QUALITY ASSURANCE OF CONSULTING ENGAGEMENTS IN ENGINEERING INDUSTRIES

by

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Thesis submitted in fulfilment of the requirements for the degree

Magister Technologiae: Quality

in the Faculty of Industrial and Systems Engineering

at the Cape Peninsula University of Technology

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Bellville

December 2015

Declaration

I, Leonel Galvino Luciano Sobrinho, declare that the contents of this dissertation submitted for the degree Magister Technologiae: Quality at the Cape Peninsula University of Technology represents my own original unaided work, and has not previously been submitted for academic examination towards any qualification. I further declare that all sources cited or quoted are indicated or acknowledged by means of a comprehensive list of references. Furthermore, it represents my own opinions and not necessarily those of Cape Peninsula University of Technology.

Signed **Date**

Summary

The global consulting industry has become a significant contributor to economies worldwide due to the growing requirement for specialised skills, but the industry encounters tense flaws and pitfalls. These pitfalls are related to the increasing amount of consulting engagements that fall short of their desired goal. The inability to fully achieve the goals agreed upon yields questions regarding the quality of service provided within the industry.

It is believed that this inability to perform and to meet goals is due to gaps that occur within the consulting process. This research aims to determine whether there is a lack of quality in the full spectrum of the consulting process, which ultimately hampers the success of the consulting engagement.

A non-empirical and qualitative research method was used to investigate the nature of the gaps and the main reasons for these gaps within the consulting process. A framework was developed in order to assist the researcher in understanding whether quality methods can successfully address or narrow the gaps in the consulting process that inhibit the success of consulting engagements or the ability to meet all requirements of consulting engagements. Validation was carried out through interviews with experts in the consulting industry.

After a study of current literature it was clear that the fields of project management, change management and knowledge management are imperative when running a consulting engagement. Results of this study indicated that the framework is a viable quality methodology that can indeed be applied to address gaps in the consulting process. This is acquired through an interaction of fields such as systems thinking, audits, customer focus, corrective action and quality awareness. The framework was designed to add value and attempt to assure that the goals of consulting engagements can be fully achieved.

Suggested further research includes the implementation of the framework in small consulting firms to investigate its practical usability and feasibility.

Acknowledgements

I wish to thank:

- Teresa Luciano Hebo. Thank you mommy, for being the person that believes in me since day one, for being my inspiration and for giving me the strength and hope when I didn't even thought it was possible. You are and will always be my everything.

- Érica Mateus, thank you for being always there for me, for taking the time to listen to me even when it did not sound interesting. For motivating and taking care of me.

- My friends and family who have kept me in their prayers and in a way motivated me to keep going. Paulo Sobrinho, Irene Sobrinho, Mário Diogo, Helder Diogo, Kalunda da Silva, Kiko Veiga, Sobantu Nqayi and Jefferson Lan.

- Prof Moll, for knowledge, input and advice through this process.

- Ms Bronwyn Swartz, for you enthusiasm, willingness to help and constructive criticism. Your constant hope was key in the last couple of months.

- The interviewees who gave me the opportunity to learn from their knowledge and experience while taking time out of their busy schedule.

Dedication

This study is dedicated to my grandmother whose soul is now resting in peace and taking care of me from the above. Words cannot express how much I miss you and how I still did not figure out how to live without the teachings of a woman that has never been to school but taught me lessons that books could never have taught me. You are not here to celebrate but I know you are happy to see me make it.

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Glossary

Terms/Acronyms/Abbreviations	Definition/Explanation
ACEC	Association of Consulting Engineering Companies
ASCO	Association of Management Consultants Switzerland
ASQ	American Society for Quality
CAGR	Compounded Annual Growth Rate
CE	Consulting engagement
CM	Change Management The process of planning, organising, coordinating, and controlling the compositions of the internal or external environment to ensure that the process changes are implemented according to approved plans and the overall objectives of introducing the changes are achieved with as little disruption as possible (Oseni, 2007:1).
CQI	Charted Quality Institute
EMEA	Europe, Middle East and Africa A combination of regions to facilitate the description of percentages of consulting growth within the industry.
ISO	International Standards Organisation
IT	Information Technology
KM	Knowledge Management The cycle of the discovery, creation, storage, dissemination, and utilisation of knowledge with the aim of obtaining the right information, with the right context, to the right people, for the right business purpose (Kim & Trimi, 2007:145).
PM	Project Management The art of planning, organising, monitoring, controlling and reporting of all aspects of a project, and the motivation of all those involved in it to achieve the project objectives (Kerzner, 2009:4) within an agreed criteria of time, cost and performance (Lester, 2006:5).
PMI	Project Management Institute
PSP	Problem-solving Phase The third phase of the consulting process where solutions are developed.
QA	Quality assurance A process aimed at preventing the occurrence of faults in a

system (Sallis, 2002:17).

QMS	Quality Management Systems A management system that guides and controls an organisation regarding quality (ISO, 2000). QMS delivers high standard activities by incorporating the TQM philosophy, principles and concepts to create value added to the organisation and to meet the requirements of customers (Dahlgaard, Kristensen & Kanji, 2002:44).
TQM	Total Quality Management Powel (1995:5) defines TQM as an integrated management philosophy and set of practices that emphasises continuous improvement, customer satisfaction, reduced reworking, long range thinking, increased employee involvement and team work, process redesign, team based problem-solving, constant measurement of results, closer relationships with suppliers and management involvement.

CHAPTER 1: INTRODUCTION

1.1 Preamble

This chapter forms the epicentre and first phase of the research study. It contains the fundamental seeds to enable the reader to understand the rationale that lead the author to conduct this research**.**

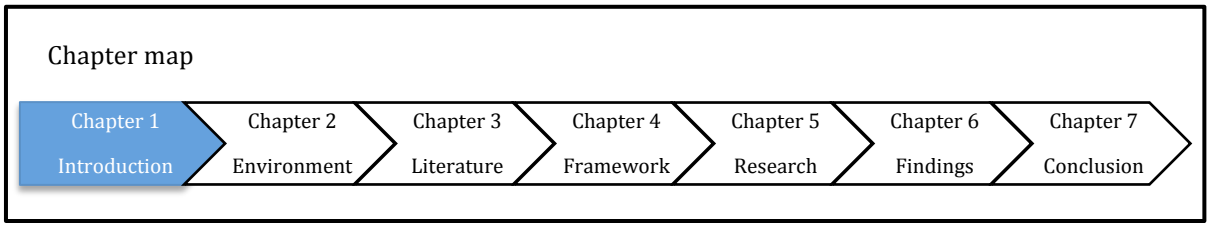

Figure 1: The first phase of the research study

Industry views of the 'process of consulting' in engineering are arguably as varied as the number of engineering consultants that are actively involved in the industry. Despite this, an area of common interest maintained by all engineering consultancies, is the 'quality' of their consulting engagements (CEs), as it most certainly has an impact on the success of the CE and consulting firm. This rationale lead to the naissance of this research study, as outlined in this research chapter.

Haverila et al. (2011:1) describe the consulting industry as one that faces a fast growth, accounting for approximately $330 billion of revenue globally. As a result of this growth, it is a sector characterised by rapid change. The dynamic environment has forced consultants to adapt, in order to cater for the needs of clients and to be able to compete against major new entrants into the market (Sadler, 1998:11). On this backdrop, Haverila et al. (2011:1) argue that consultants are required to be aware of new technologies and economic trends, to gather as much information and knowledge as possible to anticipate change that may affect their clients' businesses, thus ensuring competitiveness and improvement of client performance levels.

Consulting encompasses different applications and different industry sectors such as engineering, management, information technology and financial management, to mention a few. Additionally, there are several definitions for the concept, making it complex to accurately define. In general, literature reveals two main views of consulting. It is a professional advisory service, while simultaneously being a method of providing practical advice.

Greiner and Metzger (cited by Kubr, 2002:3) support the view of consulting as a professional advisory service, which is defined as "a service contracted for, and provided to organisations by specially trained and qualified people who assist the client organisation in an independent manner to identify problems, analyse such problems, recommend solutions to these problems and help when requested in the implementation of solutions".

In its broad functional view of a service characterised by the provision of practical advice, Kubr (2002:3) defines consulting as "a service aimed at attempting to change or improve a situation while not having direct control over the implementation". The latter view of consulting relates to people that practice consulting informally.

Consulting is discussed as a professional service in engineering for the purpose of this dissertation.

Kubr (2002:4) explains that the nature of consulting lends itself to the creation of, transferring, sharing and application of knowledge accumulated through study and practical experience. This knowledge permits consultants to find different yet effective ways of acting in various business situations. This is due to their ability to discern and understand changes in the environment, identify similarities or common causes of problems with a good chance of finding appropriate solutions, and quickly detect new opportunities (Kubr, 2002:4).

Quality assurance (QA) within the consulting industry varies according to the consulting firms' individual capabilities. Sadler (1998) and Friga (2009) discuss the capabilities of the consulting industry as being divided into three categories as indicated in Figure 2 and described below:

1. **Think tanks** – this level is reserved for companies that understand and study the client's problem, in order to find ways to apply their knowledge in the best way to solve these problems. They usually develop problem-solving methodologies or blueprints (also known as copyrights) which are tested and used for years and occasionally published as journal articles. On this level, QA starts at the recruitment phase, where the best students from the best universities are hired and trained to deliver the best service. This allows them to work together with the client's workforce for the accomplishment of the desired outcome. Mckinsey, Bain and Company and Boston Consulting Group are examples of companies operating at this level.

2. **Methodology driven** – methodology driven companies are market oriented. Therefore they use their marketing skills very well and usually apply an already existing

methodology to solve problems. These companies usually tend to startle the client regarding the complexity of the project, creating the idea that even though the problem seems rocket science they have the ability and the knowledge to solve it.

3. **Body shops** – body shops rent the services of their employees to companies at fixed, monthly or hourly fees. This level is often used in Information Technology (IT) consulting. The quality problem lies in the fact that these companies market their services as people and not projects. For this reason, consultants operate at the premises of the client organisation to simply implement a system (i.e. SAP). The duty of these consultants is to familiarise the clients' personnel with how to work with the new system. As a result the consulting company is not responsible for the quality of work consultants do at the client organisation.

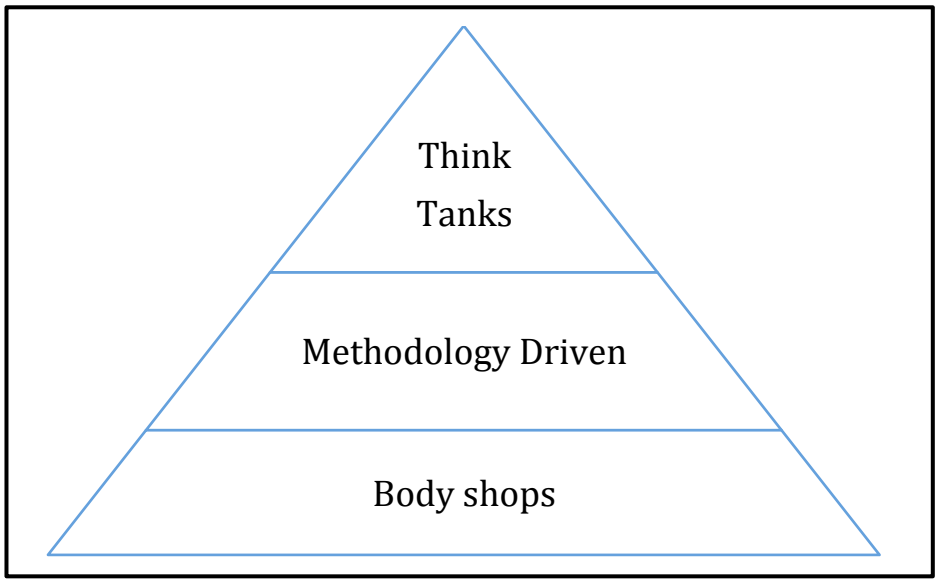

Figure 2: Consulting industry capabilities

It may be regarded to be of interest that some CEs make use of a unique methodology to resolve a client's problem, whilst other CEs employ a methodology that contains standardised elements. CEs with standardised elements are the ones that encompass a considerable amount of similarities, thus a fixed methodology applies. Kubr (2002:39) elucidates that the fixed methodology component refers to what is called 'product development or commoditization' in consulting. During this process consultants package the methodology applied in a CE into toolkits, such as step-by-step guides. This occurs when a methodology previously used, was proven to be successful in solving problems for projects of a similar nature (Kubr, 2002:39).

Rasiel and Friga (2002:3) argue that consulting toolkits become resalable when they are re-used in other projects. The authors explain that previously used toolkits provide a framework for what is

to be done and how the proposed goals are to be achieved. The creation of these toolkits fosters the habit of creating records from engagements, which to a certain degree assists with assuring quality.

Toolkits are used as training material during the learning programme of junior consultants. It provides a mechanism whereby trainees are able to trace the approach used in previous projects of a similar nature (Rasiel & Friga, 2002:3). Additional benefits of using toolkits as training material are the ability to equip junior consultants to perform the same functions as their counterparts without compromising the quality of CEs and allowing them to interact knowledgably with clients (Rasiel & Friga, 2002:3).

For the purpose of this dissertation, a CE is defined as a systematic process that generates a product or outcome. Thus, a CE will be comprised of four sequential phases, namely:

1. Entry – where the requirements are discussed.
2. Input – involves data collection and analysis/diagnosis.
3. Problem-solving process (PSP) – entails the actions taken during the CE.
4. Output – denoted by report generation and implementation.

These phases will take into account project management, change management and knowledge management, and will be linked to a quality assurance framework. Figure 3 illustrates the process of consulting to be used for the purpose of this research study.

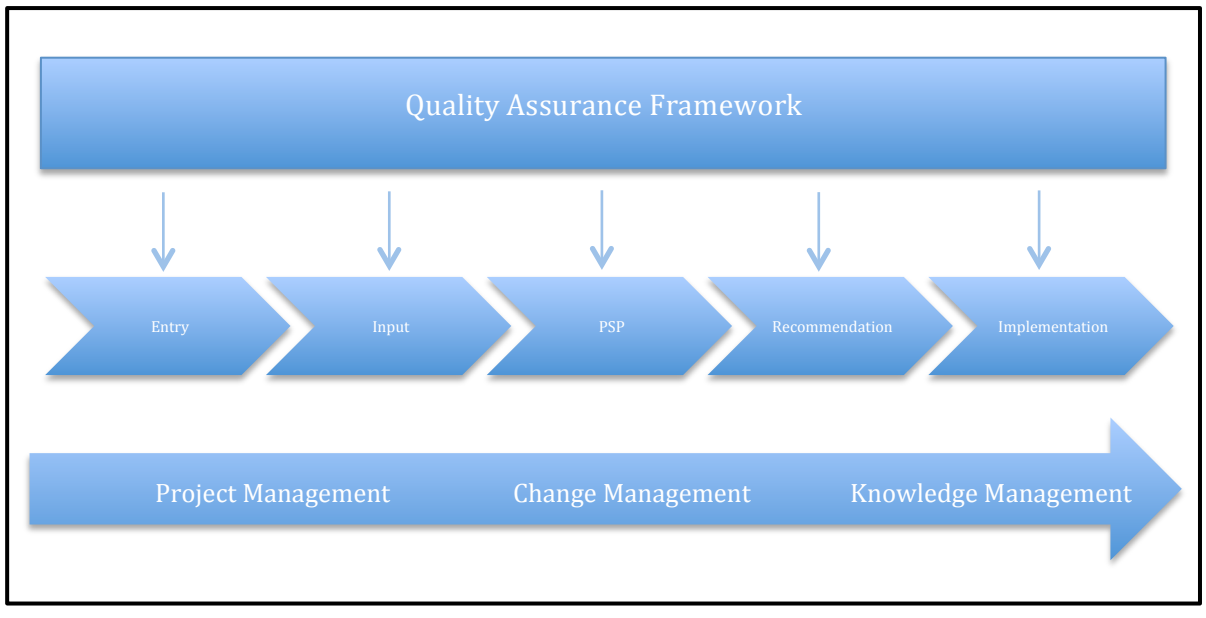

Figure 3: The consulting process

The reasoning behind the consideration of the fields of project management, change management, knowledge management and the quality assurance framework lies on the following:

- Change is almost inevitable in CEs. Therefore, attention should be paid to the human aspect of change, as humans are the ones implementing the change. In this regard, the purpose of the change should be communicated to those affected by it to reduce the likelihood of resistance to the proposed change (Blokdijik, 2008:27).
- Knowledge management is regarded as a core capability in consulting, as such consultants should make great use of it (Machuca & Costa, 2012:24).
- Quality assurance methods should be implemented from the inception of any project or process in order to avoid flaws and pitfalls. Thus, they ensures that the desired output is presented successfully (Foster, 2004:8).

1.2 Background to the research

Klenter and Möllgaard (2006:139) claim that a decade or two ago a project was considered successful as soon as a promising concept was developed. Today this approach to evaluation of a project is no longer applicable due to the requirement of performing a practical implementation plan, which is based on a well-structured concept, and that yields value or improved quality to the client's business and/or operations (Klenter & Möllgaard, 2006:139).

Stating that a CE is quality assured, is synonymous of stating that the likelihood of its success is guaranteed. Yet, a CE can only be considered successful once the expectations of both the client and the consultant are met.

McLachlin (2000:246) claims that a CE is regarded as successful and quality assured when both the client and the consultant are involved in engagements where agreed upon goals are met, including that the client's satisfaction is secured, completion dates met and recommendations are delivered and implemented successfully. McLachlin (2000:246) adds that when a CE is successful, the client is satisfied and likely to approach the firm again for future projects. The client may also recommend the consultant or consulting firm to other clients, which ultimately results in enhanced reputation of the consultant and/or consulting firm.

It was mentioned in section 1.1 that consulting is a professional service. As such, Tenner and DeToro (1992:30) outline that consultants should strive to meet goals set at the project inception, since meeting goals is a key function to service quality. In this regard consultants should always

attempt to assure the quality of CEs in order to excel in the delivery of service quality (McLachlin, 2000:246). Consequently, quality yields satisfaction and reliability to meet predetermined objectives and requirements.

Unfortunately, consultants do not elaborate on failure or lack of service quality in CEs as it would discredit themselves and the industry as a whole. This is confirmed by a statement made by Seidl and Mohe (2007:2), which reads as follows "despite the number of articles on consulting, the literature shows few authors relating to failure in CE".

Seidl and Mohe (2007:2) claim that the consulting industry has been growing steadily over the last decades. However, this growth has been set off by an increasing amount of failures in CEs. In some cases CEs are abandoned during the implementation phase, while in others the implementation phase never becomes a reality, and in certain cases the consultants' recommendations have disastrous consequences for the client organisation (Seidl & Mohe, 2007:2). Haferkamp and Drescher (2006:127) believe that failure happens because the degree of goal achievement is sometimes only evaluated at the end of CEs, based on what was agreed at the beginning of CEs. In this regard, it is clear that in unsuccessful cases consulting firms made use of quality control which refers to inspecting quality at the end of the process, instead of quality assurance, which is the process of ensuring quality at every phase of the project or process.

Studies by Deelmann and Mohe (2006:139) reveal that the majority of CEs only partially achieve their goals and experience considerable delays. Despite the application of concerted efforts, various techniques and interventions, CEs still fall short of the desired goals. It is believed that this lack of goal achievement is due to consultants not systematically documenting lessons learned throughout CEs or not communicating results to those affected by the change (Haferkamp & Drescher, 2006:127). Haferkamp and Drescher (2006:127) add that the reason for the omission of unsuccessful reports is the absence of a department responsible for this function.

The inability of CEs to fully achieve targets is a quality problem, due to the fact that CEs are unable to conform to predetermined specifications. Haferkamp and Drescher (2006:127) argue that the reasons lie in poor project management where completion dates are not met, control is not up to standard, insufficient time is assigned to the management of change and a lack of evaluation of the various phases within the whole project. As a result, both the consulting firm and the client organisation are unable to control whether or not they are working towards the same goals.

According to McLachlin (2000:245) some consultants are financially driven, as opposed to being driven by the need to meeting the client's requirements. As a result they deliver or sell whatever

product, service or skill available in their toolkit. McLachlin (1999:396) explains that ignoring the client's readiness to change is another fatal flaw consultants make that usually leads to CE failure.

In an attempt to identify possible causes for CE failure, the researcher has drawn an Ishikawa diagram (a quality tool used to breakdown the root causes of a problem) to represent the possible causes of the problem (Figure 4).

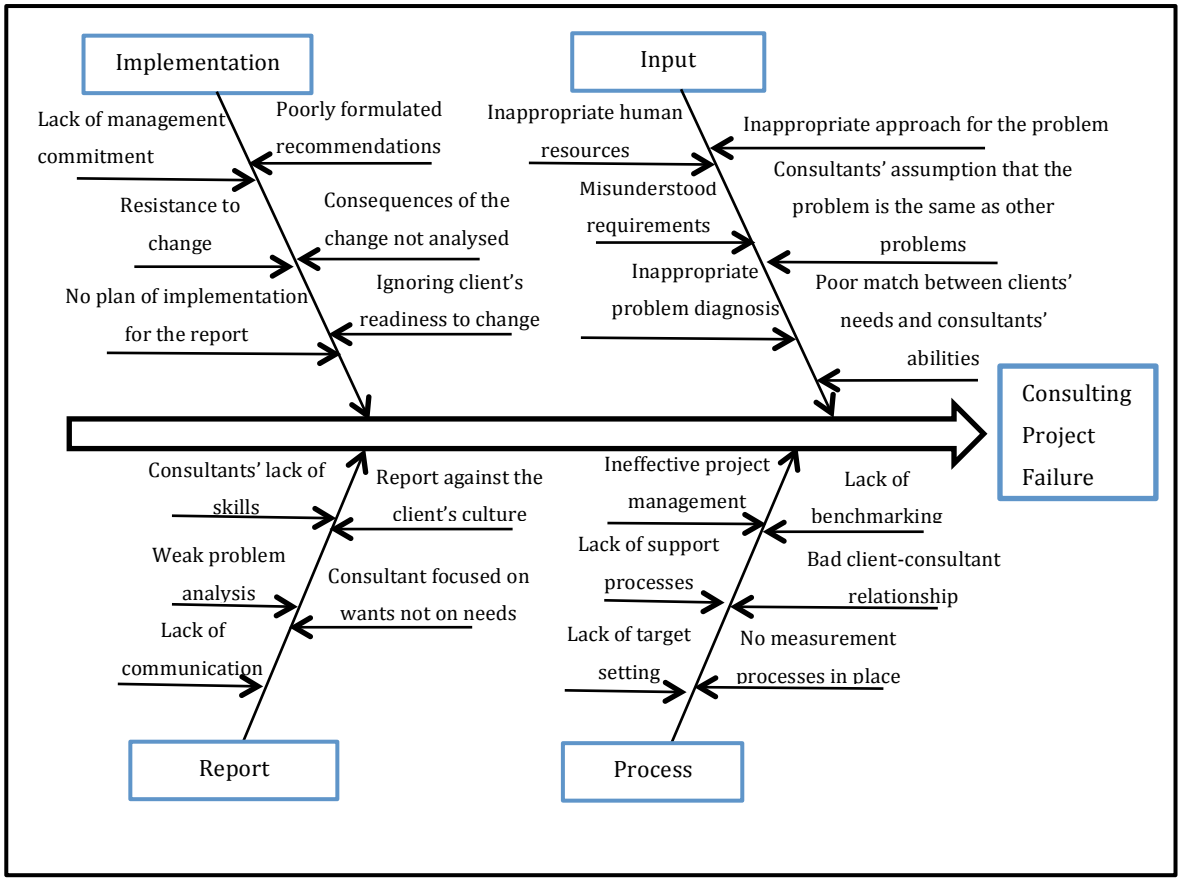

Figure 4: Ishikawa diagram (adapted from Deelmann & Mohe, 2006; Haferkamp & Drescher, 2006)

1.3 The problem statement

The primary research problem that is researched within the ambit of this research study reads as follows:

"A lack of quality assurance methods in the full spectrum of the consulting process adversely impacts the success of consulting engagements."

The primary problem is divided into sub-problems. The justification for the division relates to a process approach whereby the gaps between the phases in the process were identified. This

approach is supported by the fact that a CE is to be seen as a process for the ambit of this dissertation. Therefore the following sub-problems or gaps are to be addressed:

- The gap between the entry phase and the input phase.
- The gap between the input and the problem-solving process.
- The gap between the problem-solving process and the report.
- The gap between the report and the implementation.
- The gap between change readiness of the client and implementation

1.4 Greater research question

The research question, forming the crux of this research study is qualitative in nature and reads as follows:

"Can quality assurance methods successfully address or narrow the consulting process gaps that inhibit consulting engagement success?"

