frequency analysis exemplifies this by highlighting that contracts are typically between "three" and "five" years but there is an increasing trend of "longer" "term" contracts.

Figure 49: Word cloud: length of contracts

Source: self-study

The next notable theme discussed around contractual issues was that there are ***different systems and contracts*** (17 passages) within the FM industry. This was a view predominantly felt by FM consultants. They were of the opinion generally that contractual arrangements in a FM are often guide complex and dynamic. This was described by one FM consultant saying:

> "this is where FM falls down in collaboration in that you've got single service suppliers, multiple service suppliers, total FM, and all these different models and in some contracts they will be working together and in some they will be competing against each other so that's quite an interesting model within FM and it is difficult then to collaborate effectively because of this dichotomy that one day you will be partnering together and the next you are right at each other fighting for a contract".

There were however some positive viewpoints discussed regarding contractual issues in respect to the tools available within BS11000. This was regarding the ***rules of disengagement*** (13 passages) within contracts, where it is often not planned or thought through between both parties as to what the exit strategy of the contract intends to be. Interviewees were very positive about the component of BS11000 that forces partners to consider their exit strategies very early in the collaborative process, to avoid miscommunication later down the line. This is summarised effectively by one interviewee who stated that "in most collaborative agreements you end with an exit strategy but BS11000 seems to start with why don't we agree an exit strategy which actually is very safe and neutral ground". Another interviewee elaborating further on this benefit of the standard saying "its good right from the start to know where everybody is and for it be said right OK if things do go wrong for example this is how we would terminate… from a contractual point of view to get things sorted out right from the outset so it's there will save a lot of time during that contract".

7.3.3 Personality and culture

The *'personality and culture'* of individuals and organisations was a theme frequently discussed by interviewees regarding the potential and adaptability of BS11000 (73 passages). This was broken down into four key themes (table 34).

Table 34: Matrix coding by set: personality and culture

	BS11000 experts	FM clients	FM consultants	FM suppliers
Cultural fit	4	2	1	7
Mutual buy-in	8	6	3	7
Setting targets	8	5	0	1
Reliant on personality	2	5	12	2

Source: self-study

The most frequent theme within this section as regarding the ***mutual buy-in*** of both parties in a contractual relationship to endorse collaboration (24 passages).

Interviewees expressed the need that both parties have to appreciate the importance of collaboration in order for BS11000 to be effective. On interviewee noted that "the biggest barrier is getting both the client and supply chain to recognise there is a need for it", with another interviewee suggesting that there needs to be "a mutual desire for a long lasting, conflict free, value generating relationship". A theme that was closely linked to this was regarding the performance indicators that are subsequently agreed between two parties within contractual relationships, where the mutually ***setting targets*** (14 passages) was deemed to be crucial. One interviewee expressed that "its about delivering common targets through a relationship and that's what collaboration is all about, understanding each other and understanding the expectations". An FM supplier provided an example of these shared targets saying that "it could be anything in terms of saying we've got this target where we need to achieve 5% reduction in our energy consumption in the next twelve months and we want you to come forward with ideas how you can do that". The interviewee however went on to add that very few relationships do that and share that kind of risk and reward where you know you are taking joint risk and sharing the rewards on it.

The ***cultural fit*** of the organisations involved in a collaborative relationship is therefore crucial and was discussed 14 times by interviewees, mainly on the supply side with one interviewee stating that "you have to build a culture in an organisation that wants to work together with clients, that wants to collaborate so as a service provider you have contracts or agreements that are all collaborative you can build a culture of people that want to work together, that want to build relationships". However, although it was evident that the cultural alignment of both parties in a collaborative relationship is crucial, it was generally felt that collaboration ultimately comes down to the individual people involved in the relationships and is subsequently very ***reliant on personality*** (21 passages). One interviewee expressed this view by stating that "there is a mixture: some people are happy to do it to a certain point, others are quite suspicious about it". This can become an issue in terms of the longevity and change of contracts with one interviewee expressing that "sometimes the relationship has been built up through two departments or individuals, it works very well, one of those parties change, somebody comes in, there isn't a comfortable relationship and things can go wrong because there isn't a

relationship… so where we've seen failure within the industry it's been very much a change of personnel, a change of people".

7.3.4 Organisational structure

The issues discussed in the previous section around personality and culture link closely to particular themes that arose around *'organisational structure'*, generating 52 passages. This was broken into two key themes, as highlighted in table 35.

Table 35: Matrix coding by set: organisational structure

	BS11000 experts	FM clients	FM consultants	FM suppliers
Maturity of organisation	0	8	6	6
Type of sector	6	4	5	17

Source: self-study

The ***type of sector*** appeared to have an influence on the potential and adaptability of BS11000 within the FM industry (32 passages). This was predominantly discussed by FM suppliers (17 passages) who generally said that the private sector is more cost sensitive, whereas the public sector looks more at the bigger picture and how they can demonstrate added value. One interviewee summarised this by saying that "there is a lot of collaboration apparent with some of our public sector clients… public sector is slightly different and regularly we will get ones where price may even be only 40% of the total marks but they want evidence of how this organisation will culturally fit in with our organisation".

The ***maturity of the organisation*** was also frequently mentioned by most interviewees (20 passages). This was not picked up by the expert group and only discussed by those in the FM industry, which demonstrates how a localised issue within FM can affect the potential and adaptability of BS11000. This theme was generally around the capacity, size and scale of organisations, with some interviewees arguing that larger more matured organisations would be better equipped to implement BS11000 than smaller SME organisations. Conversely, this view was not

shared by some interviewees with a background working for SME organisations, stating that "this is not just about mulit-national companies who have the resources to plough into this standard, its about an SME who can also look at the standard and identify the areas of the standard that an SME can provide". This again demonstrates that perhaps there is a lack of awareness of what BS11000 can potentially do for an organisation, with a perception that it is only possible if there are considerable resources assigned to its implementation and delivery. This is discussed further on in section 7.3.5 regarding priorities. This perception is evident when viewing the word frequency analysis results in figure 51, which highlights words such as "smaller" "organisations" and "capacity" to "provide" "value".

Figure 50: Word cloud: maturity of organisation

Source: self-study

7.3.5 Priorities

The final theme regarding the potential and adaptability of BS11000 in FM was around *'priorities'* (26 passages). This was in respect to the amount of time and resource associated to investing in collaborative activities as opposed to other items

on the business agenda. This was broken into two key themes as illustrated in table 36.

Table 36: Matrix coding by set: priorities

	BS11000 experts	FM clients	FM consultants	FM suppliers
Delayed gratification	2	0	0	2
Resources and time	5	7	5	5

Source: self-study

Subsequently, the issue of ***resources and time*** generated the majority of comments in this section (22 passages). The majority of interviewees with an FM background negatively discussed this theme in respect to not being able to dedicate enough resources and time to invest in BS11000 at the present time. Generally they recognised that it could be beneficial in the long run but they spend too much time dealing with other daily issues to be able to dedicate time to it. For example, on interviewee said "the bigger cost in all of these things is not the cost of certification its allocating the resources internally". Another interviewee was critical of the FM industry say that "we are very poor at making time to do the good things so there are a lot of facilities managers out there firefighting". This was summarised effectively via word frequency analysis with the word cloud (figure 52) highlighting terms such as "fighting" "fires" and issues such as "cost" and "change" which hindered the priority to implement it. This theme links strongly to the issue of promoting the benefits of BS11000 so more people in the FM industry are willing to commit this time and resource. This is discussed further on in section 7.4.

Figure 51: Word cloud: resources and time

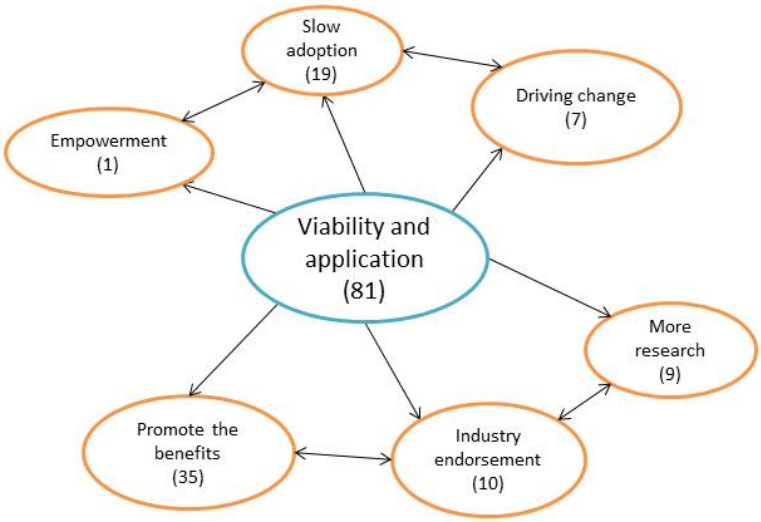
Source: self-study

The other theme discussed within this section was around the ***delayed gratification*** of BS11000. Although this only generated 4 passages, it strongly relates to the issue of priorities in the fact that the benefits and rewards obtained from investing in BS11000 would not necessarily be recognised immediately, and consequently requires the FM industry to have more of a longer term perspective on its commitment to collaborative business relationships.

7.4 Viability and application

The concluding theme that was generated from the interview analysis focused on the future *'viability and application'* of BS11000 in the FM industry. Figure 53 shows the thematic model for this theme, generating 81 passages across two key areas: the rate of adoption of the standard in the FM industry, and the ability to promote the benefits of the standard to the industry. Within these two key areas, other sub-themes were generated and are discussed below.

Figure 52: Thematic model: viability and application



Source: self-study

The ability for the FM industry to ***promote the benefits*** of BS11000 was deemed to be a critical issue moving forward (25 passages). This was generally commented on by all interviewees, as illustrated in table 37. Generally interviewees felt that more could be done to provide case study examples of the minority of companies who have already become accredited under the standard. This links to the fact that the level of knowledge of the standard is fairly weak and more could be done to promote it. One interviewee highlighted that "it's about people having the perception of what it entails, how it can improve their organisation". Another interviewee emphasised that "clearly a lot of facilities managers are extremely busy and it would be important for them to be able ot just take a step back and just understand a bit more about it and what benefits it could be to them as an organisation". Moreover, it was felt that ***industry endorsement*** (10 passages) is needed in order to promote these benefits, where professional body involvement would help stimulate more interest in the standard. It was also acknowledged that ***more research*** (9 passages) from other

stakeholders such as academia and existing holders of the standard on its benefits and the promotion of case study examples would help provide a more critical insight into the application and viability of the standard.

Table 37: Matrix coding by set: viability and application

	BS11000 experts	FM clients	FM consultants	FM suppliers
Promote the benefits	10	6	10	9
Industry endorsement	5	2	1	2
More research and information	3	0	2	4
Slow adoption	11	3	1	4
Driving change	2	0	0	5
Empowerment	1	0	0	0

Source: self-study

Finally, it was generally felt that there has been a ***slow adoption*** (19 passages) of the standard in the FM industry, which is partly due to some of the issues discussed earlier regarding the promotion of the benefits of the standard. It was generally felt that more efforts in driving change (7 passages) and the empowerment (1 passage) of FM organisations would help to increase the pace of adoption. Interestingly the word frequency analysis for this issue highlighted terms such as "domino" effect and "rest" of industry will "follow" (figure 54). This theme cuts across some of the issues discussed during this chapter about the general lack of awareness of BS11000 and also regarding the difference in views and expectations about what collaboration is and the tendency to pay lip service to it.

Figure 53: Word cloud: slow adoption

Source: self-study

7.5 Chapter summary

The purpose of this stage was to pursue the second phase of sequential explanatory mixed method research adopted for this study through a qualitative approach by conducting 16 semi-structured interviews across selected key FM stakeholders' adopted from RICS (2014) categories; FM clients, FM service providers; FM consultants and FM experts who had experience with BS 11000.