1.5 Research sub-question

The sub-questions to the greater research question are listed below:

- What is the nature of the gaps that inhibit CE success?
- What are the main reasons for these gaps that lead to unsuccessful CE?
- What quality methodologies are required to narrow the gaps between the various consulting process phases?
- What can be done to prevent the occurrence of these gaps during the consulting process?

1.6 Research objectives

The objectives of the research are to appropriately answer the greater research question and the corresponding sub-questions. This allows the researcher to determine the best quality methods to address the consulting process in an attempt to eliminate the gaps that inhibit success of CEs.

1.7 Delimitations and limitations

The nature of constraints of a master's degree has necessitated certain limitations and delimitations. This section lists the delimitations and limitations to establish a scope within which this research will operate.

1.7.1 Delimitations

The following delimitations apply to this research study:

- The research is limited to engineering consulting firms and/or independent consultants.
- The research focused on required quality methodologies for the consulting process.
- A theoretical analysis of quality methodologies and related concepts (e.g. project management) are to enlighten the researcher to propose a quality framework aimed at addressing the consulting process gaps.
- The proposed framework is to allow users to apply different quality methods to the different phases of the consulting process.

1.7.2 Limitations

The following limitations exist:

- Consulting firms and/or independent consultants not willing to cooperate assuming that the research will expose flaws and pitfalls of the industry.
- Consulting firms and/or independent consultants adopting the view that the research is aimed at characterising the consulting industry as one that lacks quality.
- The availability of interviewees may limit the ability to collect data.
- The fact that the proposed framework will not replace any organisation's quality methodologies already in use.

1.8 Assumptions

The following assumptions have been made regarding this study:

- All experts interviewed will be honest, objective and comfortable when answering interview questions to contribute to accurate results.

- The study of the literature will provide the researcher with the necessary insight to develop a generic quality assurance framework and allow the author to have a greater understanding of the current body of knowledge.

1.9 Research design and methodology

Every research study should have a roadmap and an appropriate methodology. Weathington et al. (2010:265) explains that research design refers to methods used to collect data that are to decisively answer the research question, while Saunders et al. (2009:3) defines methodology as the theory of how research should be undertaken.

The research design and methodology that was chosen for the purposes of this research study is an adaptation of the work of Mouton (2013). This adaptation was decided upon after a process of structured elimination after consideration of options available.

The type of study needed to be defined in order to set the research into an appropriate direction. In general, it is clear that there are two main types of study, as set out in Figure 5.

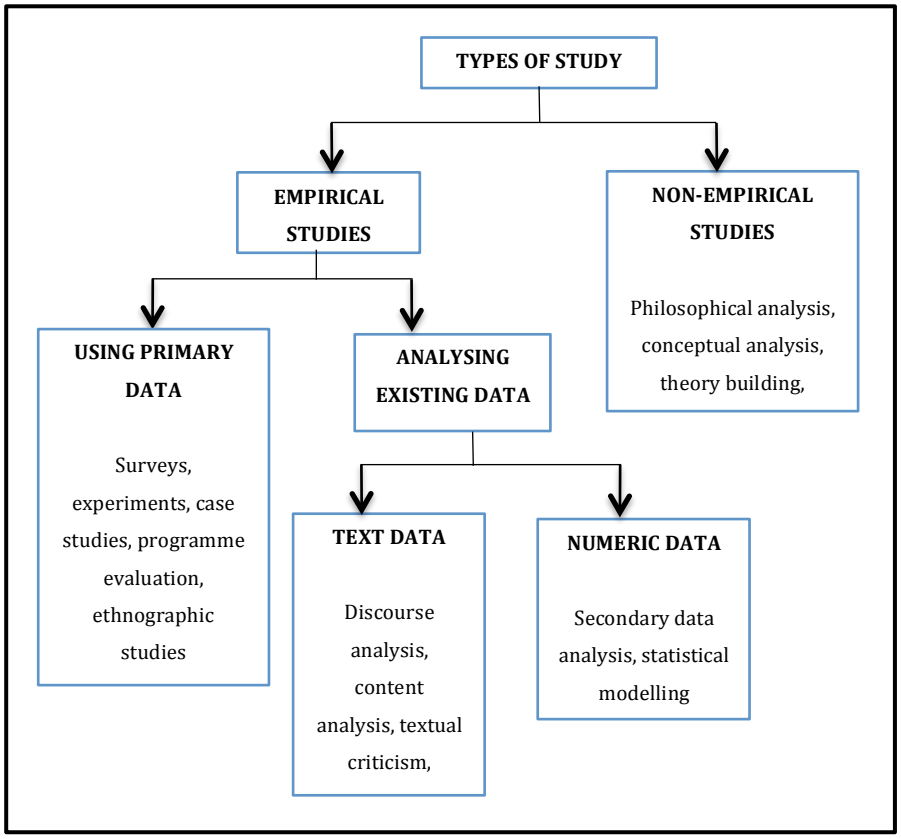

Figure 5: A typology of research design types (Mouton, 2013)

From Figure 5 the researcher can assumed that empirical research can be both qualitative or quantitative in nature. Therefore, research questions can be answered by means of both numeric or textual analysis of primary or existing data (Mouton, 2013:57). Non-empirical research on the other hand focuses on textual analysis to answer the research questions, thus acquiring an understanding of interactions between concepts or building new theories (Mouton, 2013:207).

The research study mapped in Figure 5 sets the following dimensions:

- Empirical approach versus non-empirical approach.
- Using primary data versus the analysis of existing data.
- The nature of the data: numerical versus textual data.

The first two dimenstions are illustrated in Figure 6.

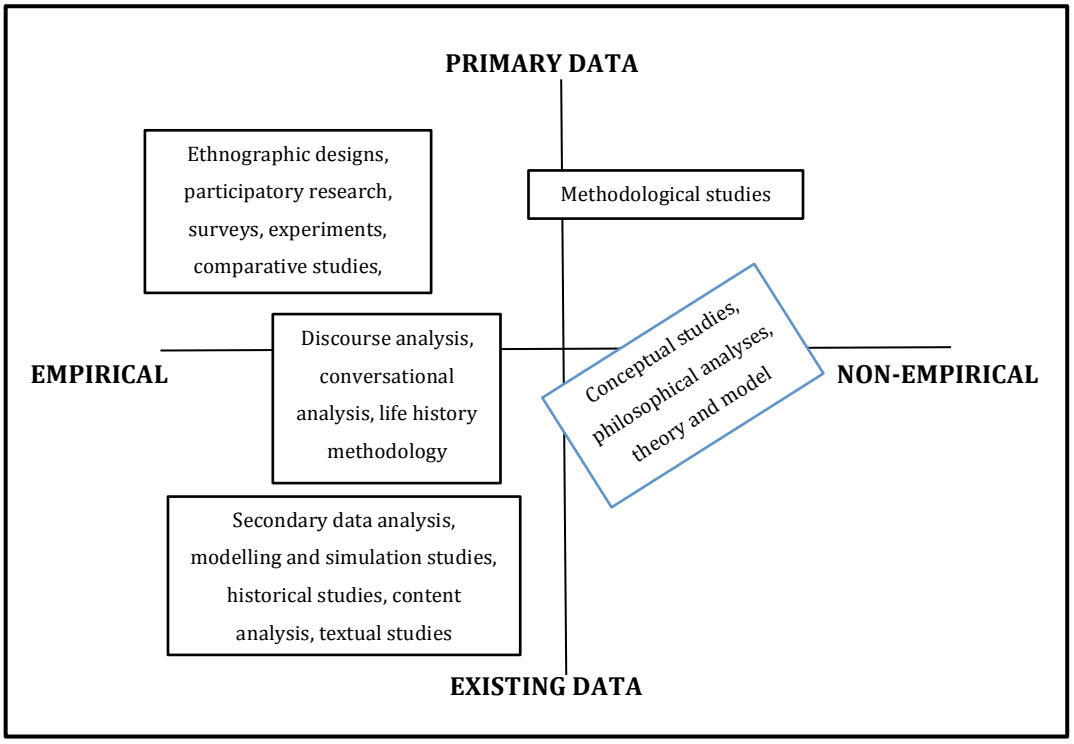

Figure 6: Relationship between the choice of study and the type of data (Mouton, 2013)

The research in this study focused on the blue highlighted area in Figure 6. Thus, it was non-empirical in nature, and combined primary data obtained through interviews and existing data obtained through literature reviews.

The choice of approach and consequentely the use of both data collection methods, was based on the nature of the research questions and the possibility of developing a generic quality framework to address the consulting process gaps. This was a theory and model building study, where the quality framework formed the crux of the model and the research questions provided the necessary theory to support its existence.

1.10 Ethical guidelines

According to Bless et al. (2006:140) the word ethics is derived from the Greek word 'ethos', meaning one's character or disposition. It is related to the term 'morality', meaning one's manners or character.

The implementation of research ethics helps to prevent research abuses, such as not considering the integrity of participants, and assists investigators in understanding their responsibilities as ethical scholars (Bless et al., 2006:140). Research ethics places an emphasis on the human

condition and sensitive treatment of research participants who may be placed at varying degrees of risk by research procedures (Bless et al., 2006:140). Spencer et al. (2003:11) claim that the quality and integrity of the research will be safeguarded by ensuring that:

- Findings are credible.
- Knowledge has been enhanced.
- The evaluation addresses the original purpose.
- The evaluation appraisal is clear.
- The research design is defensible.
- Data collection is thoroughly and methodically carried out.
- The formulation and approach of the analysis has been adequately explained.
- Content of data sources are retained and portrayed.
- There is diversity of perspective and content.
- Sufficient detail, depth and complexity of data were conveyed.
- The links between data, interpretation and conclusion are clear.
- Reporting is clear and coherent.
- The research process is carefully documented.

Potential risks that could arise from this research include the misinterpretation of data and plagiarism. However, the researcher is well aware of what plagiarism is and that it is illegal to use the ideas of others without appropriate citation. For this reason, the Harvard referencing method has been used for the purpose of this research study.

Informed consent was obtained from participants through their completion of a consent form prior to interviews. The interviews lasted from 30 to 60 minutes, were recorded (sound only), transcribed and sent to each participant before submission to ensure that they were satisfied that their responses had been adequately presented.

The research was conducted using electronic media to limit the impact on the environment. Thus, the research did not harm the participants, publication rights nor threaten the ethics policies of institutional research.

There are no conflict of interest relating to the student and supervisor in this research, and no other parties will benefit or be compensated from the research.

1.11 Document outline

This section presents the reader with an outline of the thesis.

Chapter 1 – The scope of the research. The research problem is elaborated upon, which is not only the focus of the research study, but sets the scene for the research. In addition, the research objectives and the basic research methodologies are elaborated upon.

Chapter 2 – A holistic perspective of the research environment. In this chapter an overview of the industry is presented to examine how the industry shaped from its formation to its current status.

Chapter 3 – Literature review. In this chapter an extensive review of the current body of knowledge pertaining to quality, knowledge management, change management and project management is presented. All the theories related to quality are to give the reader sufficient understanding to grasp the components presented in the next chapter.

Chapter 4 – Quality assurance framework. In this chapter a generic QA framework to address the consulting process gaps is created. The result of this chapter is an untested theory.

Chapter 5 – Research design and methodology. The research design and methodology to be implemented are discussed and motivated in detail.

Chapter 6 – Findings and discussion. In this chapter the researcher analyses the interview responses and interprets its results to answer the research questions and validate the framework.

Chapter 7 – Conclusion and future research. In this chapter the research is summarised with conclusions being drawn from results, supported by the literature study.

1.12 Chapter conclusion

It was shown in this chapter that although the consulting industry has become a significant contributor to economies worldwide due to the requirement for specialised skills, it does not come without its own inherent flaws and pitfalls. Most of these are discovered when consulting recommendations are not implemented, due to the recommendations being poorly formulated or being formulated without a proper plan of implementation. As a result, disastrous consequences arise for the client organisation.

An understanding of the consulting industry and the consulting process is of utmost importance when attempting to assure a positive outcome. In this regard, a study on the consulting industry as well as relevant literature is to be performed which when linked, could increase the likelihood of CE success.

This chapter has also provided the context for the research study both in terms of reasoning and layout. The objectives of the study, the approach to achieve the proposed objectives and the roadmap to be pursued for the research study itself were discussed. The next chapter provides an overview of the global consulting industry.

CHAPTER 2: HOLISTIC OVERVIEW OF THE RESEARCH ENVIRONMENT

2.1 Introduction

The foundation for this research study was provided in the previous chapter. This chapter is the second part of the research study (Figure 7).

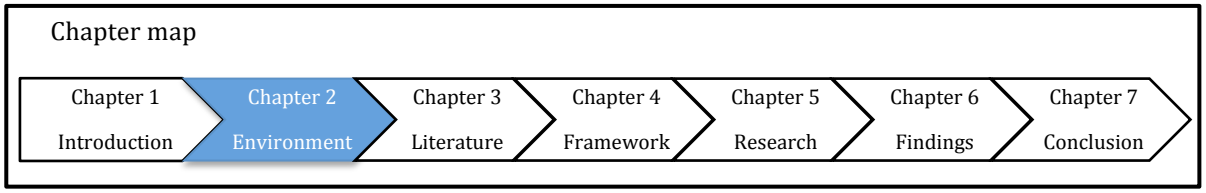

Figure 7: The second phase of the research study

An insight into the research environment is given in this chapter by presenting an overview of the consulting industry. The consulting industry is examined making reference to its historical background, the present status of the industry, the various consulting disciplines, and why and how consultants are used by organisations.

2.2 Historical background of the consulting industry

In order to understand the consulting industry, it is important to consider its roots, as well as who was involved in its formation due to the fact that it allows a better knowledge of the facts of the event.

Kubr (2002:31) explains that consulting started in the United States of America and dates back to the industrial revolution, the invention of the modern factory and its related institutional and social transformations. Therefore, consulting has its roots in the late 1800's and early 1900's, when the industrial revolution forced manufacturing companies to become more productive and more efficient (Rassam, 1998c:6; Kubr, 2002:31). For companies, the need to seek advise on production, staffing, and better ways to run and control the business gained increased prominence (Rassam, 1998c:6; Kubr, 2002:31; Vault, 2014).

According to Rassam (1998c:7) and Oosthuizen (2003:16) the advisers of that time were not known as consultants but rather as 'industrial engineers' or 'efficiency experts', due to their strong engineering orientation, and because no one would understand what the concept of consulting meant at the time. Oosthuizen (2003:16) further claims that these engineers strongly believed in the use of a scientific method to solve production problems as the only way to

improve performance and operations. The focus at the time was mainly on factories, shop floor productivity and efficiency, rational work, working towards eliminating waste and reducing production costs. To this end, industrial engineers studied and wrote articles and books regarding the scientific methods they created with the belief that whenever these methods were adopted, factories would run more efficiently and improve operations (Kubr, 2002:32).

During this early stage, pioneers such as Charles Sampson, Frederick Taylor, Frank and Lillian Gilbreth and Arthur D. Little provided major stimulation in the development of the industry. Kubr (2002:32) proffers that Charles Sampson acted as an internal consultant when in 1870 he reorganised and documented the whole production process of his shoe factory to allow his unskilled Chinese workers to better perform tasks and achieve satisfactory results. Professor Arthur D. Little of Massachusetts Institute of Technology is considered to have found the first consulting firm in 1886, with the focus on technology and engineering economics (Vault, 2014; Gross & Poor, 2008). Rassam (1998c:7) states that Frederick Taylor created what today is called 'organisation and methods' due to his views on the simplification of difficult manufacturing tasks, and new methods of supervision for productivity improvements. Frank and Lillian Gilbreth focused on the human aspect of the man-machine interaction, which is of utmost importance for engineering consulting.

New areas of consulting emerged due to the skill limitations of the industrial engineers. This led to the emergence of other aspects and dimensions of business organisations in the 1920's such as consulting in human resources, selling and marketing, and accounting and finance. Kubr (2002:33) suggests that these were a result of an awareness regarding manufacturing problems being sub-components of the wider perspective of sales and business.

Consulting was a growing industry but its scope remained limited to the larger business organisations rather than the small and medium companies. Consulting was introduced to the public sector during World War II when requests started coming from the military (Kubr, 2002:33). According to Vault (2014), consultants played a key role in providing advice regarding armament manufacturing, wartime production, and operational research or analytical techniques that were first applied to the military but were rapidly applied in other business sectors.

After World War II the field of consulting gained a lot of respect due to its successful contribution. As a result military organisations and consulting firms have since then maintained strong ties (Kubr, 2002:33). O'Mahoney (2010) states that this acknowledgment for the value of consulting provided impetus to the development of the consulting industry, enabling the creation of tools, methods and products that are now taught in business schools (i.e. multidepartment

structures). According to McKenna (2006:6) from the 1960's to 1980's or 1990's consulting companies switched from selling structure to start selling strategy and methodologies. Companies such as McKinsey and the Boston Consulting Group were pioneers in this 'strategic consulting' methodologies.

Perluxi (2011) revealed that technology consulting is one of the areas that experienced the most growth, especially during the first decade of the twenty first century due to the World Wide Web and IT. The growth forced consultants to conduct research on emerging trends that could satisfy their clients and advance innovative offerings before any other market role players (Kubr, 2002:34). As a result, competition increased greatly over the years, and new ways of marketing and advertising consulting services were introduced.

A directed focus on improving service quality came into being, which forced consultants to search more aggressively for clients in an attempt to convince these clients regarding the quality of their work and that they had the best service to offer. Internationalisation was also one way to search for new markets, adapting to new economies and finding new consulting opportunities (Kubr, 2002:34; Perluxi, 2011).

Oosthuizen (2003:16) argues that the growth of the industry drew a considerable amount of criticism aimed at the high costs involved, questionable objectivity and inability to produce meaningful results. Ultimately, questions emerged regarding the production of a service where customers could easily make the 'value for money' relation. Thus, it has often cynically been noted that the consulting industry is very successful at generating new work from existing engagements, which often leads to clients developing an unhealthy reliance on consultants (Oosthuizen, 2003:16).

Today consulting firms are either generalists or specialists (i.e. industrial engineering). Generalists are usually the large or medium-sized firms while the specialists are the small firms. Currently, the following sectors are the focus of engagements in the consulting industry:

- Engineering.
- Information technology.
- Strategic management.
- Financial management.
- Human resources management (HRM).
- Industry specific consulting.

Consultants are not limited to the above-mentioned disciplines or in fact even to any specific industry. Kubr (2002:34) claims that they do not hesitate to embark on quality control, communication systems, plant automation, environment protection and the like because becoming knowledgeable about a new sector or industry gives consultants a competitive edge or can be of the interest of clients.

2.3 The consulting industry

Even though this research focused on the engineering consulting industry, it is of interest to gather insight from other consulting sectors and/or consulting in other geographic locations other than the one in which the sample presented in Chapter 5 is based.

The progress described in section 2.2 and the various challenges faced by businesses worldwide have increased the number of CEs. These have transformed consulting into an important professional service in terms of size, structure, range of services offered, global reach and overall influence. As a result consultants have become key players in advising businesses, while consulting firms became respected due to their diversified resources, broad knowledge base and ability to resolve complex situations.

Wickham and Wickham (2008:288) argue that despite its mature state, the consulting industry reflects a high demand for consulting services. This demand, regardless of service line is currently dominated by North America, Western Europe, Japan and Korea, and Australia (Kennedy Information, 2014).

According to Kennedy Information (2014) during the 2013-2014 forecast the world consulting market's compounded annual growth rate (CAGR) grew from 3.7% to 4.6% and the industry's market size is in 2015 estimated to be more than $245 billion. In addition, Plunkett Research (2014) estimated the global consulting revenue accounted to $431 billion in 2014, increased compared to the $415 billion in the previous year. The same research conducted by Plunkett Research revealed that top consultants earn from $200,000 to $500,000 a year.

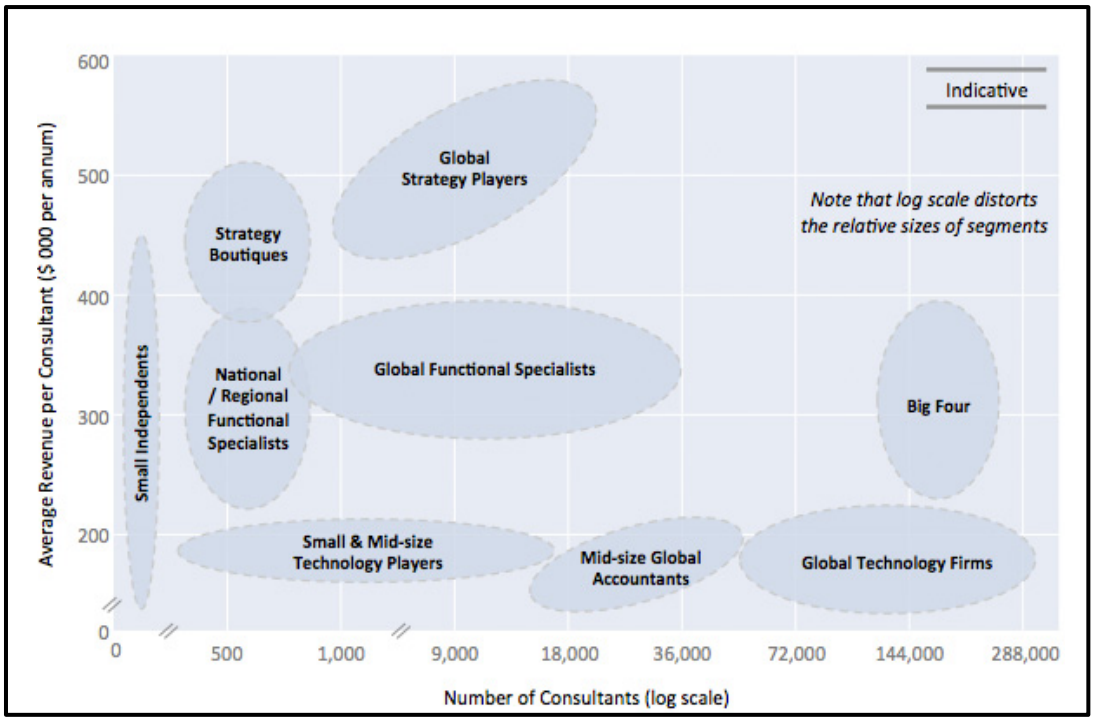

Figure 8: Fees in the consulting industry (Consultancy UK, 2013)

On the one hand, the Europe, Middle East, Africa (EMEA) region is the largest consulting region by market size, which is worth $92 billion. North America comes second with a market estimate of $89 billion. Asia amounts to $37 billion and Latin America has a $6 billion estimated market. While on the other hand Asia is the region which saw the most growth rate, with an estimate of 6.7%, Latin America with 6%, EMEA with 4.2% and North America with 3.9% (Consultancy UK, 2013).

Source Information Services (2013) conducted a research on the top consulting trends and revealed the following:

- The European consulting industry is expected to have a slow growth rate, the reasoning lies on the performance of the financial services industry across Europe.
- New services, new roles and new delivery models are the major opportunities for growth within the consulting industry – the latter being the one with greatest potential, as it motivates consultancies to move away from the old pyramid model to a more flexible model.
- Saudi Arabia and Qatar will continue to show growth increase while India is expected to recover from a period of very slow growth.

In addition to the trends in the consulting industry, Plunkett Research (2014) stated the following:

- The market for consultancies, which focus on manufacturing efficiency, reducing costs and enhance profits, is expected to reach maturity soon.
- New government regulations in the USA and in Europe will create job opportunities for consultants with an expertise in environments where government relationships with industries rapidly change.
- There will be a high demand for consultants specialised in expansion into emerging markets, IT, as well as mergers and acquisitions.
- The desire of Middle East to modernise creates an opportunity for a wide variety of consulting firms, since modernisation generates new services and opportunities.

Values presented in this section of the research are only estimates because of the scope of consulting and due to the fact that it was drawn from various sources. From the collective views of Consultancy UK (2013), Source Information Services (2013), Kennedy Information (2014) and Plunkett Research (2014) it may thus be stated that, consulting is making a contribution to the world by effectively selling, sharing and applying knowledge, and creating an industry with enough potential to become the strongest in the world.

2.3.1 Africa's current consulting scene

A decade ago consultancies did not prioritise Africa as a market for investment. It was rather a market for firms serving selected energy and resource industries or multinationals with the purpose of establishing or extending production and distribution of their goods and services (Kennedy Information, 2011).

The consulting industry in Africa gained momentum when international consulting firms decided to invest in the market. As a result is has shown strong and quick growth over the past years. Consultancy UK (2014a) reveals that the market was worth $1.28 billion in 2011, followed by a 9% growth in 2012, and a 5% growth in 2013. In 2014 the market value was $1.48 billion.

Source Information Services (2014) and Consultancy UK (2014a) argue that the growth of the consultancy industry in Africa in 2012 can be partitioned according to geographical region which is depicted in Figure 9:

- North Africa saw a growth of 3% ($162 million).
- Southern Africa grew 7% (accounting to a total of $1 billion).
- East Africa grew 25% ($71 million).

- West Africa saw a growth of 40% ($100 million).

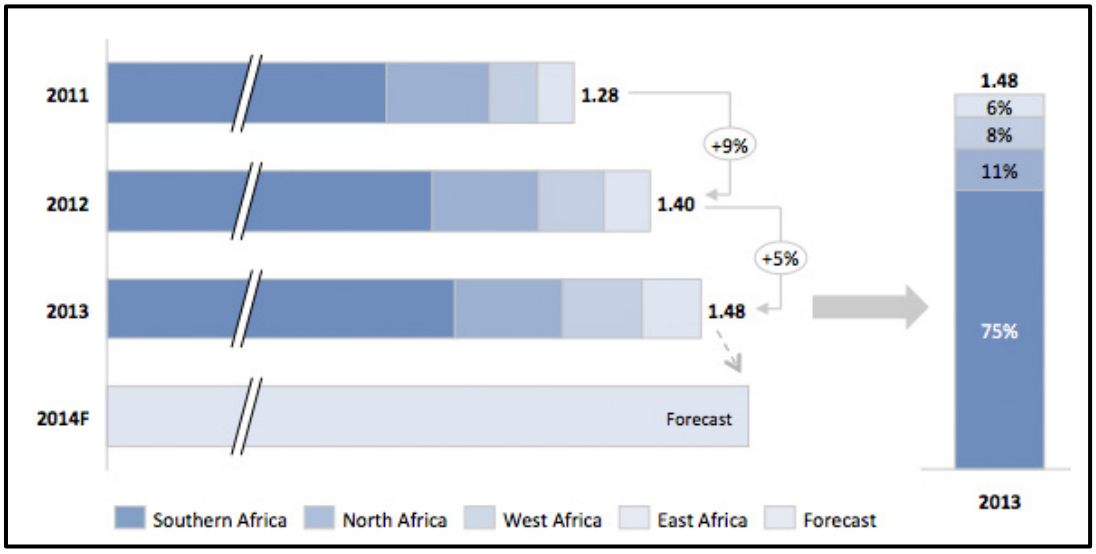

Figure 9: African consulting market (Consultancy UK, 2014a)

Source Information Services (2014) states that East and West Africa's wealth of natural resources, strong manufacturing base, and foreign investment are the main factors that promoted consulting growth within the regions. Therefore, consulting in both regions is likely to steadily increase in the following years. On the other hand, Southern Africa's market is expected to show a decreased growth of 2.5% as consequence of South Africa's instability, which is due to the number of strikes in the mining sector and its slow GDP growth. South Africa's slow GDP growth adversely impacted the foreign and domestic investment sector (Source Information Services, 2014).

Foreign investment is key to the development of Africa and a key growth driver in the continent market, because when foreign investment in Africa increases, the continent expands its range of opportunities and consequently the consulting market is positively impacted (Consultancy UK, 2014a). This positive impact is expected to be maintained due to the continent's development as a whole, therefore the consulting market can be expected to grow at a rapid rate (Source Information Services, 2012). For consultancies, the key to success is to establish hubs across Africa, since the whole continent is facing rapid growth and new opportunities are likely to arise (Consultancy UK, 2014a).

2.3.2 Key players in the consulting world

Wickham and Wickham (2008:290) assert that the consulting industry is fragmented and composed of a number of sectors. Elucidation is offered on each of the key players as categorised per sector of industry that they belong to. These sectors include:

- Information technology.
- Strategic management.
- Financial management.
- Human resources management.

Information Technology (IT) specialists constitute one of the fastest growing sectors of the consulting world. Its growth is accompanied by rapid change, which may threaten even the best or most competent IT companies (KPMG, 2014). Across all disciplines different businesses understand the importance of IT, and how it can be a competitive advantage in today's business world.

Information Technology consulting refers to the provision of support, training, and consultation services regarding computer software, multimedia, database systems, networks and hardware to the client organisation (Kubr, 2002:290). The global IT consulting market showed a CAGR of 4% from 2011 and was worth $48.2 billion in 2014, as illustrated in Figure 2.4 (Consultancy UK, 2014d). Key players in this sector include Accenture, Deloitte, PricewaterhouseCoopers, IBM, and Capgemini (Vault, 2015c).

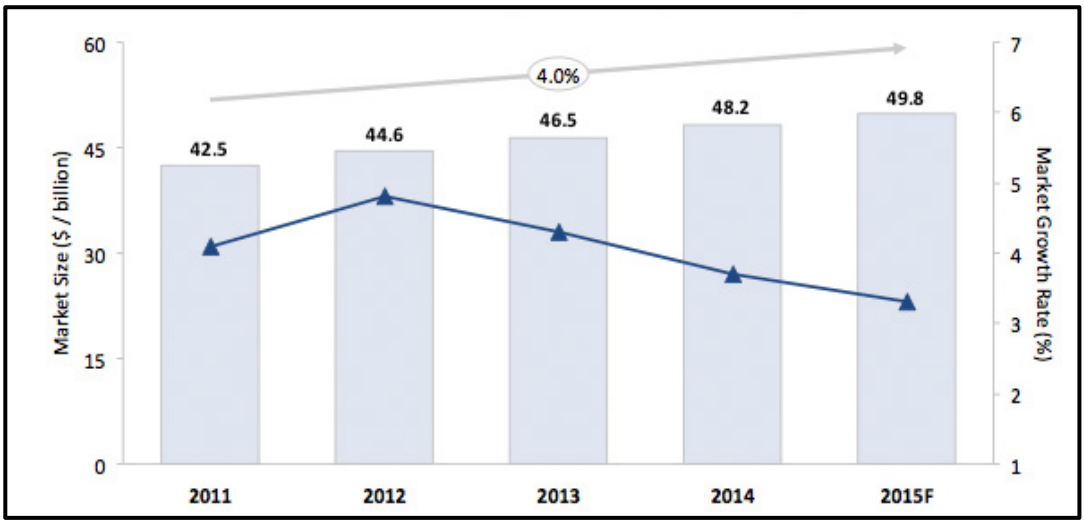

Figure 10: Global IT consulting market size (Consultancy UK, 2014d)

Kubr (2002:261) asserts that what was once defined as 'general management' is now commonly referred to as 'strategic management' and focuses on planning, structuring, and controlling organisations. The author adds that strategic management consulting is characterised by problems related to long-term decisions. Long-term decisions include decisions about resource allocation and acquisitions. Other problems are multifunctional interaction and interdisciplinary, which require the consultant to look at the problem from several angles (Kubr, 2002:262).

Creative thinking is the main distinction between strategic management consulting and other types of consulting (Whitehill, 2003:237). The strategic management consulting market was estimated to be worth $32.5 billion in 2014, and is estimated to grow strongly in 2015 after a decline in demand in 2012 as illustrated in Figure 11 (Consultancy UK, 2014e). Key players in this sector include McKinsey & Company, The Boston Consulting Group, Booz Allen Hamilton and Bain & Company (Vault, 2015d).

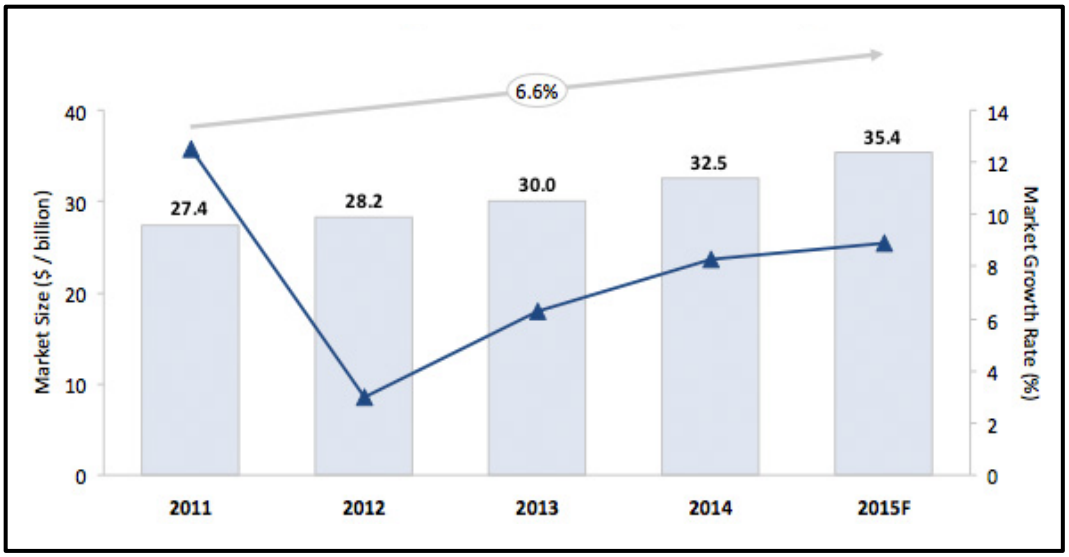

Figure 11: Global strategic consulting market size (Consultancy UK, 2014e)

Financial consulting is a service often provided by tax and auditing firms. Key players include firms such as Delloite, Ernest & Young, KPMG, and PricewaterhouseCoopers. These firms are also known as the Big Four (Vault, 2015a), yet firms from strategic management consulting, economic experts and other sectors have developed their skills in financial consulting in order to also compete in the sector (Consultancy UK, 2014b).

Financial consulting encompasses services that are based on financial analytical capabilities (Kubr, 2002:299), and these are related to corporate finance, risk management, transaction services and real state advisory (Consultancy UK, 2014b). This sector is estimated to be worth roughly a quarter of the global consulting market ($61.3 billion) and is forecasted to grow at a CAGR of 3.6% as depicted in Figure 12 (Consultancy UK, 2014b).

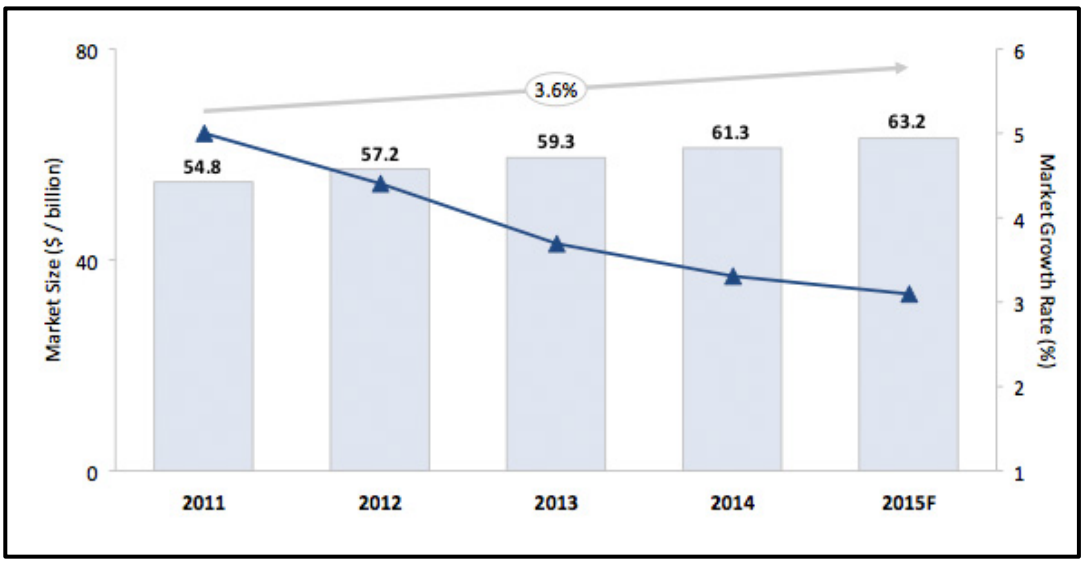

Figure 12: Global financial consulting market size (Consultancy UK, 2014b)

According to PricewaterhouseCoopers (2015) in today's business world people are valuable assets of sustainable competitive advantage for organisations. Consulting in HMR provides advice regarding human resources and personnel policies, employee compensation and benefit planning, as well as wage and salary administrations (Hoovers, 2014) with its main focus being organisational change, talent management and learning and development (Consultancy UK, 2014c).

The market for HRM consultancy was estimated to be worth $28.7 billion in 2014. Before 2012 the market grew at a rate of 5%, while in 2013 growth was estimated at 3% to 4% as seen in Figure 13 (Consultancy UK, 2014c). Vault (2015b) asserts that key consulting firms in this industry include Aon Hewitt, Mercer, Towers Watson, and Hay Group.

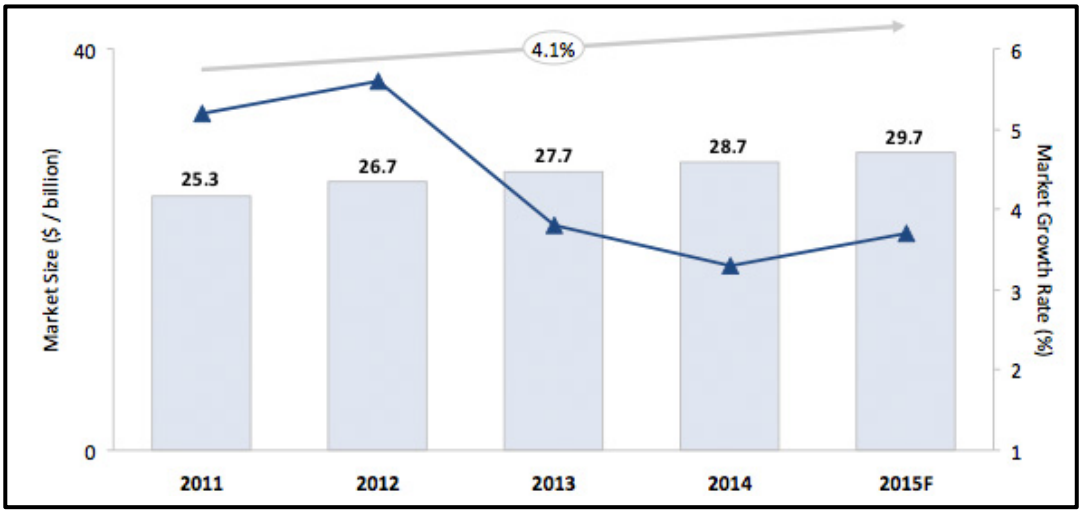

Figure 13: Global HRM consulting market size (Consultancy UK, 2014c)

2.4 Consulting in engineering

In section 2.3 consulting in different sectors was described, as well as its respective key role players. Consulting in engineering was not included, due to the fact that the researcher opted to present a more detailed explanation of engineering consulting, as it is the focus of the research study.

According to Van Sante (2008) engineering consulting can be defined as services focused on producing the best investment projects in industry, aimed at supporting construction and infrastructure at every stage of the project – from the beginning to the end of operations. Contrary to that, Culbert (2012) and Gross (2012) support the view of engineering consulting being aimed at applying physical laws and principles of engineering in the design, development and utilisation of machines, materials, instruments, structures, processes and systems.

Engineering Legacies (2013) offer their view that services in this sector are usually provided by public and private sector organisations with expertise in engineering, science and related areas. According to Gibson (2011) and ACEC (2014), these services include:

- The provision of advice.
- Technical services during the construction or installation phase.
- Preparation of plans and designs.
- Preparation of feasibility studies.
- Asset management studies.
- Social and environmental impact studies.
- Inspection and evaluation of engineering projects.

Gibson (2011) and ACEC (2014) stated that engineering consulting firms are responsible for designing, building, and inspecting or investigating structural problems in public or private infrastructure. Culbert (2012) adds that the primary activities for this industry include:

- Design and management services to construction and engineering infrastructure projects.
- Design and management services on environmental projects.
- Design and management services on industrial processes and equipment.
- Construction management services.
- Process management (i.e. assessing engineering and product problems).
- Project planning and economic assessment.

- Asset management, including life cycle asset management and management systems.
- Quality management assessment and accreditation.

The USA engineering consulting industry grew at a 6.1% CAGR during 1997 to 2009, and it was estimated to be worth $215 billion in 2012. In 2013, the USA share of the global market was valued at 31%, firms' staff ratio was about 17 in average, while revenue per employee accounted to $180,000 (Gross, 2012). The construction sector generates 47.5% of the engineering consulting industry's revenue, being the major sector in the industry, followed by the energy and gas sector with 20%, the utility, mining and industrial sector all generate 17.5% while the government generates the remaining 15% (Culbert, 2012).

Table 1: Global engineering services by end-users (IBIS World Inc., 2012:17)

End-User	Percentage (%)	Billion (US$)
Heavy Infrastructure and Construction	40%	206.00
Industrial and Resources	25%	128.75
Non Residential Building	20%	103.00
Public Infrastructure	15%	77.25
TOTAL	**100%**	**515.00**

Research by IBIS World Inc. (2012:17) reveals that globally heavy infrastructure and construction account to 40% of the world's consulting engineering services, industrial and resources account 25%, while the remaining services accounted to 35% as can be seen in Table 1. The same study by IBIS World Inc. (2012:12) found that USA and Canada together own 41.8% market share of the engineering consulting industry being market leaders, while Europe's 30.4% and North Asia 18.9% are the other strongest regions, as presented in Table 2.

Table 2: Global engineering services by region (IBIS World Inc., 2012:12)

Region	Percentage (%)	Billion (US$)
Oceania	3.2%	16.48
South East Asia	0.8%	4.12
North Asia	18.9%	97.34
India and Central Asia	3.4%	17.51
Europe	30.4%	156.56
USA and Canada	41.8%	215.00
Middle East and Africa	0.5%	2.58
South America	1%	5.15
TOTAL	**100%**	**515.00**

Key players in the engineering consulting industry are predominantly from Europe and USA. These include firms such as Bechtel, AECOM, Fluor, URS and Jacobs from USA and Altran Technologies, Fugro NV, Arcadis Group, AMEC and Mott McDonald all from European countries (Gross, 2012).

Gross' (2012) research asserts that concentration within the industry is still low because the top 10 firms control about 11% of the global market, but entry barriers in terms of competition are high due to competitive binding being a difficult process.

Africa's lack of infrastructure opens up a great opportunity for multinationals willing to emerge into new markets, as the gap between Africa's infrastructure and other regions of the globe is still vast (Engineering News, 2013). In this regard, the construction and infrastructure sector, which is the biggest in the engineering consulting industry, represents a seed in a fertile field. Consulting in industrial processes and consulting in public infrastructure are also of importance due to the continent's needs to become independent with regards to industrial production (Engineering News, 2013). It is clear that an opportunity exists to offer world-class public infrastructure worthy of comparing to the rest of the world. In South Africa SMEC, GIBB and Aurecon are industry leaders.

According to Engineering Legacies (2013) engineering consulting firms do not employ engineers only. Engineering consulting firms also offer opportunity for employment to people with wide technical and personal skills. The firms also employ people with:

- Every kind of technical specialisation.
- Business, finance and administrative expertise.
- Construction knowledge.
- Business development skills.
- Project managers.

Each type of consulting firm emerged from a core skill, focusing on the rationale that improvement and excellence can be achieved by making that skill the central focus of the firm and all other skills as complimentary to it (Engineering Legacies, 2013).

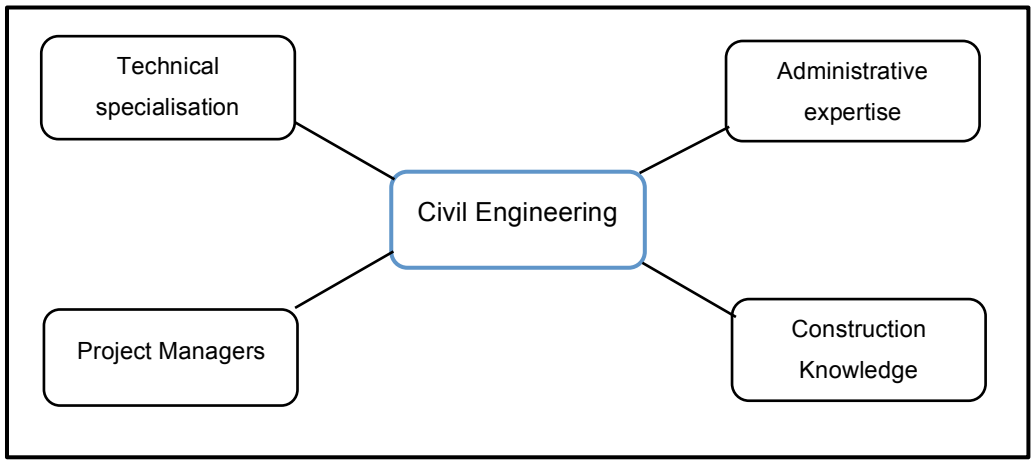

Figure 14: Core skill as the central focus of a consulting firm (adapted from Engineering Legacies, 2013)

2.5 An analysis of consultants

Consulting is primarily an advisory service. Thus, consultants are not meant to manage organisations on behalf of managers or make decisions regarding the implementation of changes, since 'consulting' is a temporary service.

During a CE the client hires a consultant to assist in areas where technical or additional professional support is temporarily required (Kubr, 2002:8-9). The author is of the opinion that a consultant is an agent that provides advisory services to organisations, assisting them in achieving organisational purposes and objectives by solving business and technical problems, enhancing learning, seizing new opportunities and proposes the implementation of changes (Kubr, 2002:10).

In order to secure a firmer understanding of the functions of a consultant, insight is offered on a consultant's common features, responsibilities, why they are hired, how they are used and how they assist organisations.

2.5.1 Common features and responsibilities of consultants

According to Kirsten (2002:25) common features of consultants include:

- **Independent orientation** – consultants form their own opinion when investigating the problem at hand – they do not automatically assume the view as given by the client.

- **Training and qualifications –** both training and qualifications are part of a consultants' skills set, as a certain amount of skills is necessary for consultants to evaluate a problem.

- **Problem identification and analysis –** consultants are hired to solve a specific problem, but they need to formulate the problem into their own opinion and identify its causes in order to successfully solve it.

- **Problem-solving and implementation –** after identification and analysis of the problem, consultants are required to recommend solutions in order to improve the situation they were hired to resolve, and assist with the implementation if required.

In addition to the abovementioned features, Kirsten (2002:26) mentions the four key responsibilities of a consultant, these are:

1. **Economic –** to ensure that the project advocate (who also acts as the champion of the project) acts in the best interest of the client organisation.
2. **Legal –** to ensure that the project operates within the law.
3. **Moral –** to ensure that the project outcome meets the client's moral and ethical expectations.
4. **Discretionary** - the consultant has a right to accept or reject projects based on personal or ethical considerations.

2.5.2 Reasons for hiring consultants

Kirsten (2002:28) and Kubr (2002:10) assert that the decision to hire consultants arises after management perceives the need to seek help from an external professional in a certain area. The authors also aver that management feels that a consultant instead of company personnel would be the right source of expertise for the help.

According to studies by Kirsten (2002:28), Kubr (2002:10), Bowman (2008), Calmes (2010) and Sadlin (2014) there are various reasons for hiring consultants. Some of these include but are not limited to:

- The consultant possesses specific expertise not available in the organisation.
- The consultant is expected to identify problems that in-house employees are unable to recognize.

- The consultant is to assist the client organisation achieve its goals.
- The consultant is to assist the client organisation in identifying and seizing new opportunities.
- The consultant is to assist the client organisation in enhancing learning and developing improvements.
- The client organisation needs unbiased or fresh insight to solve an old problem.
- The client organisation has tried to solve the problem but has not resolved it.
- The client organisation needs to implement changes.

2.5.3 How consultants assist organisations

As a result of the consulting industry being characterised by rapid change, it may be argued that consultants need to keep abreast of these changes in order to help their clients succeed the challenges facing their businesses. In this dynamic environment, consultants assist organisations in a multitude of different ways and to attempt to list all would be a nearly impossible task. However, according to Kirsten (2002:21) and Kubr (2002:16), some of the ways in which a consultant can assist an organisation are:

- Acting as an additional source at times of peak activity.
- Providing information an expert opinion.
- Providing specialist resources.
- Establishing business contacts and linkages.
- Doing diagnostic work.
- Developing action proposals as well as systems and methods.
- Planning and managing organisational changes.
- Training and developing management and staff.
- Counselling and coaching.