- The first theme discussed is *'effectiveness of BS 11000 and collaboration'* and then further broken down into three associated mid-level themes.
    - **Awareness of collaboration** – There are four sub-themes that emerged under this theme. Major categories of FM stakeholders acknowledged the need for a framework rather than a standard to steer FM collaboration. A framework is perceived simpler to be implemented. However the FM

expert that had the experience of BS 11000 are in the opinion that there is misconception among the rest of FM stakeholders about the standard whereby BS 11000 offer ample flexibility for adaption to foster collaboration in FM. It is concluded that at in this theme that major FM stakeholders are not aware and have misconception of BS 11000 and it is still not a commonplace within FM industry.

- ***Demonstrates professionalism*** – generally received very positively across the board by all categories of FM stakeholders since adoption of any standards provide a clear methodology to follow. A standard will foster commitment towards trust and commitment in collaboration or business relationships. As such a standard will foster fairness and transparency. Finally under this theme the respondents also unanimously agreed that adopting BS 11000 into FM collaboration agenda will increase the profile of their organisation within the competitors specifically and the FM industry generally.
- ***Opportunities to collaborate*** - This theme acknowledged constructive response from the respondents since BS 11000 will provide a value-adding platform for in delivering FM services to the organisation. Adopting the framework will also minimise risk within FM supply chain as partners will closely work together transparently. Collaboration in FM will stimulate sharing of knowledge and best practices thus encourage continuous improvement and innovation. Recession in the economy had also force stakeholders in FM to collaborate innovatively since organisations need to react positively to bring added value under cost pressure.

- The second theme was to view the '*potential and adaptability'* of BS 11000 in the FM industry, and was further broken down into five associated mid-level themes.
  - ***Business motives*** – Being the most critical area of data findings as it highlighting challenges to adapt and apply BS 11000 into FM industry being *transactional culture* particularly on cost and saving being the main objectives that hinders collaboration to flourish within FM practices. All FM stakeholders shared the same views and call for shift of paradigm from cost reduction to value driven and then only attempt to support adopting

such framework to foster collaboration like BS 11000 will potentially be embraced positively. Stiff *Competition* lead to suspicion among FM stakeholders to *disclosure and* share information within the parties thus creating a gap to work collaboratively to deliver FM services. *Inconsistent views and expectations* is the other factor that that hamper collaboration in FM since FM stakeholders are unclear of expectations between partners in business collaboration. As such parties in FM are just practising window dressing or lip service of championing collaboration but in reality there are very little evidence that prove true collaboration that take place in provision and delivery of FM services in the industry. This negative perception directs the respondents to reckon that adapting BS 11000 as merely ticks in the box exercise for tender requirements like other management standards rather than a powerful business support tool to nurture business collaboration.

- **Contractual issues** – *Diverse nature of existing contracts characteristics* also known to be challenges in application of the BS 11000 in FM industry such as the length of contracts that are mentioned by all FM stakeholders in the interviews. A longer duration of contract will enable service providers to understand the culture of the clients thus drive them to innovatively adding value in delivering FM services. In contrast, existing operational contracts that are within three to five years are too short for stakeholders in FM to fully clinch full benefits of collaboration thus evade BS 11000 to act as catalyst for collaboration in FM market. *Different system and contracts* due to different contract models is also seen to be a challenge for potential application of BS 11000 however positive viewpoints were gathered on *rule of disengagement* offered by the BS 11000 framework through its innovative exit strategy receive positive outlook for adapting BS 11000 into FM industry.
- **Personality and culture –** Three sub-themes emerged under these medium level themes. *Cultural fits* refer to a mutual understanding of parties in to work together in collaboration with common goal and objectives. In addition cultural fits has to be uplifted at organisational levels rather than *reliant on personality* of individual to assure sustainability of business relationship since there is probability that

collaboration turns sour when individual that lead the collaboration leave the organisation. *Mutual buy in* of both parties is essential to ensure success of any collaboration and it starts with *setting targets* of what expectation that parties in collaboration intending to accomplish is also a crucial factors to foster BS 11000 in FM business.

- **Organisational structure** – *Type of sector* is another factor that is discovered through this qualitative stage that has an impact of potential and adaptability of BS 11000 into FM. Private sectors due to the nature of being cost conscious are seen to be less predominant in adapting the framework as compared to the public sectors that have a bigger perspective of how collaboration could add value in their nature of business alliances. *Maturity of organisation* that reflected by size, capacity and scale of the organisation will be more incline to apply BS 11000 framework as compared to the SMEs. This demonstrates lack of BS 11000 awareness since the experts respondents view that BS 11000 framework is suitable to be adapted to any size and capacity of an organisation.
- **Priorities** – This is the final mid level theme regarding potential and adaptability of BS 11000. The FM stakeholders in the opinion that investing in framework like BS 11000 is *time and resource consuming* and *delayed gratification* effort as compared to other pressing commitment that are priorities in the business agenda that might hinder the potential application of this collaborative business framework in FM.

- The final key theme discussed was regarding future '*viability and practical application'* of the BS 11000 in the FM industry, and was further broken down into two associated mid-level themes
  - **Ability to promote the benefits of BS 11000** – This factor is crucial in pursuing the agenda of applying BS 11000 into FM collaboration. The respondents are yet to view many success stories of collaboration that apply the framework into the business relationship thus supports lack of awareness of BS 11000 among FM stakeholders. The stakeholders are in agreement that industry endorsement is crucial to uplift the FM industry to apply the framework accordingly and call for professional institution like

BIFM and academia to research and share the benefits through case study examples with the FM stakeholders'.

- **Rate of adoption of the standard in the FM industry** – Presently there has been *slow adoption* of BS 11000 in FM industry relatively due to it is a new British Standard that only recently being introduced to the industry. Continuous promotion in raising the awareness of this framework is essential to increase the level of awareness of tangible benefits that FM stakeholders could reap by adopting of BS 11000 into their business collaboration.

This qualitative stage has robustly answer three main research questions of the study and at the same time achieves three objectives of the research. As such discussion and conclusion on the overall research will be pursued in the final chapter of the next chapter.

Chapter 8

Conclusions and Recommendations

8.1 Reflection of aim and objectives

This thesis provides a significant contribution to knowledge in the area of collaboration in FM in establishing the success factors needed for the successful implementation of the British Standard for collaborative business relationship BS 11000 within the FM industry.

As extensive literature review was pursued in order to critically justify the selected research area and subsequent research gap was identified within existing body of knowledge in strategic delivery and innovation in FM. The research problems justify the need and desire to explore a strategic business tool to enhance collaboration in FM practices. In addition there is limited research on potential application of the BS 11000 being the first national standard for generic business collaboration framework moreover in FM. This has motivate the researcher to pursue this study to understand the challenges and potential application of BS 11000 framework into FM.

In order to achieve the need of the research, the following research questions aim objectives were set and derived:

1. What is collaboration in the FM supply chain?
2. How the BS11000 framework can be applied?
3. How relevant is the BS11000 framework in the FM industry?
4. What are the potentials, constraints and barriers for the BS 11000 framework to be applied in the UK?

To answer these research questions, the following aim was devised:

To establish the success factors needed to successfully implement the British Standard for Collaborative Business Partnerships (BS11000) within the facilities management (FM) industry.

The following objectives were then set to operationally investigate the above aim:

1. To investigate the state of collaboration within the stakeholders in the FM supply chain
2. To examine the effectiveness of BS 11000 framework as a tool for collaborative business relationships
3. To investigate the viability and practical application of BS 11000 framework to be applied to the UK FM market
4. To establish the success factors needed for implementing BS11000 in FM

8.2 Summary of conclusions

Through a comprehensive sequential explanatory mix methods research strategy the research questions; aim and objectives the following research conclusions were identified.

8.2.1 Conclusion 1

The research found that collaboration in the FM industry is not something new however stakeholders within the FM supply chain collaborate in their silo collaborative framework according to their perception which sometimes is misleading where the terms of collaboration is loosely understood.

Whilst FM is a people business and the importance of innovation in FM is instrumental that urged stakeholders' in FM to work collaboratively to achieve greater added value to strategically support core business of an organisation, FM practices is generally misunderstood as a functionalist cost cutter as compared to enabler through creating the optimal environment for end users. Literature review undertaken also revealed that adaption of several FM delivery models are mainly on

transactional or operational in nature which are usually short term that hinders collaborative innovation since insufficient time to allow parties in the FM service delivery to gel as one entity to understand each other culture to share and transfer knowledge towards mutual benefits. As a result, extensive review in the literature called for two main actions. Firstly is to understand the state of collaboration among FM stakeholders in the FM supply chain and secondly to assess the applicability of BS 11000 being the first generic national collaborative business relationship to potentially be applied into FM market.

The first stage of sequential mixed method research in this study intended to understand the state of collaboration within stakeholders in FM industry quantitatively via descriptive analysis. The frequency distribution analysis involving 210 various cross sections of stakeholders in the FM supply chain revealed unanimous agreement that they are in collaboration in delivering FM services. They further positively promote knowledge sharing in their collaborative arrangement that forms one of critical factors that will further be investigated in the second stage of the research. The findings in this stage of research also revealed that majority of the stakeholders are keen to foster long-term relationship in their collaborative arrangement however discussions on what is defined as duration of contract that the FM stakeholders are presently embrace in will be discovered in the second stage of the study.

In determining the hierarchy of variables for challenges in the FM industry, major of the respondents indicate that cost is being detrimental challenges to implement collaboration due to organisational priorities that is reckon as moderate factor in FM collaboration. In addition clash of organisation culture is not signposted as issue in forming collaborative effort in FM industry. Other factors that are identified, as moderate challenges are lack of target setting, clear road map in collaboration, organisational priorities and lack of resources that will be further investigated in the second qualitative stage of the study. The final analysis in quantitative stage of the study look at central tendency of dispersion and identified that two main themes namely promoting knowledge sharing desire of FM stakeholders to see more collaboration in the FM supply chain have a strong representation by a lower standard deviation score to the mean score of the analysis.

This stage of the research conforms and challenge the findings in literature search thus provides sufficient evidence to answer the first research question and objective of the study. In addition the results that are gathered provides sufficient information for the researcher to continue more robust qualitative phase of the study to achieve the remaining research objectives.

8.2.2 Conclusion 2

The BS 11000 business collaboration framework is generally accepted as an effective business support tool to be applied in FM industry.

The first finding in the sequential phase of the study as revealed in section 7.2 discovered that all FM stakeholders agreed that collaboration in FM require some sort of framework to make collaboration more clear and objective. Several conditions are identified in this stage for successful implementation and adaptation of the BS 11000 into FM that are explain thereafter and further discussed in section 8.2.3.

Firstly the ***awareness level*** of the FM industry on what the standard could offer needs to be raised as there are mixed reactions among the stakeholders across FM supply chain. Whilst the FM clients, FM service providers and FM consultants are still unaware of what the benefits of BS 11000 could offer to improve collaboration in FM industry, the expert of BS 11000 totally clear and positive of how simple and flexible BS 11000 framework could aid and be adapted into FM collaborative agenda as it provides clear steps from start to finish as previously been discussed in section 3.4.2 in chapter three of the literature review. The theme revealed that diverse opinions among FM stakeholders were due to different levels of awareness on how BS 11000 could function as a tool for FM collaboration. However, this issue could be eliminated through constant promotional efforts in raising the profile of the standard. In addition disparity of awareness among the FM stakeholders of BS 11000 existence is common across all businesses being it is a newly launched framework to generically aid collaboration in all business sectors.

The second key factor that is identified is agreement of all FM stakeholders of how a collaborative framework BS 11000 could ***demonstrates professionalism*** of how should parties in the partnership work collaboratively in delivering FM services. A standard will provide alignment for trust and commitment at the same time emulate fairness and transparency for all parties thus increase the organisation profile and provide competitive advantage from competitors in the industry.