2.6 Ethical guidelines for consultants

Since consulting has developed into an independent profession and created a billion dollar industry, ethical conduct within the industry has become increasingly important (Smith, et al., 2003:83). Nelson and Economy (1997:130) point out that, ethics are important for everyone in business, but particularly to consultants due to the high level of trust organisations concede them by exposing them to confidential information and proprietary inner work.

Guy (1990:7) defines ethics as a set of norms or standards used to guide decisions on morally correct actions or behaviour. In this regard, organisations expect consultants to possess high ethical standards, as they are outsiders being exposed to information that sometimes could not leak by any other means. Therefore, consultants should consider the consequences of their actions by developing a code of conduct or code of ethics as a guide to avoid unethical behaviour (Smith et al., 2003:85).

The Engineering Council of South Africa (2013) suggests the following code of conduct for registered persons:

- **Competency –** consultants may only undertake work which their education and experience have rendered them competent to perform. Consultants must also adhere to norms and regulation when carrying out work.

- **Integrity –** consultants should not engage in any work of dishonesty, corruption or bribery. Being dishonest regarding skills and competence is not only unethical, but also a precursor for failure, due to the fact that the consultant will inevitably not be able to perform what was required of them. Integrity is also related to maintaining confidentiality with regards to the information obtained in the exercise of their duties and by no means be involved in situations that give rise to conflict of interest.

- **Public interest –** consultants must always prioritise the health, safety and interest of the public. That includes informing clients, employers and the council of any consequences, which may harm the safety, health, or interests of the public.

- **Environment –** when on duty engineers should avoid or minimise any adverse impact on the environment. This also includes ensuring that present development needs do not hamper future generations' ability to meet their needs.

- **Dignity of the profession –** consultants must support the dignity, standing and reputation of the profession. That means to not maliciously or knowingly injure the reputation of any other registered person and to not advertise their services in a misleading manner or in a manner that may harm the dignity f the profession.

- **Administrative –** this refers to engineering consultants' responsibility and supervision regarding work carried out by their subordinates including those registered as candidates.

Good administrative conduct also refers to responding to work-related correspondence from clients or colleagues within a month and keeping project-related information up to a period of 10 years, as they are not allowed to destroy information without satisfactory reasons.

Research by Smith et al. (2003:85) reveals that the client-consultant relationship includes ethical aspects such as informed consent, establishing and maintaining professional boundaries, and the utilisation of power and influence within the consultation relationship. In addition to that the authors mean that ethical issues also encompass the consulting process by providing services and delivering what was agreed on in the contract within the project time frame.

It is important for consultancies to create their own code of ethics, due to the principles of ethics being fundamental in behaviour of consultants. Additionally, it is important for clients and the society to be able to have the necessary confidence when acquiring advice form consultants.

2.7 Chapter conclusion

The only means to establish whether a lack of quality assurance methods in the full spectrum of the consulting process adversely impacts the success of consulting engagements is to firstly secure a comprehensive understanding of the consulting industry from a holistic perspective.

In this chapter it was demonstrated that the consulting industry grew and evolved significantly over the years. The industry has created professionals known as consultants who are hired by organisations or private clients to assist in solving problems where these consultants have more expertise than employees of the organisation. The current state of the consulting industry was also explained, with reference to market size and key role players.

The main purpose of the next chapter is to provide the reader with an understanding of the concepts and theories that should be considered when running a consulting engagement as they are of utmost importance for its success.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

An insight into the research environment was provided in the previous chapter. The literature study is discussed in this chapter to conceptualise the problem statement, the research questions and the research objectives.

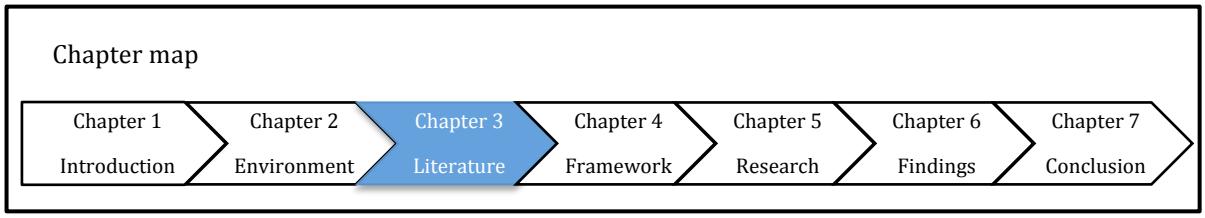

Figure 15: The third phase of the research study

The study of the literature is divided into five parts, namely:

- The researcher expands on concepts pertaining to consulting. These include: the CE process, the evaluation of consultants and consulting engagement failure.
- Knowledge management is analysed by making reference to how knowledge is acquired and shared, as well as some knowledge management strategies used during the consulting process.
- Project management is contextualised by highlighting aspects such as project time and risk management, which are directly linked to a consulting engagement.
- Emphasis is placed on change management, by expanding on how to approach the change to ensure the support of those affected by it and dealing with resistance.
- TQM is analysed as the fifth element of the literature study. Here the researcher highlights the concept's principles, defines quality, explains the concept of quality management systems, and discusses the elements of a quality assurance programme in consulting.

3.2 The consulting engagement process/methodology

According to Kubr (2002:21) the typical consulting process encompasses all the necessary activities undertaken by the consultant and the client for the achievement of desired or pre-determined purposes and changes. During this process, the consultant and the client work systematically and methodically in a series of phases and operations that fall in-between the beginning and the end of the consulting process (Lacey, 1995:75; Kubr, 2002:21).

Studies by Lacey (1995:75), Sadler (1998:53), Kubr (2002:21) and Friga (2009:2) show that there are numerous ways of subdividing the consulting process, depending on the CE, consultants involved, and the complexity of the project. Their studies described a range of 3 to 10 phases in a CE. A universal model cannot be applied to all situations, because CEs are different. All the phases are usually subdivided into several smaller sub-phases to allow a greater degree of flexibility within the process due to deviations that might occur.

A simple model comprising of entry, input, the problem-solving process, and output is used in this dissertation (please refer to figure 3 in Chapter 1 for an illustration of the process). Output is further divided into 'report' and 'implementation', which are also included in the pictorial illustration of the consulting process used for this research study. As explained in section 1.1, this model was chosen due to the fact that it better relates to the generation of a product or outcome, which is going to be monitored by change management, project management and knowledge management, as well as linked to a quality framework for the enhancement of its success.

3.2.1 Entry

The entry phase is the initial phase of any CE. Kubr (2002:153) asserts that during this phase both the client and the consultant meet to discuss the reason the consultants was brought in for, and agree on the scope of the engagement as well as the approach to be taken. At this early stage, the foundations of a successful CE are laid, by establishing mutual trust, agreeing on a project plan, starting to share optimism and building a good client-consultant relationship. Kubr (2002:153) adds that the importance of this first stage cannot be overemphasised, as the consultant is marketing his or her services and is uncertain of whether the deal will be sealed. On this basis catching the attention of the client and making a good impression is essential.

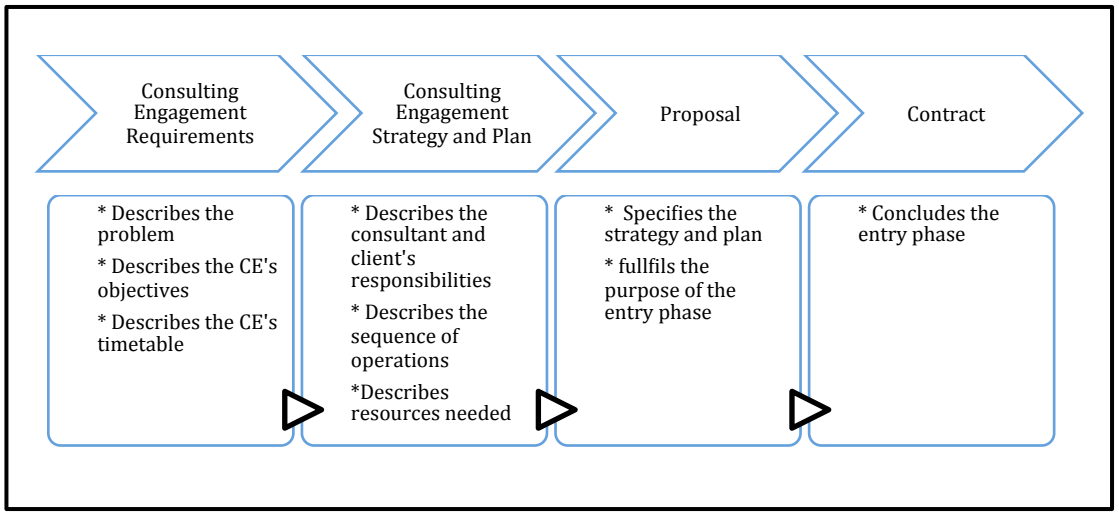

Figure 16: Sub-phases of the entry phase

Hussey (1998:91) emphasises that in preparation for the first meeting of the entry phase, the consultant should collect essential information regarding the client organisation, as well as its environment and the industry's problem, in order to relate the information to the details given in the invitation to the meeting. Information on the client organisation is easily accessible through their website, whereas journals and government publications provide the necessary information related to the latest industry trends and problems (Hussey, 1998:91). This is of utmost importance as the client expects a person who is knowledgeable about the kind of problems encountered in the specific industry it operates in and perhaps also in the organisation itself.

Kurpius et al. (1993:602) contend that at the meeting the consultant should not only try to grasp the problem being faced by the client, but also important information required to assist him or her in solving the problem. Hence, asking questions that show an understanding of the problem and giving ideas during the meeting increases the consultant's likelihood of convincing the client that he or she possesses the desired skills and knowledge to resolve the problem. Understanding the forces for and against change, as well as the client's openness and readiness for change are also an aspect to be considered by the consultant at this early stage (Kurpius et al., 1993:602).

Studies by Kubr (2002:158) reveal that the terms of the business must be discussed and agreed once the client and the consultant agree on working together. The client then needs to agree on the preliminary and short problem diagnosis. In general, this diagnosis usually covers the following (Kubr, 2002:158):

- Scope and purpose of the preliminary diagnosis.
- Records and information to be made available.

- Who should be seen and when.
- How to introduce the consultant.
- Attitudes of staff towards the matters to be surveyed.
- When to conclude preliminary diagnosis and how to present proposals to the client.
- Payment for the diagnosis.

3.2.1.1 Consulting engagement requirements

The initial statement of work to be undertaken by the consultant is called 'requirements' or 'terms of reference'. Due to regulations of the formal consultant selection procedure, clients from the public sector must usually have a draft of their requirements and acquire approval of it, before selecting a consultant to do the preliminary problem diagnosis (Kubr, 2002:166). In the private sector things are different. Clients usually skip the phase of drafting requirements, since no formal approval is required and they can directly select a consultant to do the preliminary problem diagnosis (Kubr, 2002:167). The client and the consultant will then together decide on the scope of the CE.

According to Hussey (1998:91) and Kubr (2002:167) the terms of reference usually include but are not limited to the following:

- Description of the problem and background information on it.
- Initiatives already taken to resolve the problem.
- Objectives and expected results of the engagement.
- The scale of the project – number of managers and employees involved and location of activities.
- Timetable – start and completion dates as well as control dates.
- Interim and final reports – at what dates and to whom it should be addressed.
- Constraints and other aspects likely to affect the project.
- Profile and competencies of eligible consultants, for example education and experience).
- Exclusions from the assignment – what will not be its object.

3.2.1.2 Consulting engagement strategy and plan

Hussey (1998:94) highlights that consultants should at the initial contact with the client collect enough information to plan the engagement and elaborate on the appropriate strategy to implement as soon as they are better familiarised with the situation. Kubr (2002:168) explain that

the term ‘CE strategy’ refers to the client and consultants’ responsibilities, the sequence of operations and the resources allocated to the CE. The author adds that a ‘CE plan’ is usually presented to the client in the form of a proposal (Kubr, 2002:168). The proposal is explained in section 3.2.1.3.

Hussey (1998:95-97) contends that during this planning phase consultants describes the problem to the client in the context of the client’s trends, resources and objectives. The objectives should be explained as performance measures to give the client an insight of benefits to be obtained if the engagement is completed successfully. Kubr (2002:168) adds that in order to successfully apply control checks, the plan will outline the outcome of each phase, and describe what reports are to be submitted to the client when. Time is a key element in the CE strategy and plan, as it dictates the pace of operations. However, the consultant should make provision of time to deal with change adaptation and/or readiness of the client (Hussey, 1998:97; Kubr, 2002:169).

3.2.1.3 Consulting proposal

Hussey (1998:94) defines the proposal as a document proposed to the client for approval and decision, describing the proposed CE plan. The author adds that the proposal is required due to the fact that, consultants should be able to clearly demonstrate their vision on how to perform the assignment not only to themselves but on paper, to clarify the plan and convince the client. The proposal should stipulate the purposes of the entry phase and be a high quality business centred document, which according to Hussey (1998:94) should:

- Specify the consulting engagement’s strategy and plan based on the agreed understanding of the problem.
- Be an important and persuasive selling document.
- Be the basis of a legally binding document.

The following four sections are usually included in the proposal (Kubr, 2002:172):

- **Staffing** – refers to the professional team involved in the engagement, including senior consultants who guide and supervise the team. This is done to demonstrate that the firm possesses the human resources capable of executing the assignment.

- **Technical aspects** – outlines the consultant’s preliminary assessment of the problem, and the CE’s strategy and plan. Because the consultant and the client might have a different

understanding of how detailed and specific technical aspects are, it is the consultant's duty to manage the evidences in a way that whatever is intangible becomes tangible in the eyes of the client. By doing that he or she takes away the vagueness and makes the proposal more specific.

- **Consultants' background** – describes the experience and competence of the consultants involved in relation to the client's needs and includes detailed resumes attached as an appendix. References to former clients are included if previously agreed upon.

- **Financial and other terms** – contracts may be fixed-based or time-based. Thus, this section indicates the costs of the CE, possible costs increases, the schedule for paying fees and reimbursing of expenses. The client organisation usually uses its own terms of the contract. Therefore in order to get the contract consultants need to comply with the organisation's contract or try to negotiate.

3.2.1.4 Consulting contract

The consulting contract concludes the entry phase, given that both parties agree on the terms of the proposal and mutually commit to work together on a CE. Kubr (2002:176) assumes that the purpose of the consulting contract is to provide orientation towards the work to be done and legally protect both parties. Therefore it should cover the following (Kubr, 2002:176):

- Contracting parties.
- Scope of the engagement – discussed in sections 3.2.1.2 and 3.2.1.3.
- Documentation and reports to be handed to the client.
- Fees, expenses, billing and payment procedure.
- Professional responsibilities.
- How confidential information will be handled.
- Protection of intellectual property and copyright in the consultant's work product.
- Consultant's liability for possible damages caused to the client.
- Consultant's use of subcontractors.
- When and how termination or revision is to be done.
- Signatures and dates.

3.2.2 Input

Rasiel and Friga (2002:49) argue that the 'input' phase is the first operational phase and forms the central part of the consulting process. It is where data is collected and analysed in-depth, to clearly determine whether it matches the primary diagnoses or if it is a symptom of something else (Rasiel & Friga, 2002:49). Data collection and analysis are the necessary input for the resolution of the problem, hence the name 'input'.

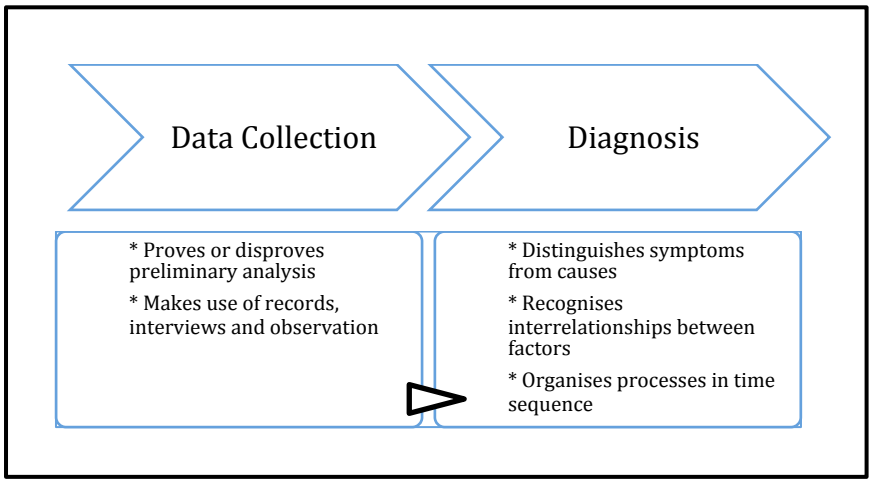

Figure 17: Sub-phases of the input phase

3.2.2.1 Data collection

Rassam (1998a:109) asserts that the initial preliminary problem diagnosis frequently leads to re-examination of what the CE should focus on, yet the nature of the project is the one to determine the kind of data to be collected. Data collection ranks among the most important consulting skills, and it is an area with one of the most significant opportunities for improvement in organisations (Rasiel & Friga, 2002:49).

Friga (2009:128) emphasizes the importance of data gathering due to its ability to prove or disprove the analysis developed during the preliminary problem diagnosis. It assists consultants to draw conclusions that could lead to improvements. Data is nothing but facts that consultants use to bridge the credibility gap between them and the client, especially when they lack years of experience and the client possesses many years of managerial or engineering experience (Rasiel & Friga, 2002:52).

The degree of detail of facts determines the time it will take to collect data. On this basis, the most common ways of collecting data in a CE are the following:

- **Records (reports and documents)** – client records contain accurate and factual information relating to the way operations are done, is thus very helpful (Nelson & Economy, 1997:83; Tommissen, 2007:83) and provide the basic building blocks for data gathering (Rassam, 1998a:112). The disadvantage of reports is the possible lack of objectivity due to being written for a specific audience, which results in the omission of certain knowledge that did not appear to be relevant at the time (Rassam, 1998a:112; Tommissen, 2007:83) or records which are not up to date.

- **Interviews** – interviews are a popular means of collecting information. Block (2000:191) contends that the consultant should choose between group or individual interviews as well as structured or unstructured interviews, since interviews are flexible and adaptable. Interviews should be directed to people directly involved in the problem, or people knowledgeable and capable of explaining it (Nelson & Economy, 1997:84), as it makes them feel part of the project and able to contribute to the outcome of the CE. Kubr (2002:194) argues that interviews are a great way to support data collected through records, due to their ability to lead to related facts, reveal unexpected relationships, influence and constraints. However, their disadvantage lies in being time-consuming.

- **Questionnaires** – these are less time-consuming than interviews, enable comparisons between data, are analysed easier, and are good for a large number of people (Rassam, 1998a:112). Cope (2003:95) explains that questionnaires allow consultants to codify the data they need to collect into a series of questions, to then distribute to a target group and draw conclusions from it. The disadvantages of questionnaires are its inability to assure that everyone understands the questions as planned and the fact that respondents can sometimes randomly answer the questions (Tommissen, 2007:84).

- **Observation** – is used to obtain information that is gathered in the consultants' presence while an event occurs (Nelson & Economy, 1997:83), it also enables consultants to compare people's perceptions in relation to the problem and the reality thereof (Kubr, 2002:1992). If procedures, operations and processes are observed, the consultant should choose one of the various methods developed for this purpose (Kubr, 2002:193).

3.2.2.2 Diagnosis

In order to present the problem diagnosis, consultants need to accurately analyse all the data collected. Block (2000:174) asserts that the consultants' ability to analyse the situation, and

elaborate with accuracy on what is wrong, is called 'diagnosis'. The author adds that this definition is based on the belief that organisational improvements can be engineered, but change must be taken into account because humans manage improvements (Block, 2000:175).

Cope (2003:88) believes that the process of diagnosing or discovering the problem enables consultants to clearly demonstrate their professional capabilities to the client. Block (2000:175) argues that consultants assist the client to become more open to the discovery and assess the client's readiness for the change that is to come, because an accurate analysis and a excellent solution might both be rejected if the client prefers to maintain the existing state of affairs.

Nelson and Economy (1997:91-92), Rassam (1998a:113) and Cope (2000:98) agree that at the beginning of this phase consultants face large amounts of data. Therefore there is a chance of missing critical aspects due to data overload. On this basis, the authors make reference to the following, in order to avoid missing critical aspects on the data, and a better way of making sense of the data (Nelson & Economy, 1997:91-92; Rassam, 1998a:113; Cope, 2000:98):

- **Distinguish between symptoms and causes** – most of the data collected through interviews and/or surveys are symptoms and not causes, therefore data must be synthesized to provide an indication of the causes only.

- **Recognise the principle of multi-causality** – most problems and most opportunities will indeed have multiple causes.

- **Recognise the interrelationships between casual factors** – the causes of the problem are interrelated therefore they need to be classified according to patterns, trends and themes, such as time, place, structure and influencing factors to make it more manageable.

- **Organise steps and processes in time sequence** – by making use of process mapping the data will be better synthesized and organised.

- **Focus** – the consultants' focus should be on the most relevant data, as it should be reduced to the lowest possible denominator or the data that could provide a possible solution. Focused information is vital for the PSP.

Consultants have a number of techniques at their disposal to analyse data depending on the nature of the problem and the purpose of the CE (Rassam, 1998a:114). Kubr (2002:202) and Friga

(2009:130) argue that statistical techniques such as averages, dispersions, frequency distribution, correlation and regression, and Pareto analysis, as well as mathematical modelling and graphical techniques such as bar charts, flow charts and gant charts are often used. Quantitative analysis are used to investigate whether a specific relationship exists between the factor described in the data, and if so, to examine its nature (Kubr, 2002:201).

These techniques (statistical, mathematical and graphical) are not to be explained in detail because it is assumed that it is beyond the boundaries of this research.

3.2.3 Problem Solving Process

The PSP is the third phase of the CE. Kubr (2002:213) emphasises that the PSP is a continuation of data diagnosis, therefore the importance of an excellent data diagnosis cannot be overemphasized since it forms the basis of an above-average PSP. During this phase, the data that was collected and analysed forms the basis for development of solutions, which ultimately becomes recommendations provided to the client in the next phase (Nelson & Economy, 1997:95). Furthermore, the implication of each possible solution and their alternatives are to be taken into account during this phase.

The PSP places emphasis on innovation and creativity rather than analytical work. The purpose is to create a new solution to the problem, instead of finding more data for further explanation of the problem (Nelson & Economy, 1997:95). It should be clear, that not all solutions will be completely new, because consultants have often worked on similar projects. Yet, Kubr (2002:213) asserts that the solution to the reoccurrence of problems lays in adapting similar projects' solutions to the new situation. Doing this also requires creativity and innovation as the client's condition is unique and must be taken into account

Studies by Rassam (1998b:128) and Kubr (2002:213) revealed that the client's participation is of utmost importance during the PSP phase, and should be more present than it was during the diagnostic phase. The authors suggest the following reasons (Rassam, 1998b:128; Kubr, 2002:213):

- The client's active role in this process, contributes to the authority of recommendations and possible implementation.
- The PSP requires the mobilisation of the client's best talents for the generation of ideas to be analysed.

- The project's cost can be reduced if the client's personnel are willing to assist consultants in the designing and planning of work.
- Participation during this stage provides the essential commitment that is to be tested at the implementation phase, and prepares senior management for the changes that are required.
- It provides a new range of learning opportunities for the client, as its personnel can acquire a lot of knowledge by observing the way the consultant uses creative thinking, makes use of his/her experience and organises ideas to generate solutions to the problem.

Certain aspects need to be taken into considerations before the PSP starts, as Rassam (1998b:128) explains:

- **Coherence** – proposed solutions or the plan of action should be consistent, and its solutions should fit together.

- **Realism** – proposed solutions should address the needs of the client, and recommendations should match the problem.

- **Practicality** – proposed change should be feasible, if not changes should be evaluated in order to render it feasible. The financial implications of making the change feasible should also be considered.

- **Relevance to the future** – recommendations should propose changes beyond the near future, and beyond the fulfilment of the recommendations.

Now that the basis for the PSP is explained, the researcher outlines the PSP based on research done by Nelson and Economy (1997:95) and Kubr (2002:221). The PSP comprises the following:

- **Brainstorm possible solutions** – the client expects the best solution from consultants, but it is unrealistic to quickly point out the best solution, therefore the collected and analysed data is used to brainstorm possible solutions to the problem. No judgment is allowed while brainstorming, any new suggestion or approach is valuable no matter how unusual it is, because it might contain the seeds for something useful or lead to something feasible at a later stage. The main aspect to be considered is the nature of the problem, its technical characteristics such as functional area or methods to be changed, complexity and the consultant's or client's degree of familiarity with the problem. In the case of the client or

consultant being familiar with the problem, they will draw on experience and innovation to find the best possible solutions for the problem.

- **Consider the implications of each possible solution** – due to the fact that solutions can become recommendations, each solution generated at the brainstorming session needs to be unpacked to its roots. It is important to take into consideration people that will be affected by it and from there generate a solution for the problem.

- **Weigh alternatives and narrowing focus** – even though judgement is to be suspended, a number of primary ideas should be determined due to the large amount of ideas that may arise. One way to reduce the large number of ideas is to rank preliminary ideas, and develop only the highest ranked ideas as long as its facts support a satisfying solution. Thereafter, the consultant should compare the alternatives with one another to evaluate which are more likely or least likely to be relevant to the outcome. The consultants' goal is to summarise the ideas to narrow them down in an effort to formalise recommendations. Therefore only alternatives that are more relevant will prevail.

- **Select the best courses of action** – it is now clear that weighing up alternatives is not an action to be completed overnight, therefore consultants should already consider it from the data collection and analysis phase. However, at this stage, the consultant and the client should have narrowed down the list of possible alternatives to a manageable number. The purpose is to minimise the alternatives to five, for the best course of action. Once that is achieved, the consultant is in a position to take a moment of reflection to be able to develop recommendations and write a report.

3.2.4 Report

Depending on the nature of the CE, the report and its presentation can represent the last contact between the consultant and the client, because the consultants' duties might end here unless they are approached to assist with the implementation of the project. However, nurturing a good relationship with the client is a great means of ensuring future projects together.

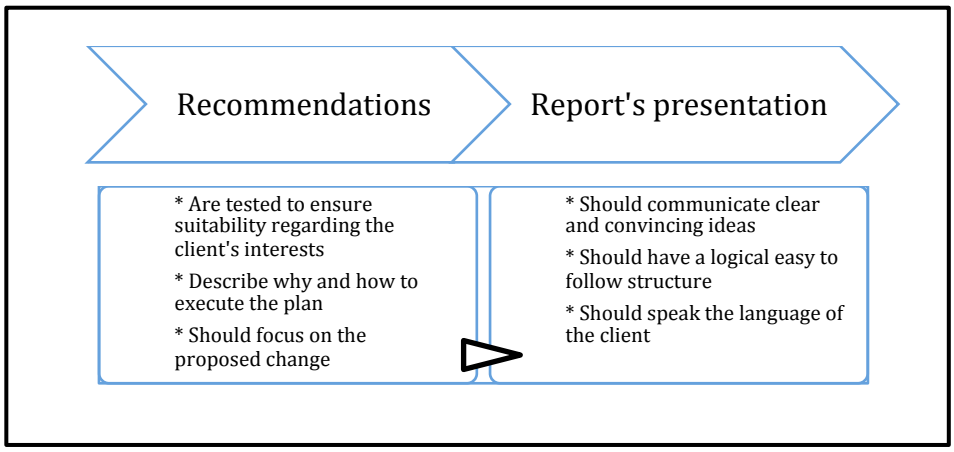

Figure 18: Sub-phases of the report phase

According to Wickham & Wickham (2008:268) a report provides a tangible, accessible and permanent communication of the findings of the consulting exercise. It should not be a long document, but rather a simple, concise and impactful explanation of the consulting team's discovery regarding the client's problem and their efforts to find a solution for it (Wickham & Wickham, 2008:268). Thus consultants should bear in mind that the report is a call for action, which focuses on what is to be done.

Rassam (1998b:131) argues that the report should have a good structure and its arguments should be supported by the necessary findings to demonstrate clarity. On the other hand, the better the structure and the persuasion of the arguments, the more concise the report will be and it will also be proofed against criticism (Rassam, 1998b:131). In this regard, the report may contain the following sections:

- **Executive summary** – it is the summary of the report and must be short, yet inviting (Wickham & Wickham, 2008:268). It is stated by Rassam (1998b:131) that the consultant should highlight the initial issue in no more than one or two pages, use an active language, be positive and outline what is to be achieved if solutions are implemented. The executive summary should on its own be complete and catch the reader's attention and desire to continue reading (Wickham & Wickham, 2008:268).

- **Introduction** – the introduction should enlighten the context of the report (Wickham & Wickham, 2008:268) by outlining the original terms of reference including why the consultant or consulting firm was hired, the CE's goals, and the methodology applied to reach the proposed recommendations (Nelson & Economy, 1997:105).

- **Body of the report:** Wickham and Wickham (2008:268) contend that the body of the report is a section where consultants can expand their ideas and explain the problem at hand. It must contain evidence of the objectivity of the collected data, explanation of the assessment of information gathered (Rassam, 1998b:131), details of the PSP as well as the client's role in both the PSP and in helping consultants to implement recommended solutions (Nelson & Economy, 1997:105). Wickham and Wickham (2008:268) add that the body of the report should be well structured and arguments should follow a logical sequence. Therefore consultants can lay out the sections to be covered first and explain them later in the report.

- **Conclusion and recommendations** – Rassam (1998b:132) highlights that during this phase consultants must clearly stipulate what is to be done, provide the advantages of proceeding with the recommendations and the risks thereof. It is also important to have alternatives to the recommendations and explanations of why they were not chosen as primary recommendations (Nelson & Economy, 1997:105).

- **Appendices** – these are included because consultants cannot include all the material in the body of the report. Thus all supporting material such as diagrams and figures are placed at the end of the report as appendices (Rassam, 1998b:132; Wickham & Wickham, 2008:268).

The researcher found out that a plan for implementation with realistic and feasible objectives is often missing in consulting reports, and is of the opinion that every consulting report should include one due to the fact that it will assure that recommendations are feasible to be implemented. Kubr (2002:227) asserts that the client receives recommendations explaining what is to be done and picturing a situation to be implemented. Yet, it is not that simple as the planning of activities to be undertaken for the purpose of bringing about the change can reveal new problems and needs. On the other hand, Kubr (2002:227) adds that CE reports that do include a plan for implementation provide a description of what is to be implemented during the implementation phase. It is believed that the plan for implementation is regarded as a roadmap to the implementation phase.

The client's involvement is necessary when planning for implementation because it allows an understanding of the impact of the changes for the organisation (Friga, 2009:163). However both the client and the consultant can agree that the details to this plan will be left for a later stage, immediately preceding each step towards the implementation (Kubr 2002:227).

According to Wickham and Wickham (2008:268) the report should in general be simple, well structured, well presented and related to the ideas that will have an impact on the client's performance, and eventually resolve the problem. Furthermore, it helps the consultant when presenting it to the client.

3.2.4.1 Recommendations

Consultants are in most cases hired because clients expect recommendations on how to solve problems they are facing. The consultant's duty is to test the proposed recommendations to ensure that they suit the client's interests in order to be implemented (Nelson & Economy, 1997:96).

Friga's (2009:165) research on 'specific recommendations for improvement' states that the findings generated from the data analysis provide the rationale to develop recommendations. Therefore the proposed strategy will enhance the execution plan in terms of why and how to execute the plan. The author adds that the recommendations should have a governing point attached to the general change the client organisation is seeking (Friga, 2009:165). This change could for example be operational improvement or increased knowledge sharing.

Nelson and Economy (1997:96-97) describe two guidelines to develop effective and honest recommendations. These are explained below:

- **Evaluate the best solutions** – at this point consultants are faced with at least five possible solutions generated from the PSP, but these solutions need to be evaluated regarding the following:

    - Cost and benefits – because the ultimate benefit of the solution should be greater than the cost.
    - Client needs and resources – to ensure that there is a balance between the two.
    - Organisational culture – recommendations should not be against the client's organisational culture to allow for a better acceptance.
    - People and politics – recommendations should consider the client's political situation and the way its personnel's relationships with one another is when performing their job.

- **Rank recommendations** – after evaluating the recommendations using the explained criteria, consultants should rank recommendations in order of implementation or practicability. By ranking recommendations consultants give the client options to choose from, and help the client build a solution between most feasible to least feasible.

Recommendations are to be communicated to the client before the presentation of the report to avoid surprises. Thus, Nelson and Economy (1997:101) and Rasiel and Friga (2002:117) explain that recommendation can be sent to the client's key decision makers to request comments, in order to achieve consensus regarding the solutions, to give the consultant time to adapt if objections are made, and to increase the likelihood of acceptance and implementation of the recommendations.

3.2.4.2 Presentation of the report

Presenting the consulting report to the client is very important. The goal in this phase is to capture the client's interests and ensure that the proposed recommendations are accepted (Nelson & Economy, 1997:99). A presentation must communicate clear and convincing ideas to the audience (Rasiel & Friga, 2002:104).

Kubr (2002:226) states that the presentation of the report is usually delivered orally to the client and members of staff chosen to attend, and it is supported by the written report and audio-visual aids .A good presentation should be organised and simple. Therefore it should rely on:

- **Structure** – the presentation should follow a clear and logical easy-to-follow steps (Kubr, 2002:226). Rasiel and Friga (2002:111) and Wickham and Wickham (2008:266) argue that a good way to structure an easy-to-follow presentation to persuade the client, is to start with the recommendations or with the main idea, followed by the tactics which describe the means of achieving it, and then the findings and the data or inductive reasoning. Rasiel and Friga (2002:106) add that at this stage, the consulting team needs to convince the client that their recommendations are the best option to deliver the desired change. Therefore the presentation is the best tool to do it, as it can maximize the consultants' chances of acceptance.

- **Simplicity** – a good and logical structure requires the use and support of exhibits such as charts, product samples and/or three-dimensional models. Charts can convey data and information that would take pages to explain, but their use should not be exaggerated.

Instead, it should only be a used as a means of communicating recommendations, and should have one message for the audience to digest (Rasiel & Friga, 2002:106).

Friga (2009:167) outlines that in addition to having a good structure and keeping the presentation simple, consultants should consider focusing on the audience, by learning about the audience's preferences and educational background, and speaking the language of the client, and by being knowledgeable about the roots of the problem in the terms of the client.

3.2.5 Implementation

Kubr (2002:229) defines the culmination of the consulting firm and the client's joint effort as 'implementation'. Thus it is the basic objective of any CE and increasingly regarded as the most crucial element of the consulting process. Research shows that only after implementation the client can see changes that are real improvements to its operations (Block, 2000:247; Kubr, 2002:229).

Tommissen (2007:87) asserts that during implementation the reality begins. Consultants prove that their recommendations were right, will resolve the problem, and produce the awaited change. Attention is to be paid to resistance to change (refer to section 3.6.2) as it becomes more visible at this stage. The ultimate responsibility for implementation lies with the client (Kubr, 2002:330). Consultants are only accountable for it, therefore they should not command anything (Weiss, 2011:340). The client should take control of the situation by making all the management decisions and ensuring effective application thereof (Kubr, 2002:330).

Implementation of recommendations does not eliminate the need for further changes or guarantee perfection within the client's operations (Kubr, 2002:244). Therefore, maintenance and further improvements are to be considered. It should also be noted that some improvements will easily fit the implementation plan, while others will only be introduced at a later stage.

3.2.5.1 Implementation planning and monitoring

Implementation requires a plan (discussed in section 3.2.4), which states what tasks are to be performed when in order to ensure the success of the entire implementation of the proposed change (Nelson & Economy, 1997:110).

When planning for the implementation the consultant and the client should consider and focus on the following:

- **Defining implementation tasks** – a good plan for implementation should contain the necessary tasks that will ensure a successful implementation phase with minimum confusion and client resistance (Nelson & Economy, 1997:110). The client plays a big role during this step.

- **Defining implementation task schedules** – in order to ensure the effectiveness of the plan both the client and the consultant should establish a start date and a completion date for every task (Nelson & Economy, 1997:110).

- **Defining roles, responsibilities and controls** – people's contribution is to be specified, their processes and roles should be clearly defined as well as completion time of tasks (Kubr, 2002:232). The results of individual tasks, operations and steps should be controlled and/or measured as it ensures quality and minimises flaws (Kubr, 2002:232; Tommissen, 2007:91).

- **Pacing the implementation** – implementation should be scheduled at the client's interest, thus the client is the one setting the pace of the implementation (Kubr, 2002:232).

- **Detailing procedures** – a manual for guidance in the procedure to be taken is required and usually presented when a new methodology is involved in the implementation process (Kubr, 2002:233).

Although the implementation process may be long and encounter problems, the plan will assist to ensure that whoever is involved clearly understands how and when tasks are to be performed (Nelson & Economy, 1997:111).

Kubr (2002:233) contends that both the client and the consultant should frequently assess the progress of the implementation, to adjust the time schedule, the approach taken, and the design of the process appropriately. Once the implementation is running for a while the consultant should be available to answer queries or deal with problems that may arise since he or she may possess more technical skills and practical knowledge than the client (Kubr, 2002:233).

3.3 Evaluation of CE and/or consultants' performance

Ebrahimcel et al. (2006:159) citing Byrne (2002) and Craig (2005) claim that the growth of criticism towards the consulting industry has increased recently due to excessive fees charged for projects, increased disbelief with regards to concepts and recommendations that are incapable of producing meaningful results, and sometimes due to results of CEs not being measured. It is however unfair to state that most consulting firms fall under this criticism, as many have maintained a good track record. Thus, the criticism tarnishes the image of the industry and raises questions regarding the value or contribution of CEs (Phillips, 2000:4).

Against the above background, it is assumed that the evaluation of consulting projects is a starting point to turn the situation around. Phillips (2000:5) highlights that good results would ultimately justify fees, solidify the recommendations' believability and help the industry regain its highly respected reputation. In this regard, it is important to take a good look at the evaluation methods, to ensure adequate monitoring of what should be a result-oriented process that contributes to knowledge transfer (Phillips, 2000:5).

Klenter and Möllgaard (2006:145) argue that the rule to evaluate consultants' performance or the outcome of CEs is to first establish a structure for measurement. In addition, the authors suggest that evaluation should be done ahead of the project, to understand what qualifications consultants require as well as what the goals of the project are, during the project to understand how knowledge transfer can be enhanced, and right after completion of the project, to determine the final degree of goal achievement and customer satisfaction (Klenter & Möllgaard, 2006:145). Furthermore, clients and consulting firms should also have an evaluation criterion for projects.

Evaluating a CE's performance is not an easy task (Ebrahimcel et al., 2006:161). Due to the intangibility of service it is difficult to precisely rate the quality thereof throughout the CE, and after it has reached its conclusion. The outcome of the project does not depend entirely on the consultant, rather on the interaction between the consultant and client. Additionally, consultants' recommendations can only be evaluated at a later stage once the CE is concluded, therefore it is another difficult aspect to deal with (Ebrahimcel et al., 2006:161).

An evaluation should not follow a universal framework of assessment for all kinds of CEs. Erhardt and Nippa (2005; cited by Ebrahimcel et al., 2006:173) argue that "the degree of uncertainty, ambiguity, and qualification inherent in different consulting tasks has a major impact in the evaluation process", therefore one should cautiously check whether one's evaluation criteria can be adjusted or applied to other forms of consulting.

The researcher decided to elaborate on two criteria for the evaluation of CE and/or consultants' performance, as they are both used to measure qualitative or quantitative factors of value added. They are: return on consulting and the Swiss questionnaire for quality in consulting.

3.3.1 Return on consulting

Return on consulting (ROC) has obliged consultants to achieve clarity with regards to the implementation success of a project, and therefore clarify target results, while strengthening the quality of the client-consultant relationship (Klenter & Möllgaard, 2006:145). When the client-consultant relationship is strong, open dialogue is present. Thus the client is aware of what is happening and knows what results to expect. In this regard, the consultants are continuously meeting targets and adding value throughout the project (Klenter & Möllgaard, 2006:145).

The concept of ROC evaluates the tangible aspects of a CE, and is therefore a systematic way by which the consultant can generate added value to the client (Cardea, 2007). The ROC scorecard can be used before, during and after the project, thus it assesses technical and industrial knowledge, project management, social skills, resources and quantitative and qualitative benefits (ASCO, 2014). Cardea (2007) adds that the ROC also identifies factors contributing to project success and provides a practical guide to make the best use of the measurement of consultant involvement.

The aim of this measurement scorecard is to provide clients with a tool to effectively manage and monitor CEs when employing consultants (Cardea, 2007). ASCO (2014) states the following ROC objectives:

- To provide clients with transparency in their expectations.
- To enable the customer to see the added value or gains from the consultants' assistance.
- To sensitize consultants regarding their values.
- To identify strengths and weaknesses during project implementation and to apply corrective action when necessary for goal achievement.
- To represent the benefits and efforts towards project completion.

Cardea (2007) further claims that ROC is rarely controlled or applied in an industry that faces increasing growth. However, the significance of having a transparent and measurable assessment of benefits in the consulting industry and in project management has been growing, and soon

ROC and new methods will be applied in practice more often (Klenter & Möllgaard, 2006:145; Cardea, 2007).

3.3.2 The Swiss questionnaire for quality in consulting

Wohlgemuth (2006:113) mentioned that the questionnaire is an evaluation tool developed by ASCO to assess the level of quality of a CE. The questionnaire should be generic in order to be adapted to different CEs. The questionnaire was designed to be completed by those involved in it at the end of the engagement, but it can however be used during or ahead of the engagement (Wohlgemuth, 2006:113). When it is used during or ahead of the CE results should be compared at the end. The questionnaire comprises of the following sections (Wohlgemuth, 2006:113):

- **Professional knowledge and expertise** – this section describes questions related to the consultant's knowledge and expertise. Questions related to whether consultants are aware of their limitations and whether they behave professionally and in line with the code of conduct.

- **Professional conduct and behaviour** – contains applicable sensitive factors in the process of interaction, thus also mentions elements from the code of conduct.

- **Project management** – focuses on the organisational aspects of a CE, such as project planning and meeting deadlines.

- **Implementation to-date** – in this section it is clear to see that all significant items are perfectly combined making it clear to see to what extent goals have been met to-date.

- **Economics of consultancy** – economic aspects such as use of technical facilities and the cost-benefit ratio of the consulting firm are included in this section. These are all related to the consulting firm's code of conduct.

- **Additional questions** – these are questions created to improve professional best practices and learning process for the consultant. The author advises the discussion of these questions verbally.

Wohlgemuth (2006:114) asserts that the measurement of the items is relatively easy and suggests the following categories:

- No basis for evaluation – when evaluation is not possible.
- Requires improvement – when service quality is poor.
- Adequate or acceptable – when service quality meets expectations.
- Above-average – when service quality stood-out positively.

3.4 Knowledge management

Moosa (2011:23) claims that knowledge is a complex concept and in itself invisible, yet it is key in information generation. According to Machuca and Costa (2012:24) knowledge is one of the most important assets in organisations. In order to acquire a competitive advantage, organisations should make great use of the knowledge they possess (Moosa, 2011:23; Machuca & Costa, 2012:24). Dunford (2000:296) ascertains that this statement specifically applies to consulting firms since their business product is knowledge. Dunford (2000:296) considers knowledge as a core capability for achieving an advantage in today's competitive market.

Research in the knowledge management (KM) field has intensified over the years. Ambos and Schlegelmilch (2009:491) contend that consulting firms pioneered the development of KM systems, by creating a portfolio of knowledge assets consisting of past project experiences as well as external data and reports. The creation of KM systems facilitates the exchange of knowledge and increases organisational learning, which leads to creativity and innovation (Tanimiau et al., 2009:42).

Knowledge management is explained in Kim and Trimi's (2007:145) study as a cycle of the discovery, creation, storage, dissemination, and utilisation of knowledge, with the aim of obtaining the correct information, with the correct context, to the correct people, for the correct business purpose. This process adds value to the organisation's intangible assets, to best influence knowledge internally or externally (Yang et al., 2012:201).

Consultants possess a wide range of knowledge that has been acquired over the years in a variety of ways (Yang et al., 2012:199). This knowledge becomes organisational knowledge once captured into the organisation's KM system. The authors are supported by Tanimiau et al. (2009:42) when they argue that clients and consulting firms rely on consultants' knowledge to improve their business by delivering the latest advice based on practical and scientific sources.

3.4.1 Knowledge creation and sharing

Yang et al. (2012:202) citing Nonaka (1994) explain that knowledge is created through the interaction between tacit knowledge, which is usually personal, context-specific and often unconscious, and explicit knowledge, which is usually codified and transmissible in formal language. Kubr (2002:419-420) adds that this interaction involves four knowledge conversions, namely:

- **Socialisation** – refers to the transfer of tacit knowledge to tacit knowledge, or the process of sharing experiences. In consulting socialisation happens when a new consultant is integrated into a project and learns by observation or practice.

- **Externalisation** – refers to the process of articulating tacit knowledge into explicit knowledge. It creates the basis for formalising learning processes, standardisation and process improvement. In consulting, externalisation happens when the project profile is written to describe specific information on the project development.

- **Combination** – refers to the transfer of explicit knowledge to explicit knowledge. This combination is done by sorting, adding and categorising explicit knowledge. In consulting combination takes place when different presentations are reconfigured for a new client's sales presentation.

- **Internalisation** – refers to the transfer of explicit knowledge into tacit knowledge. It is closely related to learning by doing.

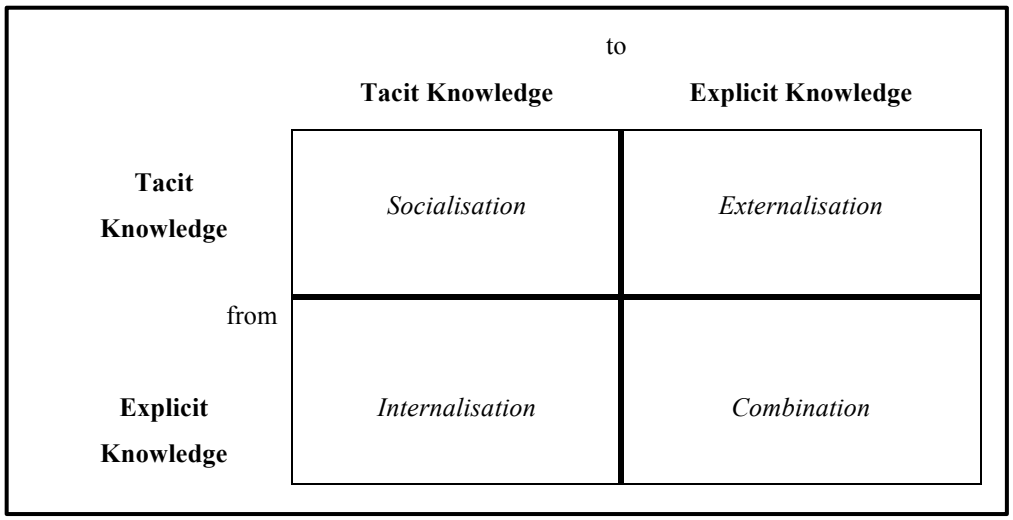

Figure 19: Knowledge creation process (Yang et al., 2012:202)

When speaking about knowledge sharing there are two approaches: formal knowledge sharing and informal knowledge sharing.

The formal knowledge sharing approach refers to knowledge sharing forms such as resources, services and activities designed for knowledge sharing, established by management (Taminiau et al., 2009:44). According to Kim and Trimi (2007:146) in the formal approach to knowledge sharing, knowledge is codified and stored into the firm's KM system to enable access by anyone in the organisation. Examples of formal knowledge sharing are consulting toolkits and cases. Consulting toolkits, are adapted every time a consultant is in a new engagement, and provide guidelines on how to carry out CEs (Taminiau et al., 2009:44). Consulting cases are used as a starting point for projects as they are codified knowledge from previous engagements, which the consultant can refer to (Taminiau et al., 2009:44).

Informal knowledge sharing refers to all forms of knowledge sharing existing alongside all established forms of knowledge sharing (Taminiau et al., 2009:45). These forms should therefore relate to resources, services and activities used to ease knowledge exchange, but were not necessarily created for that purpose. During this approach knowledge is created through continuous communication and collaboration among people (Kim & Trimi, 2007:146). The latter is achieved through informal networks such as lunches, dinners and drinks (Taminiau et al., 2009:44). Knowledge acquired in such forms is difficult to codify and standardise. Therefore, consulting firms support collaboration among people to institutionalise trust and openness, which are preconditions for knowledge exchange (Kim & Trimi, 2007:146; Taminiau et al., 2009:44).