FM stakeholders are generally acknowledged that BS 11000 framework could potentially act as an effective business support tool to strategically aid collaboration in FM industry since it provide ***opportunities to collaborate*** as parties in the partnership will work together transparently towards a common goals thus minimising risks through sharing of knowledge and best practices to encourage continuous improvement and innovation particularly in the current cost driven economic climate. However the potential application of the BS 11000 into FM are subjected to compliance to several conditions explained in section 8.2.3 hereafter.

8.2.3 Conclusion 3

The BS 11000 collaborative business relationship is a viable and practical tool to enhance business collaboration in FM subject to compliances to several key conditions.

Findings in the qualitative stage of the research revealed that viability and applicability of BS 11000 as a tool for collaboration in FM subject to compliance and through understanding of several key factors.

1. ***Understand the business motive and the position of FM in an organisation*** – In conjunction of discussion and findings in section 3.4.4 of the literature review that organisation that wish to embark on applying BS 11000 framework as a tool for collaboration has to undertake the first three steps of internal assessments to identify their readiness for collaboration. Only upon stage 1-3 been successfully followed that organisation will be in a position to decide further on

selecting their suitable partner for collaboration. This practical steps acknowledged the fact that collaboration is not necessary suitable or any kind of organisation. Since ***BS 11000 business collaborative framework focuses on value adding*** and capitalising the strength of the partner towards mutual benefits rather than simply cost reduction avenues any FM organisation that tend to operate in ***transactional culture on cost and saving being the main objective will not benefit*** from adapting BS 11000 framework into their business model.

2. **Streamlining contractual issues prior venturing into collaboration –** There are several types of contract characteristics in delivery of FM and each contract come with diverse typology and obligation of parties in fulfilment of their contract obligation (i.e. as discussed in section 3.2.5 in literature review chapter regarding nature and characteristics of strategic, operational and arm's length transactional FM contracts). Since focus of BS 11000 framework is to gain mutual benefits in creating added value to each party in the partnership, key contractual issue such as term of contract ***should focus on longer duration*** as suggested by Lehtonen (2006(a)) where strategic FM contract should exceed five years period to enable integration of parties in the partnership arrangement. Whilst longer duration of contract will benefits the FM providers in having a sustainable business it will also benefit the FM client from incurring massive on-going transactional cost to retender the FM contract if the contract duration is being set for a short term period. Streamlining the level of expectation and concerns of FM client of possibility for complacency and reduction of service quality by the FM providers due to longer contract period can be strategically be eliminated by setting agreed key performance indicators (KPI) and service level agreements (SLA) prior to collaboration. BS 11000 framework also propose an ***innovative exit strategy from the initial stage*** prior embarking into partnership rather than reactively deal with termination of partnership when things goes wrong after partnership being formed.

3. **Identify common personality and culture to foster alliances** – Parties that wish to apply BS 11000 have to be culturally fit to work together in creating value for mutual benefits. This common attributes have to be supported at organisational rather than individual level to assure that spirit to work together throughout the agreed term of partnership remain sustainable despite any changes in the individual personality that initially lead the partnership arrangement. Supporting this point as it is acknowledged in the quantitative analysis findings as depicted in table 27 in chapter 6 where FM stakeholders are in agreement that all parties within the FM supply chain are able to work in harmony and clashes of personality and culture is identified as a not a challenge to foster collaboration in FM.

4. **Assessment of organisational structure –** Acceptance to apply BS 11000 relies also on the ***types of sector*** and ***maturity of the organisation*.** The result in the qualitative analysis stage reveal that FM stakeholders in the public sector is more tempted to embark in BS 11000 collaborative framework since the focus of collaboration is driven by value as compared to the private and SMEs of mainly being cost conscious in their FM service delivery. Maturity of organisation also correlates with level of awareness towards benefits of applying BS 11000 collaborative frameworks into the organisation with FM stakeholders representing mature and well-established FM organisation being more aware of BS 11000 as compared to the FM stakeholders representing the SME establishments.

5. **Define organisation priorities – Viability and successful adaptation of BS 11000** collaborative framework will only be materialised if it is seen to bring strategic value and immediate positive impact to the business. At present, majority of FM ***stakeholders are focussing in pressing issues like cost saving*** and ***investing in a delayed gratification agenda like BS 11000 is time and resource consuming***. Again this perception is due to lack of awareness on the

tangible benefits that this framework could bring to enhance the bottom line of an organisation.

6. **Promoting BS 11000 to increase awareness level and benefits of adopting the framework –** Constant promotion through sharing of success stories from organisations that had successfully implement the framework will increase the take up rate from the FM industry to adopting BS 11000 framework in their business agenda thus issue of slow adoption of the framework could be resolved. This require concerted efforts from all FM stakeholders including government agency like The British Standards Institution (BSI) and professional bodies that govern FM practices such as BIFM and RICS and the academics to conduct research and dissemination of success stories through networking functions that will inspire FM stakeholders to embark on adopting BS 11000 into the collaborative agenda.

8.2.4 Conclusion 4

As a result of the data collected in the quantitative and qualitative phases of the sequential explanatory mixed methods strategy, the research has identified six conditions needed for implementing BS 11000 in FM.

These conditions are illustrated and explained in section 8.2.3 and are summarised in figure 55.

Figure 54: Six conditions needed for implementing BS 11000 in FM

C 1 - Understand the business motive and the position of FM in an organisation

- The FM clients and FM providers need to assess their position and clearly understand the motive of collaboration through internal assessments prior to selecting suitable parties to collaborate. This stage could be conducted thorugh engagement of FM consultants or FM experts that had experience with the BS 11000 framework. The factor was identified in the quantitative stage and qualitative phase of data analysis.

C 2 - Streamlining contractual issues prior venturing into collaboration

- All FM stakeholders iare required to work on longer terms to enable parties in the FM supply chain gaining mutual benefits in creatig value from the partnership. At the same time clarity on exit strategy of opting out in the contracual alliances need to be addressed at the beginning of the partnership rather than the later stage so everyone are cleary of the exit strategy accordingly. This factor was identified in the qualitative stage of the research.

C 3 - Identify common personality and culture to foster alliances

- This factor is identified in the qualitative stage of the analysis that suggests FM clients and FM providers have to undertake a robust assessment of the culture and attributes that matches the organisation ethos and value to make their collaboration efforts worthwhile. Trust and transperancy are among key elements that need to be fostered at organistational and not individual level of partners organisation to assure sustainabiity of the alliances.

C 4 - Assessment of organisational structure

- This factor that are obtained form the qualtitative stage of the study are led by maturity and types of clients or providers of an FM organisation. More matured and established clients like the public sectors are more value driven than cost concious. FM consultants and FM experts play a vital role particularly to advise both FM clients and providers to increase of awareness and benefits of the BS 11000 to their businessess.

C 5 - Define organisational priorities

- FM clients and service providers have to be mutually agreed to prioritise its focus on value driven rather than cost concious to make collaboration works. This factor is identified in both quantitative and qualitative stage of the study.

C 6 - Promoting BS 11000 to increase awareness level and benefits of adopting the framework

- The final success factor is identified at the qualitative stage of the research indicating that succesful implementation of BS 11000 framework will on flourish with constant support and increase in awareness by all FM stakeholders since the industry is yet to see success stories of many FM organisation that fully embraced the famework at the current state.

Source: Self Study

8.3 Research limitations and areas for future research

Despite the achievement of identifying critical success factors needed for implementing BS 11000 in FM, some research limitations were encountered that should be addressed:

- In order to capture the data for the study the researcher restricted the sample to the British Institute of Facilities Management (BIFM) database, which is the most prominent and accessible population of diverse categories FM stakeholders. However the researcher has limitation in restricting equal numbers of FM stakeholders representing each category as proposed in the stratified sampling technique. As such the researcher has to spend great time to omit invalid responses and re-categorising the grouping of FM stakeholders at the data analysis stage.
- The qualitative stage of the research was conducted and analysed robustly in order to identify success factors for the BS 11000 framework to be successfully implemented in the FM industry. However the researcher is yet to test and validate the identified factors, which it is believed would progress the study to the next (PhD) level. It is suggested that this part of the research could be pursued for any researcher that is keen to explore further the viability of identified factors to any FM organisation that is keen to adopt BS 11000 as continuance to the existing research conducted.

8.4 Summary

The findings of this research provide a positive effect to interested parties particularly stakeholders in the FM industry to encourage adoption of BS 11000 as a collaborative innovation tool for FM. There are six success factors that are identified as a road map to all FM stakeholders to look and investigate in assessing their readiness to apply this generic standard of business partnership. It is hoped that this research is able to provide a paradigm shift of how FM being practiced from cost to value driven as BS 11000 framework is a flexible yet powerful tool to enhance

business practices towards mutual benefits of parties in collaboration. Hence this study is also hoped to increase the level of awareness among the FM stakeholders of BS 11000 and provide some clarity of misconception about the standard.

Chapter 9

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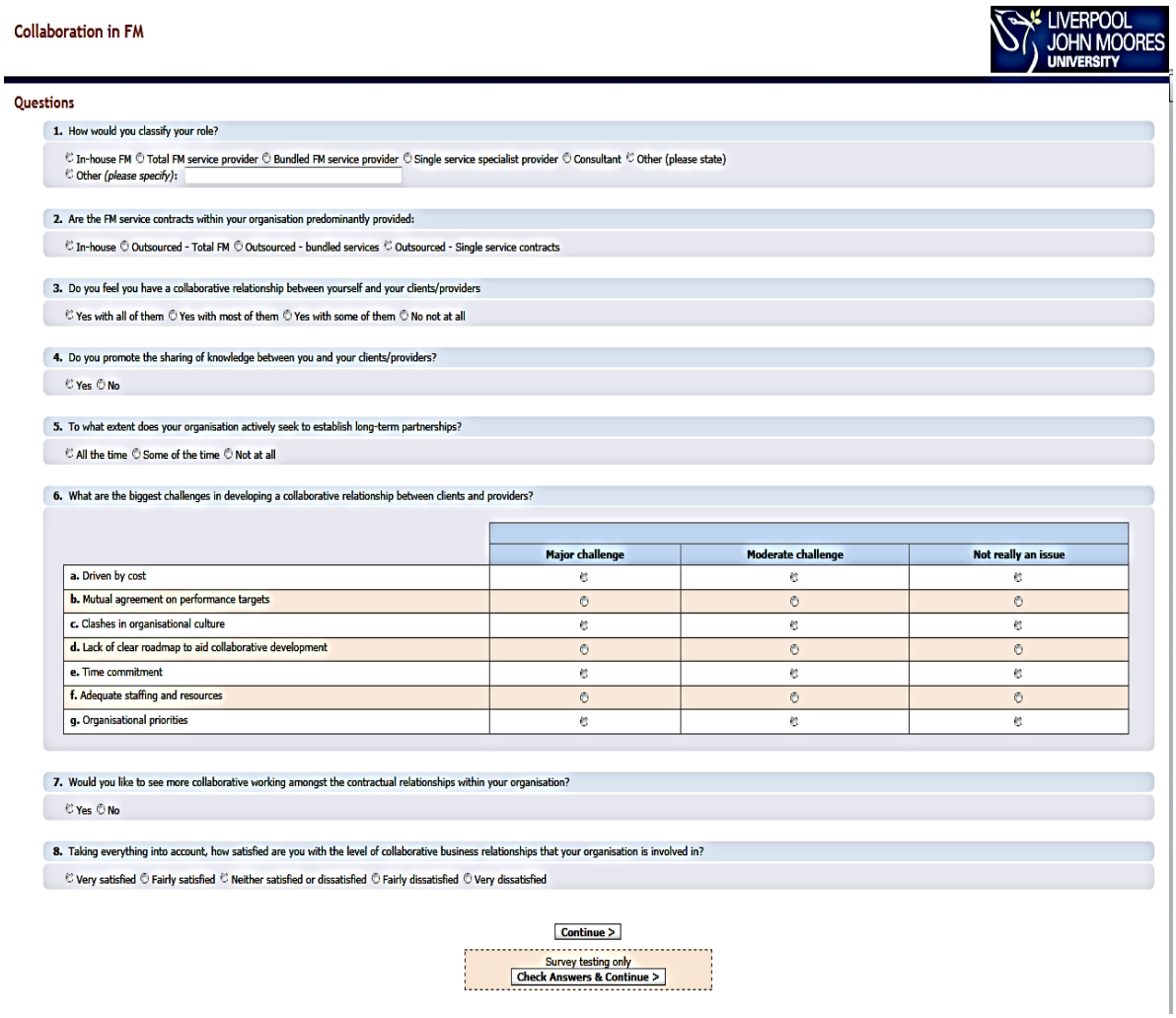
Appendix A