The KM system is part of a formal knowledge sharing system. In some consulting firms the KM system is composed of three levels, the first two being accessible by all consultants (Ambos & Schlegelmilch, 2009:496). The levels are:

1. Knowledge containing internal and external information. Internal information knowledge generally includes training facilities and directories, while external information knowledge includes industry databases.
2. Knowledge regarding projects completed by the company.
3. Knowledge containing confidential information targeted at top management.

3.4.2 Knowledge management strategies

Knowledge management strategies in the life cycle of a CE utilise the knowledge sharing strategies mentioned in section 3.4.1. These are personalisation, which includes informal

knowledge sharing, and codification, which includes formal knowledge sharing. Codification and personalisation are helpful and necessary during the various phases of the project. Ambos and Schlegelmilch (2009:502) discuss the following strategies for KM during the CE life cycle:

- **CE entry** – a codification strategy is used during the first phase of the CE due to the fact that consultants resort on old CEs stored in their KM system databases to improve the quality of the proposal and to create synergies.

- **CE input phase** – a mixed strategy aimed at gathering information is used when the CE gets more defined. The personalisation approach is used to plan a more detailed CE and to better structure the problem. To gather this information, consultants use meetings or telephone enquiries. Codification is only used once the necessary information on the related CE is acquired from the KM system databases.

- **CE problem solving process** – the focus of the CE's execution is the personalisation strategy, since the execution of the CE is characterised by sharing existing knowledge and creating new knowledge, through brainstorming sessions or learning by observation.

- **CE completion** – during this phase a codification strategy is applicable, because consultants are required to incorporate what they have been learning from the current CE to their KM system database and disseminate it to everyone in the firm.

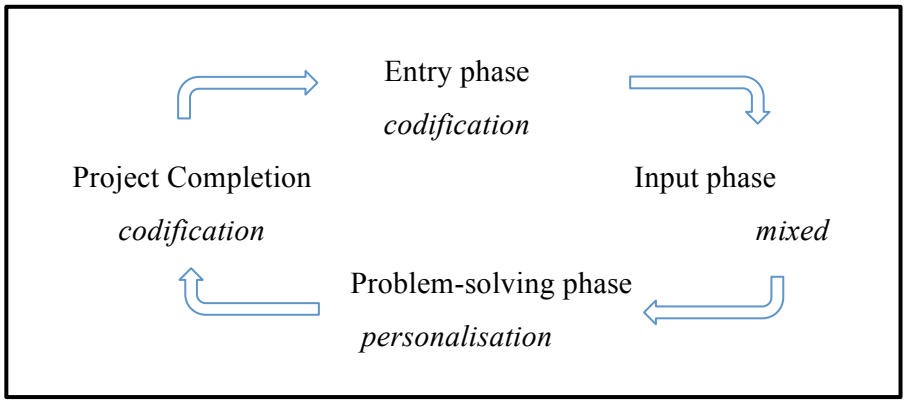

Figure 20: Knowledge management strategies in consulting (adapted from Ambos & Schlegelmilch, 2009:502)

As shown above codification and personalisation describe the combination of KM strategies during the CE. However, it is important to note that CEs are different and the use of these KM strategies vary according to the complexity and needs of the CE.

3.5 Project management

Many authors have defined what a project is or should be, yet one of the most comprehensive definitions is the one outlined in ISO 10005 (2005:2) which states that a project is "a unique process consisting of a set of co-ordinated and controlled activities with start and finish dates, undertaken to achieve the objective of conforming to specific requirements, including the constraints of time, cost and resources".

Project management (PM) is defined as the art of planning, organising, monitoring, controlling and reporting of all aspects of a project, and the motivation of all those involved in it to achieve the project objectives (Kerzner, 2009:4) within an agreed criteria of time, cost and performance (Lester, 2006:5). The criteria of time, cost and performance are weak without a motivated workforce (Lester. 2006:5). Therefore, motivated and competent participants are essential to produce satisfactory outcomes and ensure the success of the project (Lester, 2006:5).

Project management encompasses among others knowledge areas such as planning, costing, controlling. Consultants usually encounter these during the consulting process. In this regard the researcher decided to focus on areas such as time management, risk management and on the project's stakeholders.

- **Stakeholders** – it is of interest to know all those that favourably or unfavourably influence the outcome of the project, because they are the soul of the project (Burke, 2014:25). These are for example: the executive sponsor, the steering committee and the project team.

- **Time management** – includes the process required to ensure timely performance of the project (Burke, 2014:25). These are for example: activity definition, activity sequencing and time control.

- **Risk management** – includes the process concerned with identifying, quantifying, and responding to project risk, therefore controlling the risk management plan and preparing for disaster recovery (Burke, 2014:25).

3.5.1 Project management stakeholders

Project stakeholders are all the relevant individual or organisations affected by the project (Burke, 2014:72). Therefore it is of utmost importance to document and analyse information regarding their interests, involvement and potential impact on project success.

The most important project stakeholders are mentioned below:

- **Project sponsor** – Kerzner (2009:384) argues that the project sponsor is usually a person from senior management, who is primarily responsible for maintaining executive client contact, and ensuring that the correct information from the consulting company reaches the client organisation without being filtered. The project sponsor executive should be aware of how the project's money is being spent (Kerzner, 2009:384).

  According to Ntlokombini (2010) the project sponsor is responsible for the timely and accurate performance of the project. Thus, he or she should motivate everyone involved as well as be concerned with all the matters related to project success. The project sponsor's roles and responsibilities include the following (Lester, 2006:18):

  - Select the project manager and monitor his or her performance.
  - Ensure that the project's objectives and main criteria are met.
  - Ensure the effectively and efficiently management of the project.
  - Assist in resolving difficulties with other stakeholders.
  - Support the project and ensure sufficient resource allocation.
  - Ensure the realisation of the project's perceived benefits.
  - Act as top-level advocate to the company's board.

- **Steering committee** – acts as a supervising authority during the project life cycle to ensure protection of the client's interests as well as ascertain that the project is run and delivered to meet predetermined requirements (Lester, 2006:18). The steering committee also meets at regular intervals to review all active projects, to prioritise activities related to the project in the client organisation (Ntlokombini, 2010:23).

  According to Ntlokombini (2010:23) the steering committee's responsibilities involve the following:

- Provide strategic direction.
- Ensure project alignment to corporate objectives.
- Approve start-up and abortion projects.
- Consider internal and external environmental influences.
- Resolve escalated issues.

- **Project manager** – the project manager is assigned by the client organisation to lead the team that is responsible for achieving the project objectives (Burke, 2014:30). He or she must have enough skills or knowledge to manage the scope, schedule, finance, risk and resources of the project (Burke, 2014:30).

  Ntlokombini (2010:23) lists the following responsibilities concerned with the project manager:

  - Identify and manage project stakeholders.
  - Select the core team with the project sponsor.
  - Lead the project team.
  - Collaborate with head consultants.
  - Control costs.
  - Define the project and secure approval from other stakeholders.

- **Other stakeholders** – the project sponsor, the steering committee and the project manager are key stakeholders responsible for the delivery of any type of project. Yet, other stakeholders may exert influence on how the project is managed, these are according to Burke (2014:30):
  - Project team – these are appointed by the project manager to carry out the project's office work, and are therefore responsible for project administration and project's control calculations.
  - Consultants – these provide expert advice regarding technical and professional matters. Therefore their input should always be taken into account as they work closely with the project manager.
  - Customers – these are the people who benefit from the project's end result.
  - Functional managers – usually when the project makes use of internal resources such as machines and equipment, the project manager is not in a position to demand the supply of resources, thus he or she negotiates the use of these

resources with functional managers because they are the ones responsible for acquiring resources.

3.5.2 Project time management

Managing a project within a certain period of time, cost and performance is not as easy as it might seem to be. This is due to the PM environment being extremely turbulent and composed of numerous meetings, continuous planning, report writing, and crisis management (Kerzner, 2009:285).

Burke (2014:174) avows that project time-management includes processes and activities that enable the timely completion of the project. The project manager's success criterion is intrinsically related to the timely completion of the project. Thus, his or her challenge is to develop a list of activities that appropriately outlines the project scope to enable the project to achieve its time objectives (Burke, 2014:174).

The Project Management Institute (PMI) (2013:141-187) in its book *Project Management Body of Knowledge* states that the time-management processes required to timely complete a project include the following:

- **Plan schedule management** – sets policies, procedures and documentation for developing, planning, managing, executing and controlling the project schedule. In summary, the plan schedule management should provide highly detailed orientation or broadly explain how the project should be managed.

- **Activity definition** – identifies and documents the various activities needed to produce the project outcomes. The key to activity definition is to divide work packages into activities that will become the basis for estimating, executing, monitoring and controlling the project in order to later define and plan the necessary activities required to achieve the objectives of the project.

- **Activity sequencing** – identifies and documents relationships amongst project activities. It defines the logical work sequence required to obtain the best efficiency regardless of project constraints. During the definition of the logical sequence the project manager and his or her team should allow a lead or lag time between activities to form a realistic and achievable time schedule.

- **Activity resources estimating** – estimates the type and quantity of resources such as human resources, equipment, or material necessary to complete project activities. The benefit of this process is its ability to identify the type, quantity and characteristics of resources needed to perform the activity that allows accurate cost and duration estimates.

- **Activity duration estimating** – estimates the time required to complete individual activities with estimated resources, therefore outlining the amount of time each activity will take to complete. The duration estimate is gradually elaborated to consider the quality and availability of input data, in order to estimate the activity duration needed by making use of the right project and resources calendar.

- **Schedule development** – analyses activity sequences, durations, resource requirements and schedule constraints to create the project schedule model. When the activities are entered in sequences, durations, resources, and logical relationship into the scheduling tool, it produces a model with planned dates for completing project activities. Schedule development requires the revision of duration and resource estimates to create an approved project schedule to serve as a tool to track progress.

- **Schedule control** – monitors the state of project activities in order to understand project progress, as well as manage changes in the schedule baseline to achieve the plan. It enables the project team to clearly recognise deviations from the plan and conduct retrospective reviews for corrective and preventive action. Thus, schedule control minimises risks, seeks improvement, and is concerned with reprioritising the remaining work and managing changes as they occur.

3.5.3 Project risk management

Taking risks is very common and human beings tend to ignore it in their daily lives. It would indeed be boring if humans would for example consider whether or not to cross the road because of the risk of being run over. However, Lester (2006:65) and Burke (2014:307) argue that the self-indulgence of ignoring risks cannot be allowed when referring to projects, because projects are riskier than business-as-usual – unique and based on assumptions, which maximises the level of uncertainty compared to production work.

Bosman (1998:45) defines risk management (RM) as "a systematic approach whereby the specific source (not the cause) of risk is identified and represented in order to minimise (project loss) or maximise (project gain) the impact on the achievement of the project's scope, organisation time, cost, and quality parameters". Adequate risk management is proactive rather than reactive, seeks to maximise the probability of project success (Kerzner, 2009:746), and minimise uncertainty (Bosman, 1998:46).

Burke (2014:307) argues that RM includes the processes of conducting risk management planning, identification, analysis, response planning and controlling risk on a project. It is therefore important to establish a RM strategy in the early stages of the project and rigorously address risks throughout the project life cycle (Kerzner, 2009:753).

3.5.4 Project risk management process

Kerzner (2009:743) claims that the RM process should be able to do more than identifying potential risks. The risk management process should provide the following:

- Formal planning activity.
- Analysis to estimate and predict the probability and impact of risks.
- A response plan to risks.
- The ability to monitor and control risk, in order to reduce them to the desired level.

The first step in the RM process is called 'risk management planning'. RM planning is the formulation of a clear program of action regarding the management of risk (Kerzner, 2009:753), thus explaining how to get from where the program is to where it should be in the future. It outlines methods used in executing the RM strategy, plans for appropriate resources (Kerzner, 2009:753) and is crucial to obtain support from stakeholders, ensuring that everyone involved supports the process throughout the project's life cycle (PMI, 2013:313). Planning for RM should be done early during project planning as it forms the basis for a process of evaluating risks (PMI, 2013:314).

The second step of the RM process is 'risk identification'. Risk identification results from a survey of the project or users of potential concern (Kerzner, 2009:755), and refers to the process of discovering which risks may affect the project and adequately documenting their characteristics (PMI, 2013:319). The main advantage of identifying risks is the ability to document the characteristics of the uncertainties that could prevent the project from achieving its objectives

(Burke, 2014:311). Therefore risk identification should be a continuous process to ensure that nothing significant is overlooked.

'Risk analysis' is the third step of the RM process. According to Kerzner (2009:761) risk analysis is a methodical process to approximate the level of identified or approved risk. It is mainly concerned with appointing the areas of risk that justify further investigation (Burke, 2014:314). Risk analysis is divided into the following areas (PMI, 2013:328-333):

- **Qualitative risk analysis** – refers to the process of prioritising risks for further analysis. This is done by evaluating and combining their likelihood of occurrence and impact on project objectives, as well as factors such as time frame for response and the organisation's risk tolerance to the constraints of cost and quality. Qualitative risk analysis is frequently performed during the project, to allow the project team to minimise the level of uncertainty and focus on high priority risks.

- **Quantitative risk analysis** – is performed on risks prioritised by the qualitative risk analysis, to later examine the effect of those risks on project objectives. Quantitative risk analysis should be performed whenever needed to assure that the total project risk has been adequately decreased and consequently support decision-making.

The fourth step of the RM process is 'risk response'. According to PMI (2013:342) risk response is concerned with creating options and actions to increase opportunities and to minimise project risk. It addresses risks by their priority, inserts resources and activities into the schedule, budget and PM plan as needed (PMI, 2013:342). The risk response process should follow the quantitative risk analysis process, in order to be cost-effective, realistic and agreed upon by all stakeholders PMI (2013:343).

'Risk monitoring and control' is the last step of the RM process. It implements the risk response plan, reanalyses identified risks, monitors residual risks, identifies new risks, and evaluates risk process effectiveness throughout the project (Kerzner, 2009:788). Risk monitoring and control is concerned with executing a contingency plan, taking corrective action and modifying the PM plan (PMI, 2013:350). To do that variance and trend analysis techniques are applied to determine whether:

- Risk management policies and procedures are being followed.
- Project assumptions are still valid.

- Contingency reserves for cost should be modified in alignment with the current risk assessment.

3.6 Change management

It is very difficult to find CEs that do not change in some way during their life cycle. Tommissen (2007:95) asserts that change and consulting are intrinsically related because consultants are hired due to the need for change in organisations. Kerzner (2009:76) adds that each engagement has a human side that may require people to change – that is why change is inevitable.

According to Oseni (2007:1) change is a departure from an existing process or way of doing something, to a new process or a different way of doing the same thing. Bosman (1998:35) defines change as the primary driving factor for decision-making, as people either need to make the change take place, or need to react to the change, because the change forces people to choose and or make decisions.

Oseni (2007:1) further explains that change management (CM), is defined as the process of planning, organising, coordinating, and controlling the compositions of the internal or external environment to ensure that the process changes are implemented according to approved plans and the overall objectives of introducing the changes are achieved with as little disruption as possible.

Harrington, Conner & Horney (2000:3) emphasize that CM is not concerned with what is to be changed, but rather on how the solution is to be implemented. This is due to the fact that the main aim of CM is to address the human aspect of the change in order to increase the CE's likelihood of success. The authors contend that for that to happen consultants should have an understanding of:

- How to approach the change.
- How to deal with resistance and ensure commitment to the change.

3.6.1 Approaching the change

Change is approached differently depending on the CE type and the people involved in it. Thus, when approaching the change the person responsible for driving the change has to have an understanding of the type of the change to be faced, as it helps in structuring a plan of action.

Research by Green (2007:22) categorised change into planned or predictable change and emergent or complex change, but drew attention to the non-simplification of the change due to it being a complex activity. Therefore, trying to plan the change as a simplified approach usually results in having a less positive output. Contrary to popular belief, the emergent approach refers to a planned and structured change that describes how the change actually happens as opposed to how it is articulated (Green, 2007:23). All management levels should apply CM, as it creates an environment where there is change agents spread throughout the project ready to initiate and implement the change (Green, 2007:23).

Moll (1998) avows that the purpose of the change should be explained to those affected, by continuously emphasizing its benefits while outlining the disadvantages of maintaining the *status quo*.

3.6.2 Dealing with resistance and ensuring commitment

Change is a reality in CE, therefore when faced with it some stakeholders will embrace it, others will be undecided while others will resist it. However, Cohen (2007:56) argues that people do not resist the actual change but rather the transition required to accommodate the change. In this regard, commitment and resistance should be viewed as closely linked concepts placed at different ends of a continuum (Cohen, 2007:58).

Table 3 shows that the source of resistance to change lies in different fears. People are afraid of the unknown, therefore it is important to communicate what and how things are going to change (Tommissen, 2007:96). Communication is important in the process of change as it plays a role in mediating the relationship between knowledge and power, therefore facilitating in creating the basis for understanding and ensuring commitment to the change (Cohen, 2007:57).

Table 3: Embedded fears of resistance (Kerzner, 2009:80).

Causes of resistance	Ways to overcome
Fear or the "we/they" organisation	Educate workforce on benefits of changes to individual or corporation
Fear of failure	Show willingness to admit or accept mistakes
Fear of added workload	Show willingness to pitch in
Fear of the unknown	Transform unknowns into opportunities
Fear of termination	Share information

Change only takes place when consultants and management effectively transmit the idea that those affected by the change will benefit from it and make them believe that the change is possible (Kerzner, 2009:79). According to Cohen (2007:59) this is possible if:

- **The drivers for change and what the change means is understood** – refers to understanding the goals of the change, who is affected by it, what it means to those impacted by it as well as how they see it.

- **The organisational culture is understood** – refers to understanding the organisational historical attitude towards change, whether or not change is favoured and what has worked in the past. This enables consultants to create a better change strategy.

- **Consultants know the layout of the organisation** – the consultant should be familiarised with the key stakeholders in the organisation, in order to identify the barriers and facilitators of change.

- **Consultants know when to change the approach** – consultants should be able to grasp if the change is achieving its intended purpose. If not, adjustments need to be made by considering possible options available to get the project back on track.

- **The client organisation's readiness to change is respected** – if people in the organisation are not ready for the change they will likely resist it. Therefore consultants should not rush the change and ensure that the project is run without undue time pressures as it can compromise the outcome.

It is now clear that the keys to successfully deal with resistance to change is to communicate with the client by keeping those affected by the change abreast of what is happening, and understand the drivers and the meaning behind the resistance. It is imperative for the success of the engagement, due to the fact that resisting the change compromises the outcome of the CE.

3.7 Total Quality Management

3.7.1 Understanding total quality management

Total quality management (TQM) has its origins in industry, hence its concepts and methodologies are derived from there. Sallis (2002:5) contends that companies have always

strived to ensure that products or services conform to their requirements in order to provide customer satisfaction and value for money. In this regard, a successful company will retain its clients/customers and attract new ones if there is consistency in producing products or services that conform to them (Kubr, 2002:464).

Powell (1995:5) citing Walton (1986) discusses TQM as a practice that evolved from many different management practices and improvement processes. It is a process-oriented system built on the belief that quality is a matter of conforming to a customer's requirements. These requirements can be measured, and deviations from them can then be prevented by means of process improvements (Powel, 1995:5).

Over the last century 'quality' has evolved significantly, starting from inspection (stage one) and quality control (stage two), developing to QA (stage three) and to what is known today as TQM (stage four) (Kubr, 2002:465). The TQM movement found success in Japan after World War II with the impetus of W. E. Deming, J. Juran and other quality experts who were there post-war to help reconstruct the Japanese war-torn industry (Sallis, 2002:8).

Dale (2003:22) explains that inspection was the first way of ensuring quality. This approach ensures that a product or service is examined, measured, or assessed and compared against predetermined requirements or specifications to assess conformity. The author further contends that this approach is an after-the-event process, therefore there is no prevention and all products or services which do not conform to specifications are reworked, modified or scrapped (Dale, 2003:22).

The second stage of the evolution of TQM emerged due to industrial advancements, the need for standardisation, measurement, written specifications and supervised skills (Dahlgaard, Kristensen & Kanji 2002:7). Thus, the complexity of manufacturing systems led the development and introduction of statistical quality control methods such as control charts, acceptance sampling etc., to industrial production and helped quality control distinguish between variation as a result of random causes and variation as a result of special causes (Dahlgaard, Kristensen & Kanji, 2002:7; Kubr, 2002:464).

Quality control as already mentioned, is an after-the-event process, whereas QA (the third stage) is a before-the-event process aimed at preventing the occurrence of faults in a system (Sallis, 2002:17). Kubr (2002:464) and Sallis (2002:17) contend that QA emerged from the idea of a system with zero defects, able to produce defect-free products or services by getting things right the first time, every time. QA involves all quality control methods and brings methodologies such

as quality manuals, process control, use of cost of quality, and auditing of quality systems to provide sufficient confidence that the system is able to produce products or services that conform to specifications and satisfy the customer (Dahlgaard, Kristensen & Kanji, 2002:7).

The fourth and highest stage is TQM. Dale (2003:26) argues that TQM involves the application of QA principles to all levels of the organisation and the integration of key business processes. The aim of TQM is to create a culture of quality where the aim of every member is to delight customers, therefore in TQM the customer is sovereign (Sallis, 2002:17). Total quality management focuses entirely on providing customers with the products or services they want, in the way they want it, when they want it.

Powell (1995:5) defines TQM as an integrated management philosophy and set of practices that emphasises continuous improvement, customer satisfaction, reducing rework, long range thinking, increased employee involvement and team work, process redesign, team based problem-solving, constant measurement of results, closer relationships with suppliers and management involvement.

Managers are often more open to get advice from consultants who emphasize strategies and tools rather than those who try to explain the TQM culture and philosophy. Therefore, Kubr (2002:464) advices consultants on the importance of presenting TQM as a strategy for improving operations and results, as it is a solid approach aimed at improving product or service quality, and the quality of business or operational systems.

However, TQM should not be viewed as a short-term tool or a quick fix. This is because TQM is a long-term process committed to achieve excellence and improve quality by advocating true customer orientation, teamwork and inter-unit cooperation, systematic problem-solving, and reliance on quality assurance standards and measurements (Kubr, 2002:465).

3.7.2 Principles of TQM

Alike other theories, TQM encompasses certain principles. While, processes and designs differ from company to company, certain principles remain the same, as they are the basis of TQM. These principles are as follows:

- **Customer focus** – unlike what happened in the creation of the first automobile or telephone where the focus was on making the product work (Juran & Godfrey,

1999:14.6), in TQM customers are the central focus because they are the ones judging the quality of the product or service's quality (ASQ, 2015). Therefore, efforts should be made in order to improve excellence of services or products with the aim of not only meeting or exceeding customer satisfaction but also delighting customers.

- **Leadership** – top management must be committed and act as the driving force of TQM, by creating a vision that clearly specifies the actions to be taken and to place the company where it wants to be (Dahlgaard, Kristensen & Kanji, 2002:18). Commitment is showed by creating an environment where people are fully involved in achieving the organisation's objectives (CQI, 2015), and by communicating clear corporate values and objectives relevant to quality (Kubr, 2002:470).

- **Total employee involvement** – employees at all levels are crucial to an organisation (CQI, 2015). Their involvement enables the organisation to fully use their abilities to generate ideas for quality improvement and customer service. Employee involvement can only be achieved once fear has been driven from the workplace (ASQ, 2015).

- **Process approach** – TQM supports the use of a process thinking approach (ASQ, 2015), because the achievement of an outcome is obtained with better efficiency when all its related resources and activities are managed as a process (CQI, 2015). In this regard, the process is clearly defined and monitored to avoid unexpected variation (ASQ, 2015).

- **Strategic and systematic approach** – quality should be a core component of a company's vision, mission and goals (ASQ, 2015). TQM requires systems that coordinate quality planning with other strategies for products and services such as logistics, customer services and manufacturing (Kubr, 2002:471).

- **Continual improvement** – this principle enables organisations to be both analytical and creative in finding ways of becoming more competitive and effective in meeting stakeholders expectations (Juran & Godfrey, 1999:14.7; ASQ, 2015).

3.7.3 Defining quality

Quality is an elusive concept, difficult to accurately define due to the variety in its meanings. Quality implies different things to different people which might be the reason for the elusiveness of the concept (Dale, 2003:4). Sallis (2002:11) states that some authors are against trying to

precisely define quality, as there is a danger of losing the vital aspects or emotional resonance of the concept if it is subjected to too much academic analysis.

The word quality comes from the Latin word 'qualis' which means 'what kind of' (Dale, 2003:4). Quality can be both an absolute and a relative concept (Dahlgaard, Kristensen and Kanji, 2002:11). When people say "quality product, top quality, high quality" or when managers use the term 'quality performance', Dale (2003:5) explains that they are using the absolute concept of quality. Sallis (2002:13) adds that an absolute quality should be viewed as something of the highest possible standard, as it is valuable and transmits prestige to its owners.