Copy of quantitative survey



Collaboration in FM

LIVERPOOL JOHN MOORES UNIVERSITY

Questions

1. How would you classify your role?

○ In-house FM ○ Total FM service provider ○ Bundled FM service provider ○ Single service specialist provider ○ Consultant ○ Other (please state)
○ Other *(please specify)*:

2. Are the FM service contracts within your organisation predominantly provided:

○ In-house ○ Outsourced - Total FM ○ Outsourced - bundled services ○ Outsourced - Single service contracts

3. Do you feel you have a collaborative relationship between yourself and your clients/providers

○ Yes with all of them ○ Yes with most of them ○ Yes with some of them ○ No not at all

4. Do you promote the sharing of knowledge between you and your clients/providers?

○ Yes ○ No

5. To what extent does your organisation actively seek to establish long-term partnerships?

○ All the time ○ Some of the time ○ Not at all

6. What are the biggest challenges in developing a collaborative relationship between clients and providers?

	Major challenge	Moderate challenge	Not really an issue
a. Driven by cost	○	○	○
b. Mutual agreement on performance targets	○	○	○
c. Clashes in organisational culture	○	○	○
d. Lack of clear roadmap to aid collaborative development	○	○	○
e. Time commitment	○	○	○
f. Adequate staffing and resources	○	○	○
g. Organisational priorities	○	○	○

7. Would you like to see more collaborative working amongst the contractual relationships within your organisation?

○ Yes ○ No

8. Taking everything into account, how satisfied are you with the level of collaborative business relationships that your organisation is involved in?

○ Very satisfied ○ Fairly satisfied ○ Neither satisfied or dissatisfied ○ Fairly dissatisfied ○ Very dissatisfied

Continue >

Survey testing only
Check Answers & Continue >

Appendix B

Copy of interview questionnaire

Research Objective 1: To examine the effectiveness of BS 11000 framework as a tool for collaborative business relationships

1. Can you share your opinion about collaboration in business generally?
2. What do you think the state of collaboration in the business at the moment then?
3. When do you first aware of BS 11000?
4. What is your opinion about BS 11000?
5. What are actually in the standard?
6. Why do we need a standard for collaboration?
7. Do you think collaboration will become much more important factors as organisation outsourced a lot of activities?
8. How the BS11000 framework can be applied?

Research Objective 2: To investigate the viability and practical application of BS 11000 to be applied to the UK FM industry

9. How about collaboration in FM? What do you think the state of collaboration within FM industry at the moment then?
10. Why do we need to collaborate in FM?
11. What are the drivers for collaboration in FM?
12. Do you think collaboration will become much more important factors as organisation outsourced a lot of activities?
13. Do you think that collaboration is a form of innovation or catalyst for innovation in FM service delivery?
14. What are the common issues in FM collaborations? Why collaborations fail?
15. What are the collaborative models that are being used in the FM industry?
16. How relevant and viable is the BS11000 framework to the FM industry?
17. What will be the challenges in adapting the BS 11000 to FM industry?

18. Do FM stakeholders recognise the value of relationships in the delivery of FM services? How so?
19. Do you think BS 11000 certification will add value to FM practices?
20. Will FM stakeholders pursue BS11000 certification?
21. How do you think professional body like BIFM can play a role in promoting BS 11000 to the FM arena?
22. How about the role of a consultant like you?

Research Objective 3: To explore the potential and adaptability of the BS 11000 to the UK and international FM market

23. What are the potentials for the BS 11000 framework to be applied in the UK FM market?
24. How about the potential of BS 11000 in international FM arena?
25. What would be the constraints and barriers for the BS 11000 to be implemented in the UK FM
26. How about constraints and barrier in adopting the BS 11000 in international FM?
27. BS 11000 is a generic standard for all type of business collaborations, Will the adaptation of BS 11000 to FM industry requires any modification taking the how FM business operates
28. How about adopting BS 11000 internationally do you think require any modification to BS 11000 is necessary due to the fact of diversity in culture, and how FM business operates internationally?

Final Summing up questions

29. Is there anything else that you wish to comment in regards to BS11000 and its impact to the FM practice?
30. Would you be interested to take part in the research?
31. Who else would you think that I should meet and get their opinion in regards to the application of BS 11000 in FM?

Appendix C

Example of interview transcript

Interviewee: Consultant

N: so Cathy in regards to question theme one, which is to examine effectiveness of BS11000 framework as a tool for collaborative business relationships

CH: yeah

N: can you share your opinion about collaboration in generic business

CH: well I guess that I would come very much obviously from the FM side of things so its probably more difficult for me to talk more about in business generally. I say my experience with my own business and certainly when I was at FM World people were very keen to collaborate, to share ideas, to share best practice and whatever but I was then in a position where I was the people who would disseminate that information so I think its easy for people to want to collaborate then. Though I did run quite a few round table debates where we had lots of different people from across the industry, and I'm talking sort of FM but obviously it could be any industry, so supply side, client side and product suppliers talking and they were very keen to collaborate

N: right

CH: and share some of their best practice. But I think generally a lot of businesses are quite suspicious about that sort of thing. Because they do obviously think right well we've come up with this great idea, this great way of working and they want to keep it to themselves, they don't want their competitors to know about that and certainly since I've run my own business and I'm working with companies on some of their PR and Marketing there's lots they don't want to talk about, because they don't want people to know because they don't want the opportunity to collaborate because they think people are going to steal their ideas

N: right

CH: so I think there's a mixture, some people are happy to do it to a certain point, others are quite suspicious about it

N: right ok. So looking in to that you know do you feel that the state of collaboration is higher than normal especially at the current economic climate is it going to be more prosperous or the other part

CH: I think it depends on the type of business you are. I've heard a lot of people say that a recession is a greater opportunity for everyone to congregate together to get through it together to come out the other side in tact to have stronger relationships but then also there's that competitive edge where you need to keep particularly in FM I know we're not talking about particularly here but you know you're concerned about your margins. You need to be able to keep it going and you know get one over on your competitors in many ways. So I think it's a double edged sword at times like this when its quite tough financially for many businesses. So will see that as an opportunity to collaborate, perhaps more mature business, more confident businesses will but I think more unsure on certain business and probably businesses with lower margins might not see that as a targeter. Close doors not really talk to

N: right ok. So do you know about BS11000

CH: I do yes, I first heard about it maybe three years or so ago now. I was at an, do you know the FM forum events

N: yes

CH: there was a presentation there from a chap who spoke about it just giving an introduction to it as an idea and I was particularly interested because obviously EMCOR was involved and I was interested to see what an FM company was doing this because sometimes I don't think in FM we're that good at collaboration so it was quite exciting that an FM firm was doing this

N: ok all right, so what is your opinion about BS11000 now

CH: well I don't know I haven't read the stand in detail. I did earlier this year I published a sort of a guide to it I suppose within FM World, I was involved in that. I think its great that we have a standard like this because I think there's a lot of organisations which will want to go down that route and they'll see this as a great tool where to use to help, But I think you've got businesses

that are not interested and having a standard or not is going to make very little difference. But I think for those businesses who are keen to collaborate this gives them the framework in which to do so

N: right so what actually is the standard that you are aware of

CH: oh gosh, I can't, now you've really put me on the spot, now I couldn't probably answer that question

N: ok so do you aware that you know based on our discussion that it is still at awareness level yeah since it has only been incepted in December 2010 yeah. So people have been collaborating in so many ways like what you say you know collaboration is not for everyone. But why do we need a standard for collaboration do you think

CH: I think it is important to have it as I've said for those organisations that want to because you can say well lets collaborate but what does that mean so If you've got a framework for it if you're keen on going down that route with your partners and suppliers if gives you a framework in which still to have guidance on how to do it otherwise you'd be like Oh you know you go out there you might hire expensive consultants or whatever it is but you wouldn't have that framework there. And also it can demonstrate to partners and suppliers that you are serious about it. That you know you've got this framework, you're not just talking the talk you're actually walking the walk, you're using this as a set framework. So it think therefore its important for those sorts of things

N: yeah brilliant. So how important is collaboration you know in regards to outsourcing when a lot of organisations outsource a lot of activities now

CH: I think its quite interesting in the FM sector how we do that, and I think perhaps this is where FM falls down in collaboration in that if you've got you know contracts are being let some businesses depending on you know you've got your single service suppliers, multi service suppliers, total FM all these different models and in some contracts they'll be working together and in some they'll be competing against each other so I think that's quite an interesting model within FM and its difficult then to collaborate affectively because of this dichotomy that one day you'll be partnering together and the next you're you know right at each other fighting for a contract. So I think from that side of things the client business is doing the outsourcing from the

idea of collaboration is quite important and the framework going with it because it kind of helps to sort of see who is doing what and so whether they are taking it seriously or not

N: right so, do you aware of the stages of BS11000, there are eight stages if I can share it with you

CH: ok

N: which run through from the lifecycle of the relationship. Because most of the business was a character or individual rather that inter organisation relationship. So do you feel that at present moment as far as business are concerned we can look in to applying it at the initial stage of assessing whether collaboration it is for you rather that what to the thought process

CH: yes I would say that was

N: right, ok so we have complete the first stage of the now we will go to something that is very dear to your heart

CH: right

N: ok which is how collaboration in FM in a way, some of the question might be a repetition from the

CH: sure

N: previous one but we will look in to how FM relates to that. So how about collaboration in FM, what do you think the state of collaboration within FM industry at the moment

CH: ok I think its mixed. I think you have a lot of organisations who are quite mature and advanced who are doing a lot more, probably more strategic management side of things, I think lower down when you are talking about facilities services companies I think there's probably less because there the margins are so small so they don't want to share information. As I say the key issue we have a lot of businesses who will collaborate together for particular contracts, so you might have a company which does sort of security and cleaning and they'll partner with an M&E provider to pitch for a contractor

N: right

CH: but say the M&E provider might also do some cleaning on the side and then they might pitch on their own to another contract and then they'll be fighting with the original company perhaps

that they were working with. And so I think you know you've got a lot of FM companies who are collaborating and you know partnering together in some instances and then ten minutes later they'll be working on a contract and they'll be at each others throats on it so its interesting, I think there is some going on, I don't think its advanced in any means

N: right. If we look in to a sector kind of collaborative agenda, do you think that any particular sector like public sector or commercial sector are more to its collaboration due to the nature of the company

CH: I think from what I've seen I think the not for profit sector, the charity sector is much more advanced in this area. Only because they're trying to reduce costs wherever possible so if they can share best practice, and I speak there particularly from the FM side of things. I've been to a number of FM conferences focused on the charity sector and interviewed a number of charity FMs. And they are very keen on sharing all sorts of information right down from sort of prices of suppliers on how they can be, who's the cheapest possible fella, who's the best at this. To consultants talking about free advice to allsorts of different things and in terms of the FM but I would guess therefore in other ways as well very good at sharing how they are doing things. For example a lot of them will share space, they'll say you know I've got a spare meeting room so rather than go and hire a meeting room somewhere else they'll, if they're in the same sort of geographic area they'll share space. So I think there's a fantastic example there. But that which is all for the greater good, its not for a profit margin and so I think perhaps when you bring in the business angle that can complicate things slightly.

N: very true ok, so do you see the need for us to collaborate in FM at all, so why do we need to collaborate

CH: I think the problem is that if you don't collaborate you're going to end up reinvent, or trying to reinvent the wheel in lots of different ways and so you know we need, there are so many things in FM that we need to improve on, the way we work, some of the issues to do with people, fair pay and all that sort of thing. And I think if we could collaborate together and decide for example that every Londoner is going to pay the London living wage to cleaners and issues like that people could agree on and work together then that would be fantastic. Then there's lots of

things in FM that should be collaborated on but aren't. And I think that's probably because of the business angle perhaps sometimes gets in the way

N: right. So what are the drivers for collaboration in FM, looking in to the client prospective and service provider prospective, is it value, cost or risk that you look at

CH: where are you now

N: eleven

CH: eleven ok. I think cost can be one though I would worry that we are looking at collaboration as a way to reduce costs further because I think we've, certainly in the last couple of years we've reduced costs an awful lot and I don't know whether more, significantly more money can be taken out though I suppose its always possible. I would look at it more as a way to add value, that you can look at, it is quite simple things sharing best practice on things, sharing good ways and you know successes that you've had as an organisation and then perhaps working together in individual groups and however it happens really I think there's opportunities to give clients added value. And that would work both from a supply chain, because you know if you're a client business and you're FM supplier is giving you added value you don't care kind of how its happened, you don't care that another supplier has perhaps helped them with that its all about you know doing the best job that they can so so that's seen as the important thing

N: right. So when we talk about outsourcing in FM, so do you think that collaboration is a form of, I mean is more important factor in a lot of organisations that are outsource a lot of activities

CH: possibly although I don't think we should focus on collaboration and outsourcing because if you think about a lot of in house teams they're just as good at collaborating, probably even better in many ways than outsource organisations because again perhaps you're going back more to the charity sector model whereas if you're the in house FM perhaps or Ernston Young for example you might be quite happy to talk, perhaps not to the in house FM at PWC but you might be happy to talk to the ones from a law firm or similar type of organisation and you wouldn't see that particularly as competitive it would be more collaborating and that sort of thing. So I think for the in house teams I think it's a lot easier to engender that collaboration on to and learn from each other

N: right

CH: I think its harder perhaps when you've got the PNL and the you know the incentive also the threat of the business to contend with

N: right, brilliant, and then when we talk about collaboration and innovation yeah do you think that collaboration is a form of innovation or a catalyst for innovation do you think placed in FM service delivery

CH: I don't think it's a catalyst its just a you know collaboration all it is is really people sitting down and talking to each other in some sort of working together in some sort of way I don't think there's anything particularly innovative about that but its what comes out of that that perhaps should be the innovative

N: right. So we see some collaboration fail in FM you know, why does collaboration fail do you think

CH: oh the failing erm. I think it goes back to the business that I think it's a great and positive thing to do but I think business gets in the way in a lot of, and I think a lot of the collaborations that do fail are the ones which are between perhaps supply site partners working together as I've said you have this instance where they've all worked together on something and then they'll be at loggerheads for another contract and business with and that causes problems. And I think you know somebody perhaps further up the organisations says well why are you sharing this great stuff that we're doing with these guys you know its essentially our competitors and I think that it fails because of business, business reasons, business goals

N: so if I may share based on some of the findings that I get from the previous interviews we see that in the service provider point of view why it failed because they see the contract is based on cost rather than value and then they see as well some of the contract due to the procurement standards and rules you know is based on a short term rather than long term. But in the eye of the clients what they see is that they are quite reluctant to have like proper continuity contracts because they don't want the service provider to become complacent and that will also hinder the success of collaboration as well. So do you see, how hard do you see that this virtual organisation collaborates its not about you, its not about me its about us you know where this analyst found really that this medium like, a typical transactional kind of contract if you like,

how do we put you know that the fundamentals are to make sure that the collaboration in FM meeting the needs of client and the supplier is met in-between

CH: I think its very difficult, I think its very difficult with organisations as you say virtual organisations. I think things like a framework, that helps because it gives you something to kind of live by because it can be such a fluid thing and I think the problem isn't how that is its very much down to personalities and if you've had you know it might be set up by a certain group of people who are already passionate about it and then someone else comes along and joins that group, or someone leaves and someone replaced and it doesn't work. And so I think if you have some kind of framework with sort of set rules on policies and procedures and how that works I think that will help

N: right. Do you think that at present moment you know in a typical master slave kind of relationship that we have between the clients and the suppliers for the moment you know why can't we be at strategic level in FM, is it because

CH: why can't we be at a what, sorry

N: why can't we be position, FM be position at a strategic level you know if that because of you know we fail to emulate the principal that we are strategic enough in that kind of organisation

CH: I don't think it is strategic, but there's also a lot of our effort is very practicable and I think you know we do a lot of practical work. I mean we were talking about the bogs and the brushes and the boilers and all that and that's what a lot of it is all about. And I think if we sort of ignore that then a large chunk of work doesn't get done

N: that's right

CH: so I think there is a big strategic level but I don't think we need to you know I would say the strategic part is perhaps a third of it and two thirds is more the practical getting on with things. I think the strategic stuff does get ignored. Possibly because a lot of FMs in the past came up through the more practical level, they didn't come across from other management disciplines who are used to speaking the language to business and finance. And so when they had an idea for a great project or whatever it was and they went to their boss they didn't speak the right language that the boss understood and they were presenting it in the wrong way or whatever it was so I think that's where the strategic stuff lost out but I think that's changing because you are

getting a lot of people who are coming through with, or coming across from other management disciplines like property and lots of, the roots in to FM are numerous now. Most of the people are very well educated coming in to FM with you know quite good qualifications, like masters degrees or whatever and so I think that is changing. But I don't think, we've talked an awful lot about this idea about a seat in the boardroom stuff and I think you can concentrate on that too much, I don't think, my view is that I don't think FM should have a seat on the board unless it's a property related or property's a core focus of dropping in a retail organisation or a leisure organisation, a sports stadium or something like that, I don't think FM should have a seat on the board

N: right ok

CH: that's a different PhD probably

N: interesting, right so there are collaborative models available you know any organisation can set up their own kind of things you know or whatever

CH: I don't know much about that I have to say, I know from my experience they happen on a fairly informal basis, I'm not aware of any really formal models which are going around, there may well be many

N: right ok. So looking in to BS11000 framework now yeah, how relevant and viable is this framework to the FM industry do you think

CH: talk to me a bit more about the framework to give me an idea because as I say I don't know an enormous amount about it

N: right ok, so the framework of existing BS level is an eight stage framework or how do we look in to a sustainable relationship of collaborations. So it started off with the first three stages identifying whether collaboration is a way forward for us. Its more towards an internal assessment either within a service provider or client they have to assess whether collaboration is the way forward for them. If you, it its not for them then you know they might just go in to a typical type of transactional based relationship

CH: sure

N: the fourth stage and up to the seventh stage is how that you, what that your collaboration is like you know as one of the service provider's mentioned is like how do you work to your marriage with your other partner in a way you know. What the relationship, share the common objective at the very beginning you know, put it in to a flexible kind of environment and then how to you assess throughout the sustainable of the lifecycle of the relationship and its not a static kind of thing, its not just based on KPI and things like that where you will get penalty if you do not comply to certain key performance indicator, it is how that you are organic and dynamically work as one team in a way where this client need to share and trust the service provider and sharing more or less commercial kind of information especially yeah. But the most interesting bit is the eighth stage where you dissolve you know its not based on termination of relationship but more to how do you dissolve this collaboration, sometime because you achieve the objective of that relationship which is less happens in the FM industry where you can see that

CH: its an ongoing relationship

N: it is, collaboration becomes sour then you just terminate the supplier and keep on changing, it is bad for the reputation of each party then. Yeah. So looking in to a generic kind of standard, the flow of that, do you see that it is relevant to FM

CH: well I think its hugely relevant. I think there's been an awful lot of suspicion on the client side to the supplier side that they are making more money then perhaps they admit to. There was a great example, I'm sure you've come across, I'm trying to think it was Kier and Sheffield City Council, have you come across that particular. Where they were obviously talking about this you know they'll have single survey profit margin and then once they get in to double figures they'll split the difference type of thing. I think that level of transparency and you mentioned the word earlier sustainability. Its got to be sustainable from the client, the supplier's prospective, they've got to make a profit out of it otherwise why on earth are they in that relationship. But I think also on the other side there's been a lot of bad practices as we know from the likes of Connaught of negative bidding and then they'll do anything that they can after that to ramp up the price on sort of extras. So I think its incredibly important that we get rid of that type of practice and that people are open and they'll say right its particularly in the public sector with the likes of you know the city councils who don't want their suppliers to be making you know tonnes and tonnes of cash out of them but they recognise they've got to make some. And so I think you know that

kind of transparent and openness and it can be achieved and it clearly can in that instance but though not all, I think is great

N: right, brilliant ok. Looking that the stage of infancy of the standards, not only in FM industry but generically in a business and not that really many people knows about that. So what will be the challenge do you think for FM industry to adapt to BS11000

CH: well I think its, you mentioned awareness, despite you know FM World published that guide but I still don't think that people are that aware of it. They might have heard of it but they probably don't know quite what it is, I think there's a danger that it can be seen as yet another standard, yet another thing to

N: tick in the box

CH: yeah absolutely and people have got you know they've got their investors in people, they've got their ISO and everything else and they're thinking oh gosh do I have to do this. While they might agree that you know collaborating with your supplier and you know openness and transparency is great they think oh gosh this is going to take up more time to investigate or I guess the danger is that people don't take the time to investigate it and they sort of pay lip service to it and talk about how we do this but they're not so I think that's the danger of really persuading both client and supply side organisations that is something that they should be doing

N: so do you feel that we need to see more tangible value of getting you know the accreditation like more case studies, more success

CH: absolutely I think you know EMCOR have probably got a big role to play in that within the FM sector and talking more about why they have done it because they haven't really to date, particularly with that guy they were quite reluctant I think to get that out and I think you know they will involve us all the client organisations and there was four bodies was there

N: yeah

CH: and you know its great, we had in our sector, he was one of our industry bodies which was involved and so I think they've got a key responsibility really to play a part in promoting what they have done and as you say demonstrating you know how you can get value from X bought their business;. Particularly financial value I think because that's how a lot of businesses are run

to show that you know this has helped us get much better relationships with our suppliers. So I think that's important

N: yeah. Thinking in to that the same point again. Who do you think that should, who require BS11000 because you feel that for instance for ISO and 9001 and 14000 it is a requisite requirement for tender or whatever it is

CH: yeah

N: you know so they have to get it in a way for them to promote that and being involved in the acquisition process it is like a delayed gratification kind of thing you know you only see the value of it towards the end of that isn't it

CH: sure

N: so should it be client who pushing this or should it be the service provider who X showing that because otherwise I can see you know based on discussion with Chris yesterday, it could be like in the eye of the client it could be like a marketing fad for them to push through that, things like that

CH: I think it has to be both because you know the client doesn't want there supplier to go bust because they haven't made enough money

N: right

CH: so for that sense of continuity, they need to have some kind of transparency in the relationship and it mustn't be bid by being the lowest cost which is typically what happens at the moment