As a relative concept, quality is defined as something assigned to a product or service. Therefore it can be measured against a predetermined criteria and it should meet these criteria every time (Dahlgaard, Kristensen & Kanji, 2002:12). Omachonu and Ross (2004:9) contend that this definition relates to Juran's view of quality, which is 'fitness for purpose' in terms of design, conformance, safety and field of use. But, Sallis (2002:13) adds that the relative concept of quality encompasses the following aspects:

- **Procedural aspect** – here the author agrees with Omachonu and Ross (2004), and explains the procedural aspect as one where quality is achieved by having systems and procedures linked to operations, to ensure that these systems and/or procedures are efficiently and effectively operated in order to consistently produce products or services that meet a predetermined specification. These systems should be audited regularly.

- **Transformational aspect** – this aspect goes beyond the tangible elements of the procedural aspect, focusing on the intangible aspects of quality such as customer service and customer satisfaction. It is aimed at continuous improvement and company transformation. Hence it is achieved through leadership – a leadership that builds a quality culture within the organisation and empowers employees to deliver excellent customer service. It stresses 'improving' which means doing things right, rather than 'proving' which relates to doing the right things - procedural aspect.

Dahlgaard, Kristensen and Kanji (2002:14) are supported by Dale (2003:4) when they pointed out that people define quality differently due to the fact that it can change with time and situations. Hence, quality is usually meant to distinguish an organisation, event, product, service, process or action.

3.7.4 Service quality

The characteristics of a service differ from those of a physical product, due to the intangibility or subjective aspects of a service (Bamert & Wehrli, 2005). Services are an experience and involve simultaneous production and consumption, whereas products are produced, sold and consumed (Sallis, 2002:20). Services cannot be stored and are heterogeneous as they vary from producer to producer, situation to situation and consumer to consumer (Lewis, 2003:203).

In today's world customers expect quality more than ever before. Hence, organisations able to provide their customers with a high level of service have a competitive advantage (Bamert & Wehrli, 2005). Lewis (2003:206) defines service quality as meeting customer needs and requirements and how well the service delivered matches customer expectations. Consequently service quality is a function of the gap between consumers' expectations of a service, and their perceptions of the actual service delivered by a firm, this gap is influenced by other gaps, which form the basis of SERVQUAL, which is a service quality measurement instrument (Parasuraman et al., 1991). These are:

- **Gap 1** – difference between customer expectation and management perceptions of customer expectations.
- **Gap 2** – difference between management perceptions of customer expectations and service quality specifications.
- **Gap 3** – difference between service quality specifications and the actual service delivered.
- **Gap 4** – difference between service delivered and what is communicated about the service to customers.

Gronroos (1984, cited by Parasuraman et al., 1985:45) stressed the importance of technical quality (what is delivered) and functional quality (how it is delivered) –the latter being critical to service quality perceptions. Tangibles (i.e. physical facilities, appearance of personnel), reliability (i.e. consistently honouring promises), responsiveness (i.e. willingness to provide prompt service), assurance (i.e. employees knowledge, ability to convey trust confidence), and empathy (i.e. caring and giving attention to customers) are the determinants of service quality in most service industries (Parasuraman et al., 1988:37).

In consulting the reliability aspect of service quality plays a key role due to consultants being judged largely by reputation and word-of-mouth (McLachlin, 2000:239). Service quality is therefore mostly considered a success if the client can honour his or her promises while at the

same time meeting customer expectations (McLachlin, 2000:240). Unfortunately this statement is too bold as consulting consists of a series of activities aimed at allowing the client to detect and understand the events that occur in their environment (Soriano, 2001:41). Therefore shortcomings might happen during the consultation or before consultants can keep their promises.

Dale (2003:16) advocates zero defects in service delivery, in other words get things right the first time. However, failures in service quality may arise either as a flaw in the process of delivering the service or when the service does not satisfy the customer. Therefore, Parasuraman et al. (1985:50) asserts that a focus on service quality systems with standardised techniques and structured personnel policies enhances customer loyalty through satisfaction, which leads to positive word-of-mouth, increased job satisfaction of employees, and commitment to the organisation. Thus, these reduce customer complaints as well as cost of recruitment and selection (Parasuraman et al., 1985:50).

3.7.5 Deming's system of profound knowledge

The researcher decided to include Dr. Deming's system of profound knowledge into the research study because it is a philosophy with roots in systems thinking and therefore is of utmost importance when implementing a QA programme or TQM philosophy.

Suarez (1992:7) explains that in order to understand Deming's approach to quality it is crucial to understand the concept of profound knowledge. Knowles (2011:35) adds that the approach interrelates four elements: theory of systems, theory of variation, theory of knowledge and psychology.

Deming (1994:95) defines a system as "a series of interdependent components that work together to try to accomplish the aim of the system". Deming stressed that the organisation should be viewed as a system where all the components of the systems such as management style, customers, environmental constraints, and employees as well as its interrelationships must be orchestrated to contribute and optimise the system (Suarez, 1992:7). Sallis (2002:41) adds that this can only be achieved through leadership and an approach where there is an emphasis on strategic thinking.

The second element is the theory of variation. Deming (1994:98) explains that variation is inevitable in life. Therefore, Berry (2011) contends that the aim of quality is to reduce variation and adjust the process to the desired level. In this context, the theory of variation relates to special causes of variation such as human error, and common causes of variation such as errors that

belong to the system. These causes are aimed at avoiding increased variability and higher costs and always striving to ensure the stability of the system (Suarez, 1992:7).

The theory of knowledge is the third element. Deming (1994:103) emphasizes that it refers to the understanding of what knowledge is, how it is acquired, improved and tested through analyses of theories and recognition of the need to always be up-to-date with knowledge. Berry (2011) adds that Deming stressed the use of the Plan-Do-Check-Act cycle as means of learning and developing new knowledge about the system.

The fourth and last element of Deming's profound knowledge is psychology. Psychology relates to knowledge of people in the organisation, how they interact, as well as their working and learning styles (Suarez, 1992:8). Deming stressed the importance of management's understanding and awareness of job satisfaction, employee motivation, and pride in the delivery of goods and services (Sallis, 2002:41) to use them for optimisation of the system.

3.7.6 Implementing TQM

Total quality management requires a lot of work and takes time to develop (Sallis, 2002:31). Two of the most common reasons for failure of implementing TQM are misunderstanding of the amount of work and time required to develop and implement this philosophy, and approaching it as a programme when in fact it is a process that strives to integrate and make the best use of business and operational processes (Kubr, 2002:474).

Failure of TQM are often attributed to deficient or incorrect implementation (Venkatraman, 2007:97), and certain organisational aspects that are incompatible with the TQM philosophy (Chin & Pun, 2002). Among the reasons for failure of TQM implementation are lack of leadership, middle management confusion, misunderstanding of participation, and failure to include the customer in the process (Venkatraman, 2007:97).

Literature reveals numerous frameworks prosposed by researchers, practitioners and award agencies regarding the implementation of TQM. According to Sharma and Kodali (2008:600) a framework should link concepts and their practical application. In this regard, the researcher suggests the following frameworks:

- **Researcher or academic based** – as the name implies these frameworks are developed by academics and researchers through research or experience in the field (Sharma & Kodali, 2008:600).

- **Award based** – organisations often use this framework as a self-assessment tool and to gain recognition in the quality field when applying for an award such as the Malcom Baldrige Award or the Deming Prize (Sharma & Kodali, 2008:600). This framework is only used by organisations that reach a mature level of TQM implementation to seek improvement.

- **Consultant based** – these are customised frameworks developed or obtained through combining personal opinion, judgement, and experience in provinding advice to organisations embarking on the journey of implementing TQM (Chin & Pun, 2002:274; Sharma & Kodali, 2008:601).

- **Guru based** – frameworks such as the Deming's 14 points or the Juran's trilogy use the writings and theories of the field gurus as their basis for analysis and implementation (Chin & Pun, 2002:274).

Consulting is the focus of this research, therefore the consultant base framework is more suitable. This is mainly due to the fact that when advising on TQM, consultants should try to simplify such a complex process by making use of their experience, opinion and judgement. In this regard Kubr (2002:475) suggests the following stages as a simplified approach:

1. An easy start to TQM, where quality control and QA are covered. During this stage quality is defined as conformance to requirements, and all aspects related to quality need to be managed throughout the organisation.
2. During this stage all the attention is turned at people and their behaviour, because the management of people is of utmost importance for quality. In other words, the concept 'total' starts to take effect.
3. This stage is also related to the application of the 'total' concept to quality and management, while simultaneously expanding in order to assure customer satisfaction or to deliver exactly what customers want, rather than to ensure quality only.
4. At stage 4, quality is embedded in the company culture and everyone is committed at ensuring internal and external customer satisfaction and delight. Important here is the organisation's capability of going beyond satisfaction and fulfilling all implied and stated

customer needs. Stage 4 is only achieved if the organisation is managed and led in such a way that everyone is empowered and wholeheartedly committed in delivering value for the customer.

These stages are crucial for a consultant when implementing TQM, due to the fact that they guide the consultant in understanding at what stage of the implementation the company is, to better advise them on what techniques to use during the implementation process. Stage 1 and 2 are only the beginning and the foundation of stage 4, therefore it is important to bear in mind that quality improvement should not end there (Kubr, 2002:475).

3.7.7 Important elements of a consulting QA programme

Quality assurance (QA) is defined as a process aimed at preventing the occurrence of errors in a system – refer to section 3.7.1 for more details (Sallis, 2002:17). Improvement is always possible and can be achieved by evaluating customer feedback and data.

Kubr (2002:728) believes that the vital elements of a consulting QA programme should be the following:

- Consulting engagement management.
- People management.
- Quality programme management.

The CE is in essence managed as a project, however with a QA programme, attention is to be paid to its procedures, quality plan and client satisfaction surveys. Kubr (2002:728) concludes that unlike a product, the outcome of a CE cannot be tested, therefore quality assurance should be built into every stage of the CE process (Table 4 below briefly explains this concept) by making use of checklists, documenting work systems and procedures, and monitoring adherence to these procedures.

Table 4: Assuring quality through all CE stages (Kubr, 2002:729).

Engagement Stage	Objectives	Activities
At the inception	To ensure the execution of the right job	Defining terms of reference, managing clients' expectations, agreeing the CE's plan and quality measures.
During the CE	To ensure the correct execution of job	Progress reports, variation control, guiding and supervising operating consultants.
At the end	To ensure clients' satisfaction due to the well executed job	Formal review and acceptance, consultant appraisals, internal review.
After the CE	To ensure clients' satisfaction and an on-going relationship. Reviewing consultants' performance	Client feedback through interviews and questionnaires, update client records, independent surveys, feedback to consultants, appraisal and rewards.

The quality plan is a document or a series of documents that specify quality standards, resources, specifications and a series of activities relevant to a particular project (Westcott, 2014:266). The quality plan is thus a guiding document to the CE and an extension of the CE plan. Therefore, it should be communicated to all members of the team. Client satisfaction surveys should be used to measure customer satisfaction and as means of ensuring performance improvements (Westcott, 2014:266).

People are the driving force of a QA programme. It is thus important to institutionalise good personnel and people management. Kubr (2002:732) suggests a few strategies in this regard:

- Application of high standards when recruiting and selecting new consulting staff and sub-contractors.
- Coach, help and supervise people on the job.
- Core skills training to ensure that consultants possess the necessary competencies.
- Ensure the availability of best practice experience and encourage consultants to use it.
- Ensure information and knowledge flow to facilitate the formation of highly competent teams for client engagements.
- Define and establishing a code of ethics for the firm.

In order to manage a quality programme the person responsible for the QA programme must ensure the integration of a programme quality policy (Kubr, 2002:733). According to ISO 9001

(2008:4) a quality policy guides the establishing and reviewing of quality objectives, ensures direction and support to comply with requirements and should be communicated within the organisation. Kubr (2002:733) adds that the whole organisation should support the QA programme and seek continuous focus by doing the following:

- Review all activities via customer feedback.
- Establish priorities and determine how to improve quality improvement.
- Ensure that training, appraisal and performance measures support the agreed priorities.

3.7.8 Quality management systems

It is to a moderate extent impossible to speak about quality without mentioning systems. Conti (2006:298) concludes that quality thinking and systems thinking are intrinsically linked, and that could be the reason Deming created the system of profound knowledge to explain his views of quality.

Quality management systems (QMS) can only be understood once the concepts of general systems and TQM are understood (Dahlgaard, Kristensen & Kanji, 2002:44). Both the concepts TQM and general systems have been previously addressed in this document, as a result QMS can now be explained.

Dale (2003:262) citing ISO 9000 (2000) defines QMS as a management system that guides and controls an organisation regarding quality. Dahlgaard, Kristensen and Kanji (2002:44) add that a QMS delivers high standard activities by incorporating the TQM philosophy, principles and concepts to create value added to the organisation and to meet the requirements of customers.

According to Dale (2003:263) QMS encourage the correct documentation of processes in a step-by-step manner, to enable employees to know what to do and how to perform specific activities. In this regard, QMS allow the consistent application of an organisation's information, skills, methods and controls to ensure the same outcome. Dale (2003:263) further argues that documenting processes means creating records, which form the basis of assuring the quality of these processes.

Documenting processes in a step-by-step manner serves as means to achieve 'standardisation', which according to Dahlgaard, Kristensen and Kanji (2002:45) is only achievable through communication and motivation of those who practice in standardised processes. The authors add

that standardisation is the foundation of continuous improvement, but better methods should not be searched for or created, before the existing ones are clearly understood and being used by those involved in it (Dahlgaard, Kristensen & Kanji, 2002:45).

3.7.9 Certification

Regardless of the QM stage or the TQM approach an organisation takes, there will always be a need to prove to customers that the company's processes are efficient and controlled by means of a certification such as ISO 9001. Certification is seen as necessary for assuming commitment to quality.

The ISO series of standards have been adopted worldwide and require the applying organisation to show its ability to consistently provide products or services that meet customer as well as statutory and regulatory requirements with the aim of increasing customer satisfaction through the effective application of the system (ISO 9001, 2008:1).

Quality certification is expensive, requires extensive paperwork, does not guarantee business success, and is insufficient to measure customer satisfaction even though the QMS should provide a procedure for acquiring customer feedback (Dahlgaard, Kristensen & Kanji, 2002:58; Kubr, 2002:486). However, quality certification improves control, procedures, communication, process consistency, and quality awareness while reducing system variation, customer complaints and non-conforming products or services (Dale, 2003:279).

In order to acquire ISO certification a certification body such as the South African Bureau of Standards, which is accredited by the government, needs to perform a quality audit of the applying organisation's quality system. Acquisition of ISO certification is a way to commit to quality and to adhere to national regulations (Dahlgaard, Kristensen & Kanji, 2002:57). As a result it contributes to an organisation's TQM development where the goal is not only to do things correctly, but also to do the correct things, seek continuous improvement, empower employees in decision-making, and ultimately move towards a company-wide TQM (Dahlgaard, Kristensen & Kanji, 2002:57).

3.8 Chapter conclusion

The current body of literature available was reviewed in this chapter and all aspects pertaining to consulting, PM, KM, TQM and change management were explained.

The CE process was decomposed to provide the reader with a detailed explanation of how the different phases complete each other. Knowledge management was explained as crucial to consulting due to the fact that knowledge is the selling product of the industry. In this regard KM strategies for the consulting engagement life cycle were also provided.

Projects are run following a specific time schedule and are liable to a percentage of risk. Literature on the field of PM shed light onto understanding these complex areas. Projects bring change, therefore by explaining the effects of the change, knowing how to approach the change, and dealing with resistance will enhance the likelihood of having stakeholders commit to the change.

Total quality management fits all the above-mentioned theories, as a methodology that allows their interaction and places emphasis on ensuring that the CE is completed on time, is cost-effective, and adheres to the interests of the client.

CHAPTER 4: QUALITY ASSURANCE FRAMEWORK

4.1 Introduction

A review of the literature pertaining to the fields of most relevance to consulting was provided in the previous chapter. The aim of this chapter is to present the reader with a QA framework which will be applied in this study, based on the theory examined in the previous chapter.

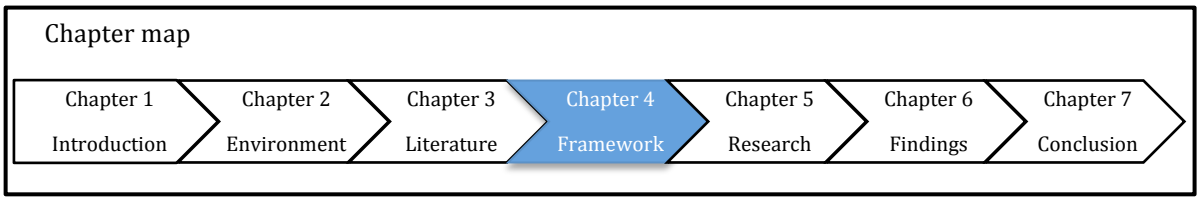

Figure 21: The fourth phase of the research study

Mouton (2013:177) claims that science cannot make progress without theories and models, due to the fact that the construction of theories and models attempt to explain phenomena or realities about the world. The author defines a 'theory' as a set of statements that explain a certain reality, while claiming that a 'model' is defined as a set of statements aimed to represent a phenomenon or set of phenomena as accurately as possible (Mouton, 2013:177). Mouton (2013:177) concludes that good theories and models describe casual accounts of the world, allow people to make predictive claims under certain conditions, brings conceptual coherence to a domain of science, and simplify people's understanding of the world.

The QA framework presented in this chapter was developed to help the researcher answer the greater research question shown in section 1.4, and to contribute to the field of consulting in an attempt to systematically incorporate quality methods into the consulting process.

4.2 The framework development

The literature study allowed the researcher to propose a framework which will attempt to assure the quality of CEs or efficiently address the consulting process gaps from the consultants' point of view. Section 3.7 strengthened the researcher's ideas regarding quality. As a result the researcher suggests the following fields as necessary to ensure a synergy between all the QA framework requirements:

- Systems thinking.
- Quality assurance awareness.

- Theory of variation.
- Leadership.
- Audits.
- Customer focus.

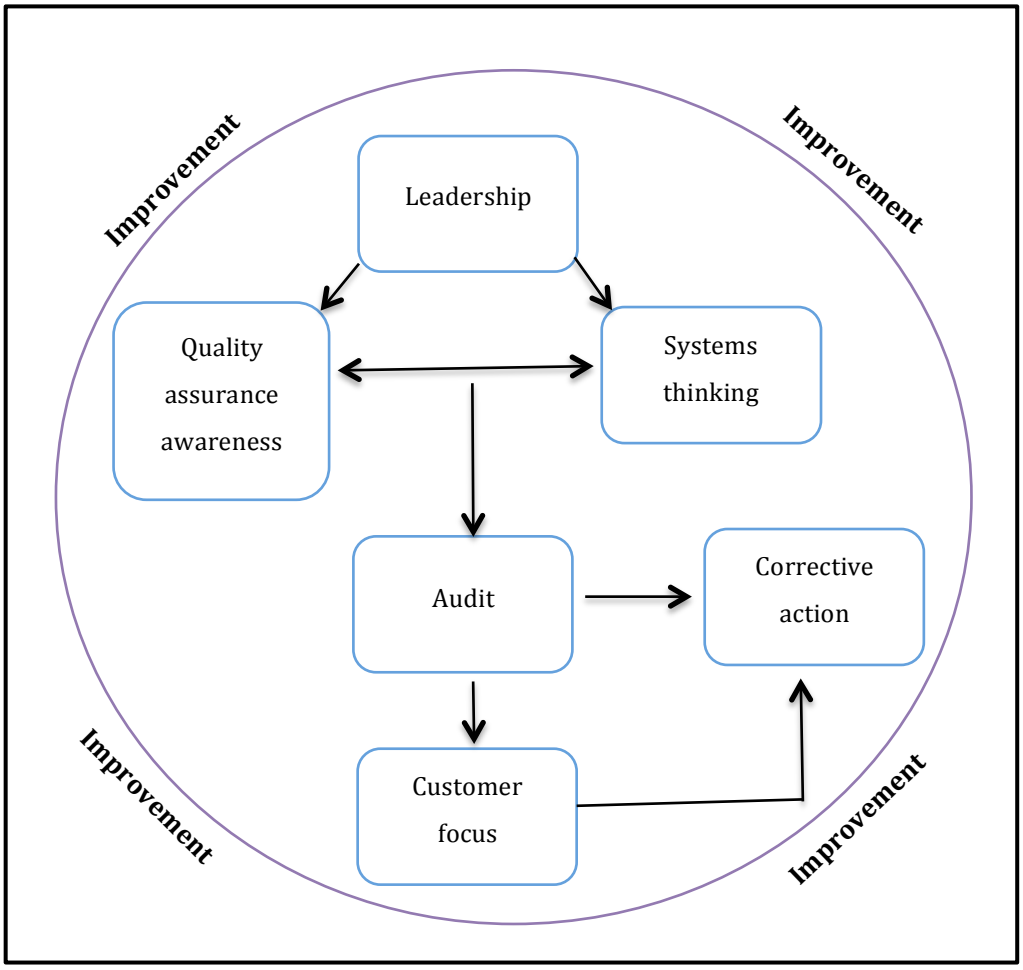

Figure 22: QA framework maps outlining important fields

Leadership shall establish QA awareness and system thinking (Figure 22). QA awareness allows those involved to understand the implications of performing their tasks as good as they can to avoid reworking and waste. Systems thinking shall be established through understanding the interrelationships of the system components and the project objectives, thus working towards ensuring purposefulness. Even when aware of the importance of quality and the CE objectives, humans are characterised by their ability to perform errors. To account for this, audits shall be performed through all phases of the CE to ensure constancy and fitness for the intended purpose. Results of the audits are to determine whether or not the CE is within the expected parameters and meeting the objectives and expectations of the client. When the audit process uncovers shortcomings within the process, corrective action should be applied. By following this process

consultants can achieve customer focus. The process requires good leadership to institutionalise a culture of satisfying customers.

The whole process of synergy between the framework fields is ought to bring about improvement (Figure 22). During the consulting process, all the lessons learnt from the CE phases should be documented and shared among those involved and especially within the consulting firm to allow continuous improvement. The six components are thought to be crucial to fulfil the criteria of efficiently running a QA framework within the consulting process, yet these are not the only aspects to be considered, but are important to initiate research in this field. They are thought to be a feasible way to sustain a systematic approach to quality in consulting. The components should be taken into account in every phase of the consulting process.

4.2.1 Leadership

Leadership, as part of the QA framework shall focus on management's commitment to act as a driving force of the CE. This is accomplished by creating awareness regarding quality assurance and systems thinking, and by encouraging employees to be fully involved in achieving the objectives of the CE (CQI, 2015).

When leading, top management shall be visibly present to ensure the efficiency of the QA framework, be involved in problem-solving, and encourage employees to use their abilities to generate ideas for quality improvement and customer service.

Leadership plays a role in the following aspects of the consulting QA framework:

- Ensuring that everyone involved in the QA framework is aware of quality matters and their implications, as well as how important it is to conform to the customer's requirements for the CE.
- Promoting awareness of the systems thinking.
- Ensuring that the CE achieves its objectives and deliverables.

Leadership allows management to create a unity of purpose and to align processes, strategies and resources to achieve the objectives of the CE.

4.2.2 Systems thinking

Suarez (1992:7) emphasizes that systems thinking involves an in-depth understanding of all the components of a system, as well as their interrelationships, in order to contribute to the efficiency of the system. Systems thinking allow for a structured way of addressing problems, by breaking down the process into simple steps that can be easily followed. Keenon (2010:94) argues that the output of one phase becomes the input of the next phase, which allows for accountable deliverables.

Systems thinking play a key role in the following aspects within the consulting QA framework:

- Having a complete understanding of the CE, its components and their relationships, as well as knowing the limits of the CE process in order to strive to control it. These components include: people, resources, infrastructure and others.
- Attempting to ensure a systematic way of operating in order to easily identify gaps in the consulting process and take corrective action accordingly.

This approach allows the QA framework to provide feedback at the end of each phase of the CE process. Reviews and audits will be part of the system to enable consultants to clearly evaluate whether or not they are conforming to the requirements of each phase.

4.2.3 Quality assurance awareness

Quality assurance is aimed at preventing the occurrence of errors in a system, thus advocating a system with zero defects by doing things right first time every time (Sallis, 2002:17). Thus, creating awareness regarding quality assurance allows those involved in the consulting process to understand the implications of not conforming to the requirements stated for each phase.