N: right

CH: and from the supplier you know they could probably get a better deal out of it with certain contracts, I would guess that in other ways they'd probably think ha we can actually get some pretty decent margins here and we don't want to go down this collaborative route. But I think no, I think that's, it has to be pushed from both sides, I think client probably has the power to insist a bit more of even if they started putting things on the tenders you know like BS11000 preferred or you know something like that

N: right

CH: then I think its just that, it being mentioned a little bit more might you know encourage suppliers to do it. But I think suppliers need to be pushed just by being shown the benefits of what they can achieve if they do go down that route

N: right brilliant

CH: what's the time, can we just hold off for one sec and I'll just give this chap a very quick call and then I'll be free to carry on

N: all right, ok so we discussed quite a fair bit about BS11000 and how that it relates to the FM industry, we discussed about the challenges in adapting BS11000 because we understand at present moment its more due to awareness that we need to instil you know its quite infancy in regards to BS11000 application to FM but do you think that looking to the whole range of supply chain of events customer customer you know

CH: Yeah

N: to supply suppliers yeah. Do you feel that FM stakeholders recognise the value of relationships in the delivery of FM services

CH: well I don't think the clients do no, its hard talking in generalisation obviously but I think often, it depends on the client, but I think often they're focused very much on cost and you know you've seen the whole "e" auctions and all this kind of negotiation and its often seen as being less about relationships and much more about getting to the lowest possible cost. Particularly when you get the Procurement departments involved rather than the FM people. So if think, but you know, where you can get that relationship going and it should be on the strength of the relationship, obviously combined with a bit on the cost as well but I've heard some ridiculous stories of companies going out to tender and inviting their incumbent supplier and you think why, why are they doing that you either decide the relationship with the incumbent supplier isn't working at all or you get that relationship to work, you shouldn't then go out to tender and include them I don't think in that tender process. So I don't think it is at the moment no I think its far more focused on cost and less about the relationships but there are some fantastic examples where relationships are very important like the Kier and Sheffield one being one of them. Some of the big firms like Barclays, PWC they have very strong relationships with their suppliers which is not about the cost it is about the delivery of the service and the relationship

with the person but I think when it comes down to costs then all services relationship can often go because they are just looking at the lowest possible number and they don't care really how its delivered or the relationship between the two parties or you know any of the issues that we've talked about that end the supplier making a profit, they don't take about that

N: ok so do you felt that at present moment especially during this hard time you know looking in to the technology of it if we can do things 50p why should we do it £1. Rather than you know if you can do it £1then we get three £2 of core activity than just do it for 50p. its still within the cost driven

CH: yes I think so, I think its very cost driven at the moment. I mean I think its getting better as we slowly come out of the harder times, I think things are improving and you're seeing a lot of the nicer things come back in to FM like more of a concierge, some people say cut back on catering subsidies and your seeing some of these things begin to come back in. But yeah I think we're still very focused on cost. And of course we always were and its right that you should be focused on cost but at the moment I think it's almost at the exclusion of everything else whereas you want to be able to keep that relationship in there and obviously when tough times hit say to your suppliers we need to cut 10% off here lets work together to do this rather than yeah you're right lets terminate this contract and off you go and lets do something else

N: right but looking in to the type of procurement routes for instance PFI you know does the longer

CH: yes

N: the kind of relationship you know we can instil that value of relationship you know

CH: oh I think in something like that, I think relationship terms are growing you know PFI aside obviously you're looking at 20, 25, 30 plus years. I think we are very very slowly moving away from the three year contracts. Its beginning with 3 plus 2 then you get 5 and 7 and some even longer. And we're getting to the third and even fourth generation of some long term contracts like the old pro-core IBM type of relationship. So I think that's all positive but its very slow progress

N: so a typical kind of contract of FM what are the duration like now

CH: well I think its generally 3 and I've heard of some relationships that are 1 or 2 which is just ridiculous

N: right so you feel that within that on supplier point of view 3 years contract there's nothing much that they can do as far as

CH: well I think yes it is difficult you spend the whole, you spend the first year getting to know it, the second year beginning to make some improvements and then the third year you're panicking about the renewal process. And there's no incentive to really invest particularly in that contract. If you've got 5 years or 7 years you think oh I'll invest in a plant or I'll invest in people or this or whatever it is, there's no incentive with the 3 year deals so I think that's sad

N: oh right so looking in to that do you think that BS11000 certification add value to FM practices

CH: I think it will show people a different way forward, a different way to operate. At the moment we don't, we talk about collaboration but as I said before there's no real method of doing it or people doing lots of different things. I think it will add value because given a framework or a sort of to do list of how you can work, so most definitely. But whether organisations will take it up that's a different question I guess

N: right ok so looking in to that fact do you think that FM stakeholders would pursue BS11000 certification

CH: I think we need to do a lot more to promote it before they will, earlier we talked about some of the ways we can do that in terms of the you know the clients pushing for it and the suppliers also pushing for it but I think we need to see more from the likes of EMCOR talking about how they did it and the benefits it brings, we need more good stories, good case studies about it before they will. Because I think at the moment there's not enough known about it, people aren't pushing it. You've got the likes of Martin Pickhard who mention it quite regularly but it still doesn't seem to be part of the FM lexicon at the moment

N: right ok, so we are still at the infancy stage and awareness level is what you say there. How do you think a professional body like BFM can play a role in promoting BS11000

CH: well obviously it's a key that they can play I guess. Its, if they can, you know they've got twelve and a half thousand professional members. If they can disseminate that information to their

members and I think its important that's its done on a you know drip sneeze effect. You know the problem with having a guide like the one FM World produced for EMCOR its great it goes in to a lot of detail but its only one thing

N: that's right

CH: and you need to have a sort of regular reminder about that sort of thing so you know the institute can work with their magazines and you know their email news letters and the website and have a lot of information continually going out to members about BS11000. Obviously they can recommend it as well or whatever they are planning to do and that's a key, a key role, but I think getting the professional body involved is fairly crucial. Both because of the contacts they have and of course it gives it a sort of sense of

N: maybe the impact

CH: yeah sort of sense of professionalism that we might not otherwise have had

N: right so how about the, I've spoke to the Liz Kentish and then you know and when she say that this the interview that I conducted with her is an avenue for her as consultant to instil more awareness of business for them than you know

CH: yeah

N: how about the role of you as consultant, do you think there is an avenue for you to look in to this cos you know you are not on the suppliers side, you are not on the clients side, you are in-between, you are the X man you know do you feel that

CH: well I hadn't thought about it like that but I suppose there is, for me personally its good to get involved with more things like this because it helps and improves my knowledge of the industry but its certainly something else that you can talk to clients about and to you know I've got clients spread across the FM mainly on the supply side but a couple of client side relationships as well and to be able to talk to them about this is something its something I can add value to them I guess in saying have you thought of and for me it doesn't come as something cos I'm not selling it I don't own BS11000 so its just something like have you thought about doing this. So I think it is a key role and its important for it to come across as an independent thing that its not you know you don't have BS11000 consultants

N: very true

CH: its just something which is spread by word of mouth and you know the stuff that you do on Twitter and Linked In and things like that so

N: ok brilliant. Right we're done with the second theme of that. We move on to the third theme of the research objective of which to explore the potential and adaptability of BS11000 to the UK and international FM market as well

CH: ok

N: yeah so after looking in to all of the avenues and we had a discussion about that. What are the potential of BS11000 framework to be applied to the UK FM market. Is there a potential with that

CH: well I think its huge, both between suppliers working together with one client, between an individual client and supplier. Possibly between clients as well you know I think there's all sorts of different ways that you can do it. And I think as well, whilst I don't know the standard in detail but between in house FM teams collaborating, whether its informally or something more formal down this route, I think its huge the opportunity and so there people take it I guess is the

N: issue with that. Right so now BS11000 is the first world standards you know for business collaboration

CH: right

N: we are looking in to the potential of BS11000 to international FM arena, do you think there's a potential for it for international FM to take it one step further

CH: I think there is a potential but then you're going to struggle even more in terms, I think it has to become not all quite a way of life but being thoroughly used in the UK market perhaps before its done elsewhere. But of course a lot of UK FM contracts are now European contracts or even global contracts so I think the opportunities are great you know I mean got jobs control you're working with some of its clients or one world so the opportunities there are enormous and if they start doing that with one client then they can spread the word, I think its something that might slowly seep out rather than something you do a big marketing campaign about but you

know it makes a lot of sense because you know the FM companies within the UK are not just UK focused they're all over the world

N: yeah but again it depends on the maturity of the market as well isn't it

CH: absolutely

N: if lets say that the markets not mature, its more towards the transactional kind of building rated activities

CH: there its not going to happen and that from what I understand is quite, is the picture around the world, that the UK is one of the leaders in FM and so I think its right that we lead the way on some of this and share it where we can, but it might take a while for it to catch on I guess outside the UK

N: ok right. So what would you think be the constraint and barriers for BS11000 to be implemented in the UK FM arena

CH: suspicion I think, there's a lot of distrust between clients and suppliers

N: right

CH: that clients feel their suppliers are ripping them off in some way or they're adding costs here where its not necessarily the case. Suppliers may well be doing that but they may well have pitched the contract too low in the first place so they're just trying to make a small amount of profit. So I think that will create distrust because neither side necessarily want to be open about the fact what's going on. I think the way the FM market is set up with as I mentioned before some suppliers competing with each other at some stage and not I think that will be a barrier because they might want to collaborate on some things but not on others and they don't necessarily want to share certain bits of company information because they know that very soon they'll be bidding against these people so I think that's, and I think general apathy as well you know FM is under a lot of pressure as most other sectors and this is just another thing to do and so I think that will be a barrier that people think do I really have to do it, is it really that important, so I think just you know apathy and time could potentially be a barrier for people adopting it

N: right so do you feel that if lets say we have a lot of case studies, a lot of evidences you know of how this will reap tangible benefits then you know. Do you think within five years that it will be adapted as a normal kind of thing for everyone

CH: Yeah, I think five years is a fairly conservative thing, I think that's reasonable that it could be. I don't think this time next year that everyone's going to be doing it by any means but yes I think if you can get people talking on conference platforms about why they've done it and it should be good for someone like EMCOR, I don't understand quite why they were reluctant to talk about it but I think if they sat with some of their partners and talk about that they've done then that's great for them as a business. So I think yes you need people talking on the conference platforms, you need articles in magazines, you need people blogging or tweeting whatever else about it. Perhaps you know a more formal white paper or reports all that sort of stuff. Just need to constantly getting the information out and about and why you are doing it you know how people are benefiting from it and all that

N: right. So how about the X adopting BS11000 in international arena do you think

CH: well I think you know once you get the UK then I think it will be easier but, and we've talked about the maturity of the markets as you say elsewhere

N: culture and things like that

CH: its seen much more as a commodity and then there are no relationships there to collaborate on. Yeah culture, cultural differences, I think it will be and again there's a sort of general apathy of why are we doing this again all all sort of saying things I guess people find when they do have global contracts that it can be a challenge, there's just different ways of doing things in different countries

N: right ok, so BS11000 is a generic standard for all kind of businesses, it is a framework you know so do you feel that knowing the fact that FM has its own set of rules

CH: sure

N: the way of how we do business in FM then you know. Do we need a guidelines you know or modification, how can we FM adapt BS11000 to the utmost potential

CH: probably not hugely, I think the option or the opportunity to be quite collaborative is there. We're quite a small sector and so its not like we're on this huge sort of stretched out group of people, so I think there's the opportunity there. I think possibly the only way is the quite interesting model of these, the service advisor sometimes working together sometimes not, the sort of multi service bundle, total FM all these different models. That might have to be looked at but I don't know probably enough about that to comment too much. But no it seems to me sort of fairly from what I've read about it its fairly generic in that it could easily be adopted by the FM industry.

N: right ok, so how about international FM you know do you think that we need a special guide for that

CH: I think probably more so yes. I think there's got to be an understanding that its not going to work in some cultures because of the commodity issue and that we'll have to wait perhaps longer until that market matures or possibly look at ways of making modifications, think culturally they'll have to be different in different countries depending on you know where its being adopted they'll have to be. I mean look at the US, there's a lot more stuff in house there and so that would have to be looked at and managed sort of looking at more in house to in house FM rather than supplier to client. So I think that's where the work would be I guess to adapt it for individual cultures

N: ok so we have covered more or less everything about the research to be exact. Is there anything else that you wish to comment that you know we did not cover you think in regards to BS11000

CH: I would be interested to know how EMCOR got involved with it in the first place because I never quite got to the bottom of that. What was their

N: ok

CH: why did they do that, what happened

N: right based on yesterday meeting that I had with Chris, what he said is that definitely they want to take BS11000 is competitive advantage for them definitely

CH: right

N: yeah because they want to be a way to see that these are the best practices that they are in to. And the interesting thing they say is this start of model is not for all type of accounts. You know its only for key accounts where typical contract that go in to a transactional kind of base of contract it will not work out you know and they are positioning themself in to that arena where they have like 15 years, 20 years kind of contract, with BAE and things like that. So that is how that they want to position themselves in regards to that. So there was that, anyway they've been collaborating with a lot of repeat accounts anyway you know so they said well why don't we just put it in a test you know we'll we've been collaborating anyway so they were involved way back in 2009 during past 11000s

CH: oh yes

N: and then they put it in to a test, they see that the tangible value of that and then they see that how organic the team is you know how that they really work the contract from the very beginning, share common objectives of that, be very transparent about things you know where the client share less commercial type of information that will help them in regards to that. In the first instance of what you say the client is not reluctant you know because they see that there might be one of a fad that they are trying to push to say that you know there's no tangible things in regards to applying to that principal. But the fact, the point that EMCOR pushed towards their client is that they say if you keep on focusing on retendering your contract every three years it will incur a lot of transaction cost economy you know where procurement is not cheap and then rather than you work in to trying to work your relationship with new suppliers then why don't we work out what are the things that is not right from the very beginning

CH: yeah

N: its not what I say, its not what you its about us you know so they work out things you know and the contract is very, they call it a green relationship, that's what they call it, an evergreen relationship yeah so every time there has been tangible so called results so far based on the report. They are like for annually the clients save more about £15 million you know based on this relationship that they have you know

CH: yeah

N: and a lot of clients are more pro in to knowing that how do they work that things out because like what you say in the eye of the client as long as cost is one of the main factor, you know if you work your relationship effectively, sharing communication you know certain information at certain level you know how that we can work it out. Its not about only the information reaching top level but how do you work the operational level as well you know. So and they engage in a training avenue with Cranfield University I think in that regards to train these people about understanding the culture of a client. So they successfully show them that by even the lowest level of people understand the needs of the clients you know it will so call bring prosperity to everybody it's a win win kind of line

CH: yes

N: so again the things that I can capture from Chris yesterday that its not for all type of account, it won't work for transactional base of contracts you know being three to five year they are not competing against that kind of contract you know they are happy for other supplier they don't want to go in to that kind of avenue but they are not positioning themselves in to that kind of businesses and that is the way forward for them

CH: yeah

N: and so that is how

CH: I think they've got, they've got a huge task to kind of communicate this out there and really say why they are doing it. And obviously you're research is part of that but they don't seem to be talking much about it now, it would be good to get them talking more I think

N: right

CH: because they are the people who can really drive it forward I think

N: that's right because when I discussed with him yesterday he say that as much as possible we would like to be on a clearwater kind of competitor, to be forefront of the rest of the people but we are more than happy to share this and they are more than happy to collaborate with universities like us you know and they have started for instance things like doing their own foundation to scout on people that are apprentice to FM

CH: right

N: you know they are the things that they try to show the value to the clients that these are the people that we are scouting as part of the collaboration in a sense

CH: yes

N: so I do agree and I do mention to Chris yesterday, I said you should shout you know about this and it will make you better in the eye cos you are the trendsetter you know so I think that is what we need, that's my humble opinion really you know. Talking in to that avenues the good part about my research is that I am looking in to the prospective of all stakeholders of FM you know and you as a consultant, you know the client side and then the supplier side and then BIFM. So it's a holistic kind of approach to look in to where is BS11000, how can we reap the benefit of that. Do you think that you would be interested in the later stage of the research

CH: yeah absolutely I would be really keen to be involved

N: right brilliant ok and then what I am short about now at present is that on the client side of FM

CH: right

N: is there anyone that you can help me you know that I should meet or can arrange that I can talk to them

CH: have you spoken to Julie Cortense

N: right

CH: at Channel Four

N: spoken to her through Twitter and then she just came back from a holiday as it happen so we supposed to meet tomorrow but the thing is I have a meeting with Martin tomorrow we are supposed to be together as I was today so I can't really, we are arranging something hopefully

CH: ok I think she would be very good.

N: right

CH: let me have a quick look

N: lets say it would be good if I can go and interview the client side across all type of sector, public sector, commercial, retail and leisure things like that to get their opinion in regards to that, add more flavour in regards to the research

CH: my client FM list

N: maybe lets say if I am, is it ok if I forward to you the same kind of email that I forward to you earlier which provide you with a background of the research and that. Is it too much if lets say if I asked you to forward that email

CH: no no I would be happy to. There's a number of people from quite big organisations who might you know, may be interested, you don't know do you but it could work

N: oh brilliant

CH: so yeah do forward that on to me

N: as you can see these are the stakeholders that I want to interview and get their opinion about, I've covered more or less the professional body and the consultant part of it you know it academics not an issue for me I can easily get that

CH: so you need the clients

N: I need the clients and the providers you know so if you can help me with that

CH: definitely, no I'm very happy so for over the email and what would you like me to do forward it on to them to see if they are interested

N: yes you know

CH: perfect

N: hopefully that will be better than rather if I approach them you know there is no relationship between me and them

CH: absolutely

N: is that ok

CH: yerr, very happy to do that

N: brilliant, so I really hope that moving on the second stage you know I hope that you can be one of the respondents perhaps you know for the survey and later once I look in to the framework of how we apply the BS11000 in FM maybe you know we will have another session like this hopefully

CH: yeah

N: interview to see that if it works for FM

CH: yeah, no I would be happy to be involved, exciting project

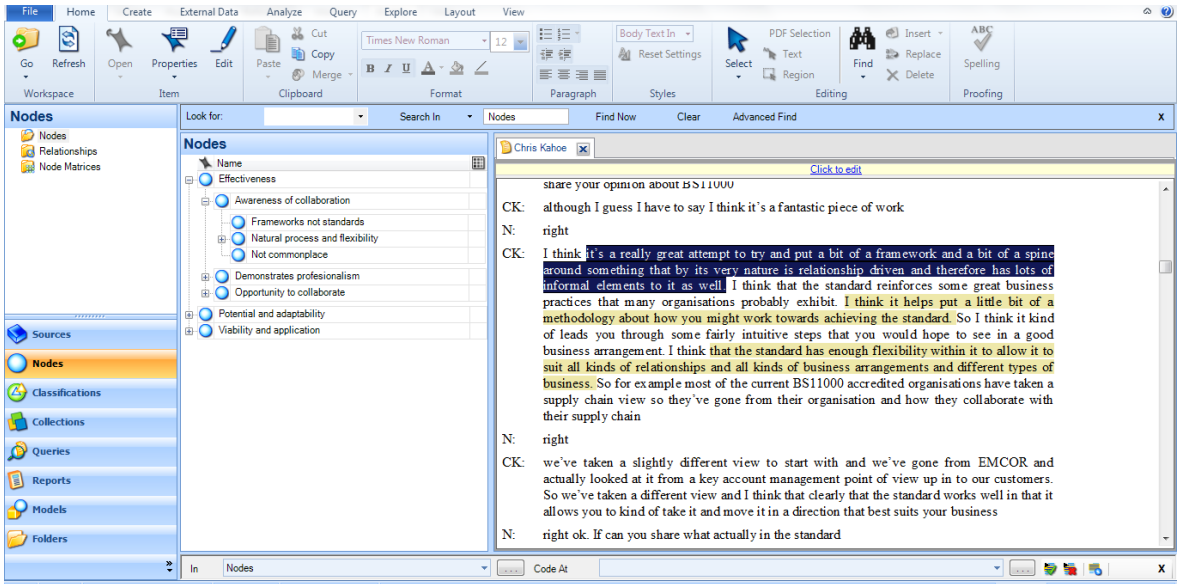
N: ok, thank you very much Cathy for your time, really appreciate it

CH: pleasure

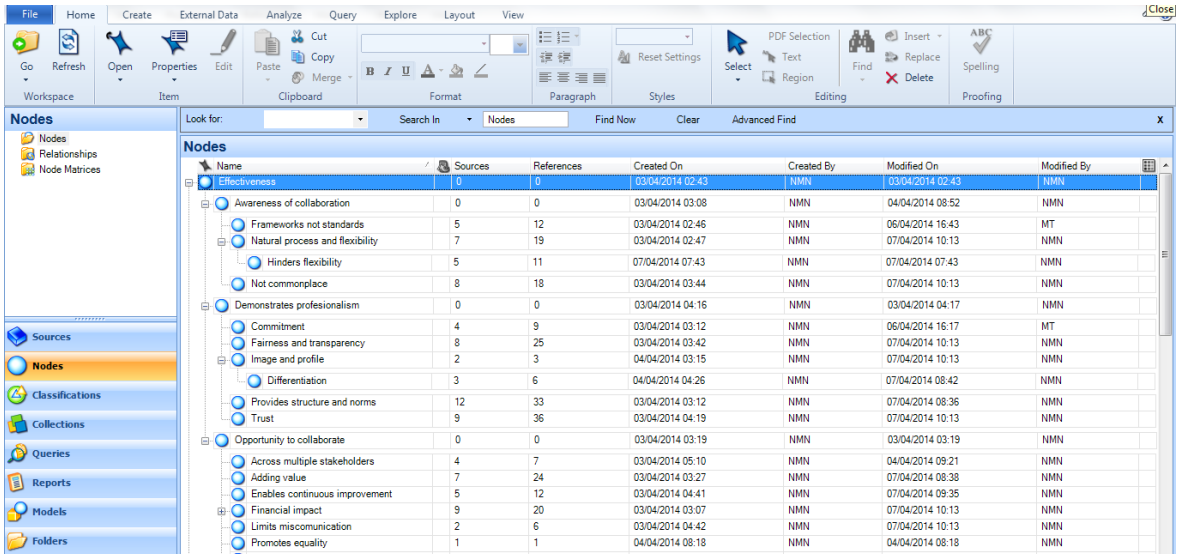
Appendix D

Example of qualitative analysis procedure

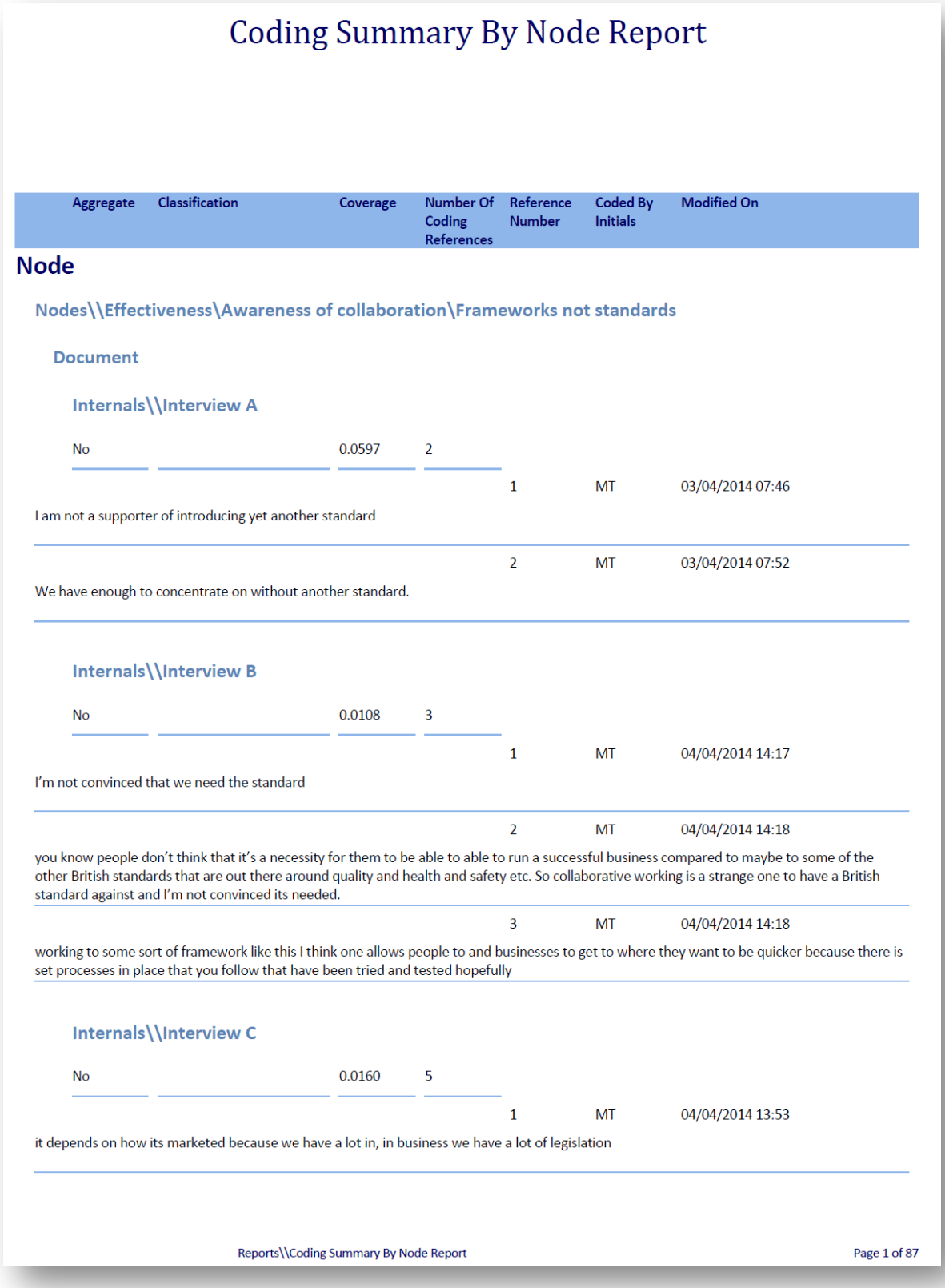
Initial coding to establish low level ‘free node’ themes from the interview transcripts (example screenshot)



Establishing higher level ‘tree node’ themes and associated mid level ‘child node’ themes to provide a structured hierarchy (example screen shot)



Generation of coding reports for each coded theme (extract of report)



Coding Summary By Node Report

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On

Node

Nodes\\Effectiveness\Awareness of collaboration\Frameworks not standards

Document

Internals\\Interview A

No		0.0597	2			
				1	MT	03/04/2014 07:46

I am not a supporter of introducing yet another standard

2	MT	03/04/2014 07:52

We have enough to concentrate on without another standard.

Internals\\Interview B

No		0.0108	3			
				1	MT	04/04/2014 14:17

I'm not convinced that we need the standard

2	MT	04/04/2014 14:18

you know people don't think that it's a necessity for them to be able to able to run a successful business compared to maybe to some of the other British standards that are out there around quality and health and safety etc. So collaborative working is a strange one to have a British standard against and I'm not convinced its needed.

3	MT	04/04/2014 14:18

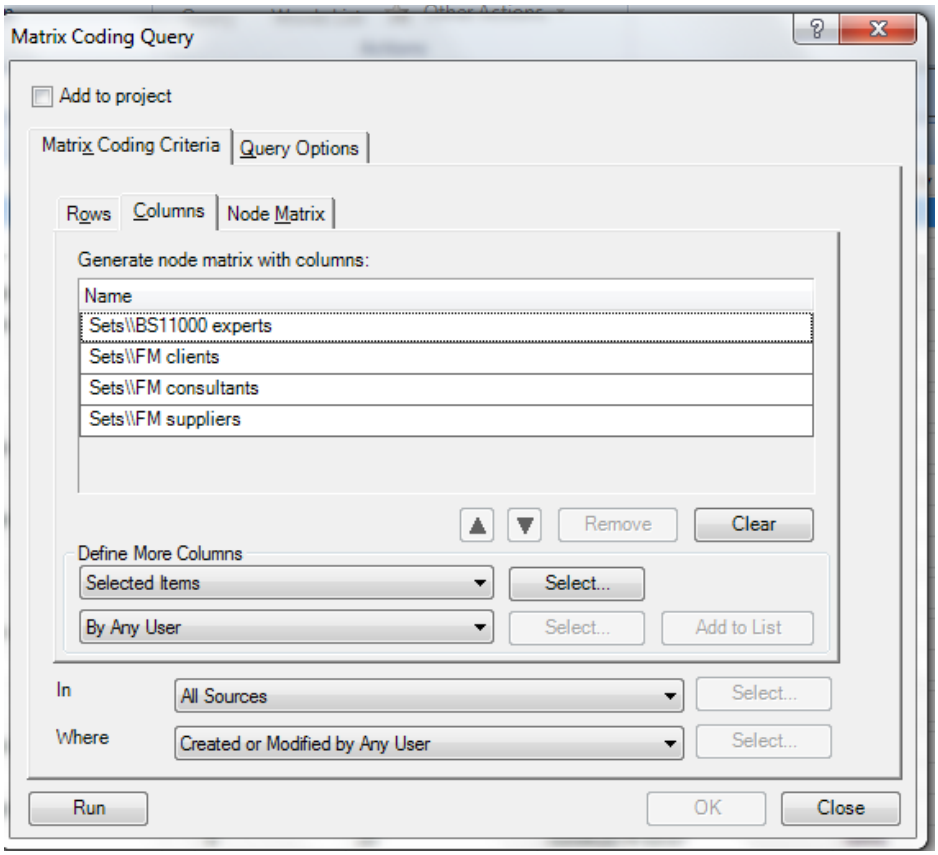
working to some sort of framework like this I think one allows people to and businesses to get to where they want to be quicker because there is set processes in place that you follow that have been tried and tested hopefully

Internals\\Interview C

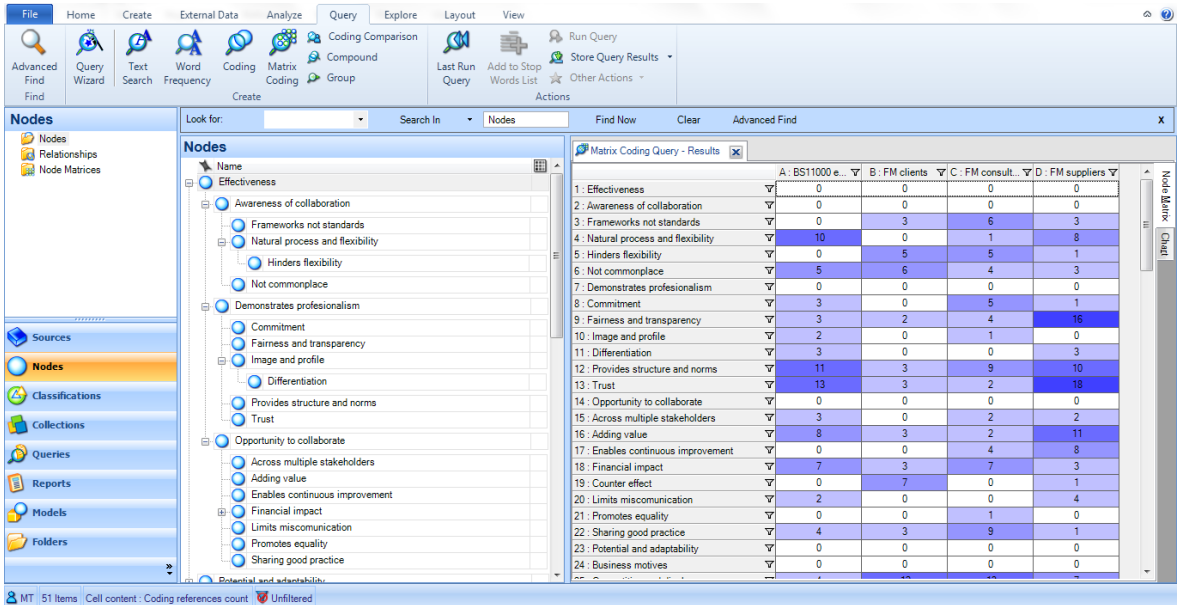
No		0.0160	5			
				1	MT	04/04/2014 13:53

it depends on how its marketed because we have a lot in, in business we have a lot of legislation

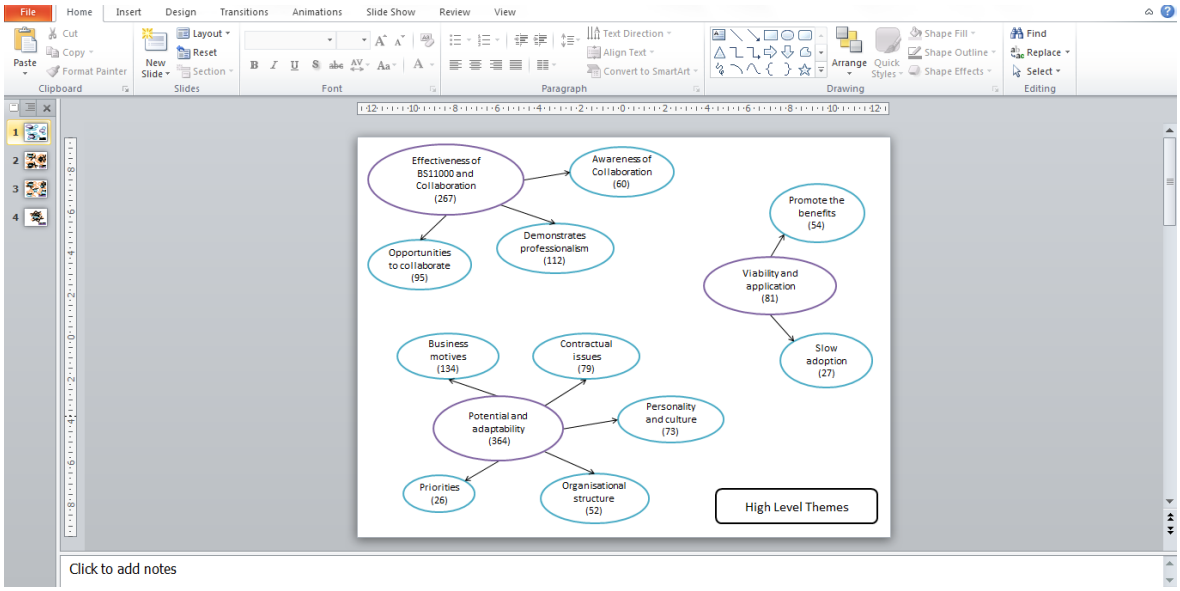
Thematic profiling by creating Matrix Coding of the interview nodes by ‘sets’ (example screenshot in NVivo)



Output of Matrix Coding analysis (example in NVivo)



Production of thematic diagrams illustrating the thematic structures identified, using the data from the matrix coding (example using PowerPoint)



Production of word frequency analysis and word clouds (example screenshots)