Awareness regarding QA plays a role in the following aspects within the consulting QA framework:

- Contributing to the belief of zero defects and improved quality.
- Preventing or reducing the occurrence of non-conformances.
- Assuring the belief that the CE can achieve its intended purpose.
- The use of consulting toolkits and other documents that clearly describe the sequence and how to perform certain tasks.

- Auditing of the various consulting process phases to ensure conformity and constancy of purpose regarding the problem.

The aim of creating awareness of QA is to assure that those involved in the CE understand that it is a preventive tool, which constantly advocates conformance to the requirements of each phase of the consulting process.

4.2.4 Audits

Audits within the QA framework deal with a structured process, which ensures that the activities of the CE comply with predetermined requirements, processes or procedures. Audits are required at the end of each phase of the CE process and the time points at which they will take place should be included in the quality plan.

Audits play a role in the following aspects within the consulting QA framework:

- Identifying compliance to the CE objectives and client's requirements.
- Identifying shortcomings or gaps between the various phases of the CE.
- Using corrective action to address the shortcomings or gaps.
- Ensuring that consultants learn from each audit and optimally apply their knowledge.

Quality audits are aimed at assuring that shortcomings from previous phases of the CE process do not proceed to the next phase. Audits require a person that is familiar with the process to review and ultimately approve or disapprove it. This process is non-negotiable and a phase should not be completed unless an audit was performed.

4.2.5 Corrective action

Variation occurs when things do not go according to a plan, in other words it is an error in or nonconformity to a plan. Deming (1994:98) asserts that variation is inevitable in life, but the aim of quality is to reduce variation to a desired level in order to have control over a system and its related processes. As stated in section 4.2.2 the QA framework is a preventive tool, as such it prevents the occurrence of failures, yet it is unable to fully eradicate it. Corrective action will allow those involved in the CE to act accordingly whenever shortcomings that ultimately lead to gaps between the various consulting process phases occur.

The corrective action plays a role in the following aspects within the consulting QA framework:

- Eliminating the cause of error or shortcoming and prevent future occurrence if possible.
- Determining the cause of the error or shortcoming.
- Assuring CE stability.

In this context, corrective action acts in the same manner the theory of variation (refer to section 3.7.5) does in the Deming system of profound knowledge. It relates to special causes of variation such as human error, and common causes of variation such as errors belonging to the system or machines.

4.2.6 Customer focus

Clients are the central focus of the QA framework, because they are the ones evaluating the service delivered by the consulting firm (ASQ, 2015). Therefore, strong efforts should be made to satisfy the needs of the clients and conform to their requirements, as it is an imperative for meeting or exceeding their satisfaction.

Customer focus plays a role in the following aspects within the consulting QA framework:

- Ensuring constancy of purpose regarding the customers' interests.
- Creating increased value for the customer throughout the CE.
- Understanding customer needs and requirements, allowing consultants to better meet them.

As stated in section 1.2 a satisfied customer is likely to approach the company again for future projects together or to recommend the consultant's services to other clients (McLachlin, 2000:246).

4.3 The QA framework

This section will discuss the framework developed in the previous section. Figure 23 represents the consulting engagement process for the ambit of this dissertation.

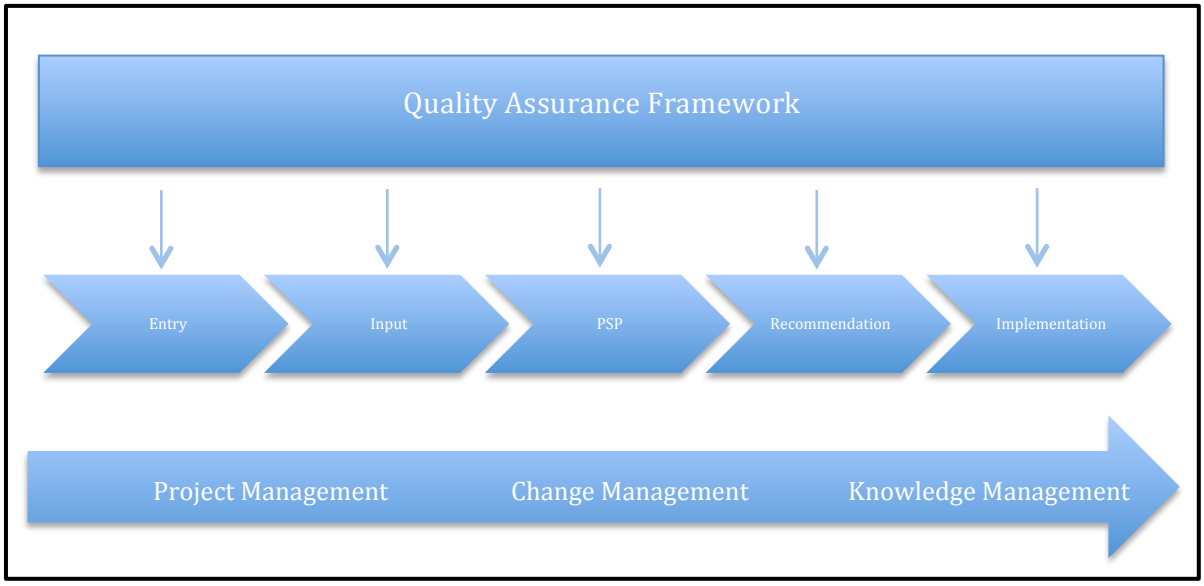

Figure 23: The CE process (revisited)

The QA framework was designed to assist every phase of the of the CE process. In an attempt to consistently yield satisfactory results and consequently reduce the occurrence of errors during the CE process.

The framework proposes a series of quality methods or requirements necessary to assist each phase of the consulting process. Thus, the researcher alerts that the QA framework should not be considered as a perfect fit for all types of CEs, as these vary in nature. It is only a generic framework proposed to consultants and consulting firms to lead their engagements, especially with regards to quality.

The QA framework is therefore not a recipe with what should or should not be done regarding quality on each phase, but identifies quality methods or requirements needed in each of these phases. The deliverables of each phase were already discussed in section 3.2, therefore the QA framework will only present and discuss how the proposed quality requirements can assist in the process of generating appropriate deliverables.

It is important to note that each consultant or consulting firm has its own set of quality requirements for each phase. Some may already be in use or planned to be incorporated; therefore these quality requirements can be used in different phases of the consulting process. For this reason, the nature of the specific CE needs to be taken into consideration and the quality requirements adapted accordingly.

In the next section, the researcher discusses the necessary quality requirements for each phase of the consulting process.

4.3.1 Entry phase requirements

It was mentioned in section 3.2.1 that the entry phase is the initial phase of the CE, where the scope of the CE and the approach or methodology to be taken are agreed upon. Figure 24 illustrates the quality requirements needed for the entry phase, as the entry phase is decomposed and the requirements for each sub-phase are explained.

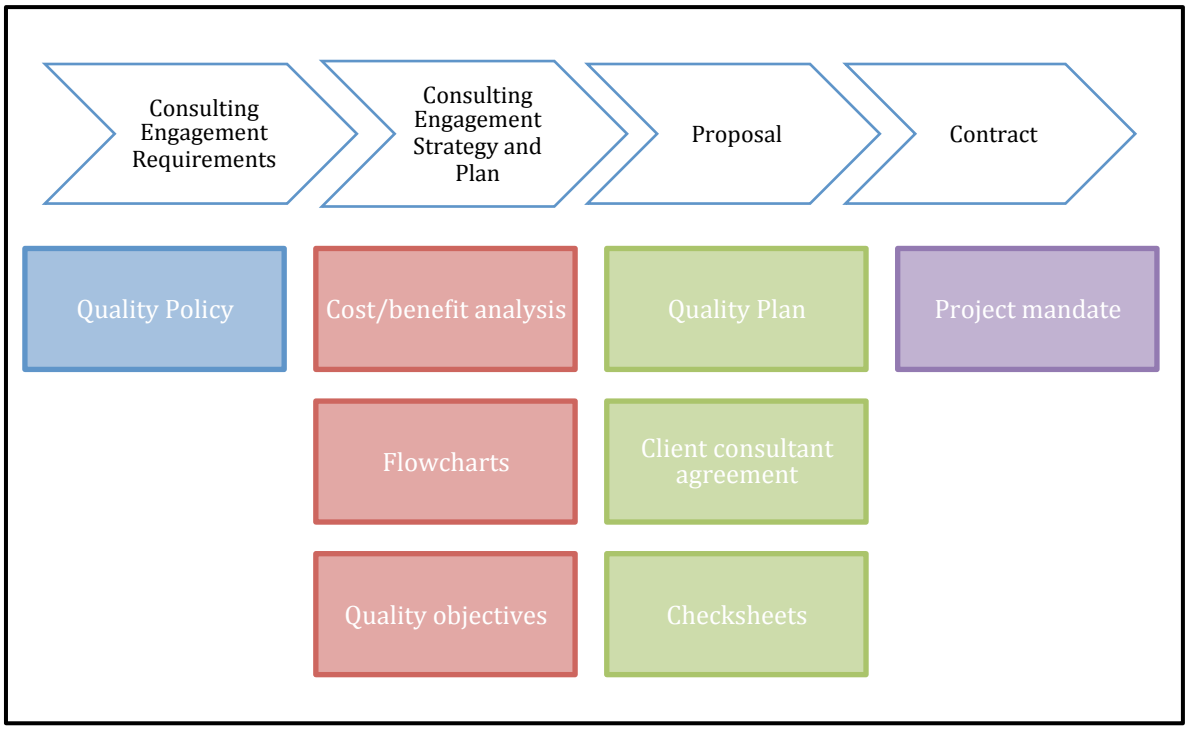

Figure 24: Quality requirements for the entry phase

4.3.1.1 Quality Policy

In order to successfully manage a QA framework within the consulting process, the integration of a quality policy is of utmost importance. ISO 9001 (2008:4) asserts that a quality policy assists to establish and review quality objectives, ensures direction and support to adhere to requirements, and should be communicated to everybody in the organisation.

The quality policy shall be available as documented information, as it is to guide the consulting process with regards to quality. QA awareness will definitely play a big role in communicating

the quality policy as it allows those involved to better understand the role of quality within the CE.

4.3.1.2 Quality objectives

Objectives are the results to be achieved. Quality objectives in the consulting process should be set by management (consultant responsible for the engagement) and aligned with the quality policy to assist consultants in meeting the requirements of the customer.

Quality objectives need to be set at an early stage to allow those involved in the CE process a sense of direction, and to give insight of the benefits to be achieved at the conclusion of the CE. The objectives should be realistic and measurable.

4.3.1.3 Cost/benefit analysis

From a quality perspective the CE strategy and plan shall take into consideration or weigh the costs against the benefits of the engagements. CE costs for meeting quality requirements include aspects necessary to run the QA framework, while the benefits include less reworking, higher productivity and lower costs.

From a QA perspective the benefits should always outweigh the cost, but for that to happen, the QA framework needs to be taken serious and the necessary fields explained (as explained in section 4.2) need to be considered.

4.3.1.4 Flowcharts

Flowcharts display a sequence of steps for a process to transform inputs into outputs (PMI, 2013:236). It illustrates the activities, branching loops, decision points, and the overall order of operations. It can be very useful to estimate the cost of quality.

Flowcharting in the QA framework will allow consultants to mitigate what and where problems within the consulting process may occur, and therefore use the appropriate quality methodology to eliminate the problem. It also outlines when reports are to be presented to the client, and helps to assure that everybody is well-informed.

4.3.1.5 Quality Plan

The quality plan should be an extension of the CE plan, which describes how the consulting team plans to implement the quality policy and meet the requirements of the project (Westcott, 2014:266). It shall include quality standards, resources, specifications and a series of activities relevant to the CE (Westcott, 2014:266).

The nature and the requirements of the CE will determine the level of detail of the quality plan. The quality plan puts greater focus on the problem to be resolved. The proposed quality plan shall conform to the strategy and plan to be used in the CE and attempt to achieve the objectives of the engagement with less reworking. It shall also touch on the process of quality checks, reviews and sign-offs before the consultant can proceed to the next phase or sub-phase.

4.3.1.6 Client-consultant agreement

The client and the consultant shall agree on an understanding of the problem, the strategy or methodology to be applied, the resources to be used, and the quality plan. Conflicts during this phase should be avoided, as it is one important phase for the client-consultant relationship. Therefore the consultant firm shall strive to get the client to agree the proposed terms, which shall be aligned with the CE objectives.

4.3.1.7 Checklists

A checklist is an activity-specific tool, structured to verify whether or not certain activities have been performed or how often they should be performed (PMI, 2013238). These activities can be anything from defects to positive quality attributes (Krajewski & Ritzman, 1999). Consulting firms generally use checklists, to ensure consistency in the performance of tasks.

At the proposal stage, it is advised that consultants determine what is to be done. For this reason checklists should also be used to monitor whether the proposed activities have or have not been performed and outline what deliverables are required at each phase of the consulting process. These deliverables may be reports, drawings, and geotechnical investigations.

4.3.1.8 Project mandate

The Sheffield City Council (2014) argues that the project mandate is the first document required to initiate a project. It combines all the information available at this stage of the CE and shall be completed before any activity takes places, because it requires approval from the steering committee (Sheffield City Council, 2014).

The project mandate is a master plan for the CE. As such it should state the project's aim and objectives, appoint the stakeholders of the CE (section 3.5.1) and the role they will play, describe a risk management strategy (section 3.5.3) and determine the CE deliverables of each phase with regards to client expectations and quality requirements.

The project mandate is the last quality document in the entry phase, thus within the QA framework it attempts to fix any last minute non-agreement between the consultant and the client, to ensure the successful closure of the entry phase and its subsequent approval.

4.3.2 Input phase requirements

Considered as first operational phase and the heart of the CE process, the inputs phase is divided into data collection and diagnosis. Refer to section 3.2.2 for a detailed explanation of this phase.

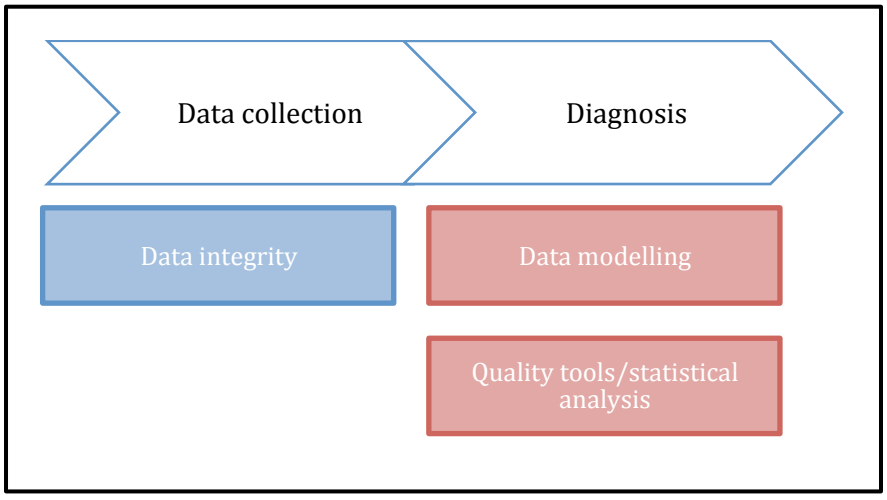

Figure 25: Quality requirements for the input phase

4.3.2.1 Data integrity

The QA framework should be able to cater for the quality and integrity of the data. In other words, it simply means that the framework should help consultants identify data that is accurate and relevant to help resolve the problem.

Data integrity is assured through a detailed description of the strategy and procedures used to collect the data, which include questionnaires, interviews and records (section 3.2.2.1). It is also important however to not only assure the integrity of the data but to maintain it. Therefore, consultants should constantly take into consideration the problem that is being faced, the requirements of the client and adhering to validation routines.

4.3.2.2 Data modelling

An important aspect of the data collection is the modelling of the data, as it facilitates the data analysis. In this regard, consultants should model the data by using graphs, charts and other tools to allow for a pictorial presentation or illustration of the results prior to analysis.

4.3.2.3 Quality tools

Quality tools used during the diagnosis phase are meant to assist consultants in analysing the data collected and further diagnosing the problem. The tools and their applicability should all be described in the quality plan. There are lots of quality tools, yet the researcher decided to mention a few in the belief that they would best fit this phase. These are:

- **Cause and effect diagrams** – also known as fishbone or Ishikawa diagrams, is a quality tool used to identify causes of a problem. Problem causes are identified by asking 'why', until a reasonable root cause has been determined (Krajewski & Ritzman, 1999). The Ishikawa diagram should assist consultants in identifying undesirable variations related to the problem within the collected data, to indicate where corrective action needs to be taken.

- **Scatter diagrams** – are point plot graphs used to compare two variables in an attempt to identify correlations between the two (Omachonu & Ross, 2004:269). The position of the plots dictates the cause-and-effect relationship between variables. The relationship can either be proportional – indicating a positive correlation, inverse – indicating a negative

correlation, or zero correlation – indicating that there is no relationship between the variables.

- **Pareto charts** – is based on the belief that 80% of a problem is caused by 20% of the influences involved (Krajewski & Ritzman, 1999). The aim is to concentrate on the 20% of influences to eliminate 80% of the problem influences, thus saving time that would be spent analysing every influence of the problem.

- **Control charts** – generally used to determine whether or not a process or operation is stable or conforming to requirements (Omachonu & Ross, 2004:269). To establish that, consultants should first determined control limits to reflect maximum and minimum levels allowed. These limits are to establish the point whereby corrective action should be taken, thus clearly diagnosing the extent of the problem (Omachonu & Ross, 2004:269).

- **Matrix diagrams** – used to analyse data within an organisational structure created by a matrix. The matrix identifies the strength of relationships between factors, causes and objectives that exist between the rows and columns that form the matrix (PMI, 2013:246).

- **Interrelationship diagraphs** – are used for creative problem solving in complex situations that include logical relationships that are interconnected. The interrelationship diagraph is built from the data collected with other tools such as the fishbone diagram.

Statistical analysis may also be used to diagnose the causes of the problem and examine relationships between the different data collected. These quality tools and statistical techniques will differ depending of the nature of the problem and the purpose of the CE.

4.3.3 Problem-solving process phase requirements

The problem solving process phase is the basis of the development of solutions, which will ultimately become recommendations that will be presented to the client. Therefore the implications of each possible solution and their alternatives should be taken into account.

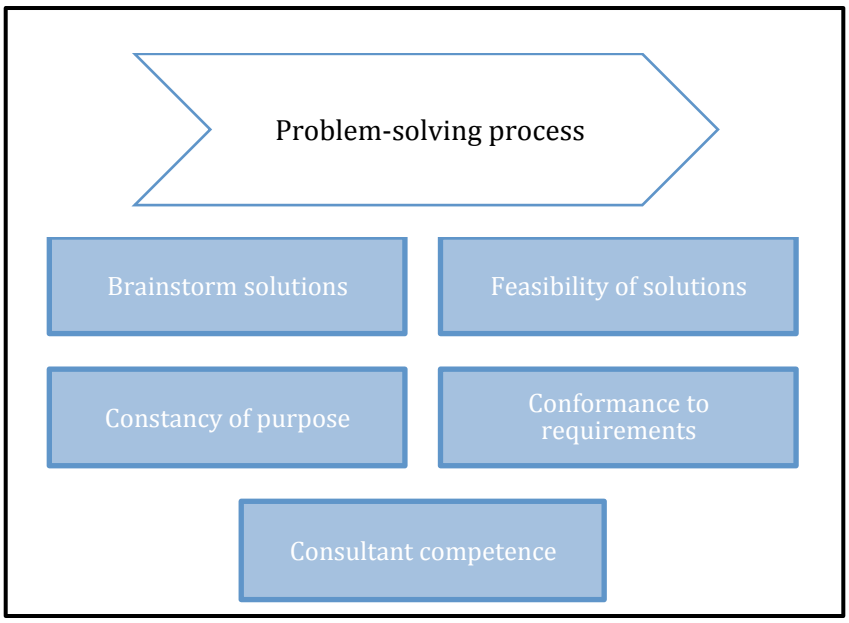

Figure 26: Quality requirements for the problem-solving phase

4.3.3.1 Brainstorm solutions

The analysed data shall be brainstormed on to find the best solutions to the problem, as it is unrealistic to quickly point out the solution. For this reason, the nature of the problem and its technical characteristics are the main aspects to be considered while brainstorming for solutions.

Brainstorming allows consultants to be non-judgemental while identifying solutions to the problem, because the ideas generated may contain the seeds that will lead to a feasible solution at a later stage.

4.3.3.2 Constancy/fitness for purpose

While brainstorming or finding solutions to the problem consultants should avoid the trap of loosing focus on the purpose of the engagement. In other words, they should ensure that the solutions fit together and are in-line with the problem. To do this, consultants should attempt to weigh alternatives and use facts from the diagnosed data to support them. The alternatives that are more consistent and better related to the problem are considered to be of a higher quality and therefore are the ones to be considered in the recommendations phase.

4.3.3.3 Feasibility of solutions

Similar to the way the QA framework should strive to ensure the integrity of the data collected, it should also attempt to ensure the feasibility of the solutions generated at the brainstorming

session. Whenever solutions are not feasible, alterations should be made to ascertain feasibility.

Solutions are considered to be feasible when they are decomposed to their roots to ascertain that they match the problem – this process should always be supported by facts. These facts assist the consultant to convince the client regarding conformance and feasibility of the solutions.

Feasible solutions should always consider those affected by the change to come. Consultants can generate the best solution to the problem, but if those affected by it were not taken into consideration, the client's likelihood of acceptance is minimal and may result in resistance to change.

4.3.3.4 Conformance to requirements

Conformance to requirements in the context of the QA framework refers to the consultant's attempt to assure that proposed solutions match the problem and address the needs of the client in order to strive for customer satisfaction. Consultants should also consider compliance to national and international standards, design specifications, building regulations and any regulation applicable to the project.

Norms must always be followed, especially when they refer to laws or regulations. It cannot be emphasised enough that non-compliance to these laws and regulations can lease into serious consequences for both the client and the consultant.

4.3.2.5 Consultant competence

In the context of the framework, consultant competence refers to the ability to solve problems. Consultants should be able to prove to clients that the remedy they are suggesting for the problem is accurate and the best solution to the problem at hand.

Consultants within the same consulting firm or industry generally undergo different training as their companies cater for clients with different needs. For that reason, education and training is usually addressed at the entry phase of the CE, at which the requirements are discussed. Experience plays a big role, but with today's technological advancements things can be done better and faster or in a different, easier way. Therefore it is important to assure that the right people are allocated to the right positions. A balance in the team is essential, where the right questions should be asked in order to generate the right input.

4.3.4 Report phase requirements

The report provides a tangible, accessible and permanent communication of the finding of the CE. It should be a simple, concise and impactful explanation of the consultants' diagnosis regarding the client's problem and their efforts to find solutions for it. Refer to section 3.2.4 for a detailed explanation.

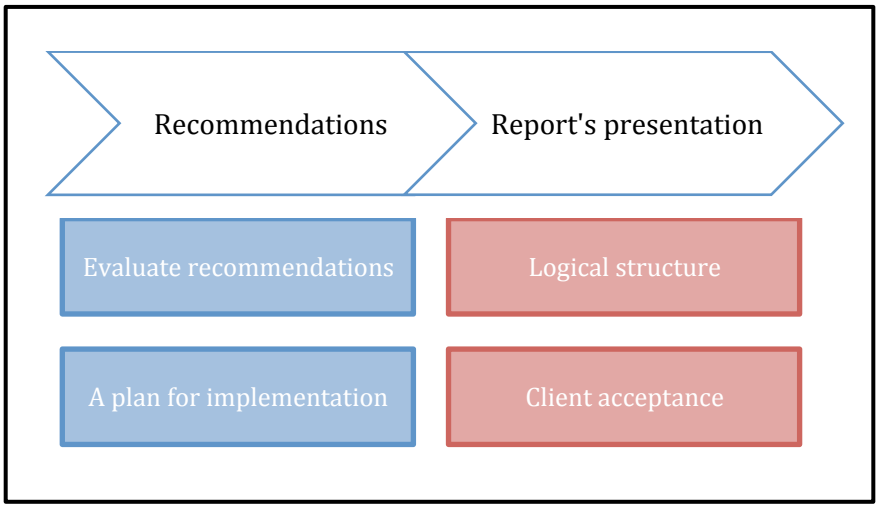

Figure 27: Quality requirements for the report phase

4.3.4.1 Evaluate recommendations

Before a plan for implementation is developed, consultants should evaluate recommendations to ensure that their benefits are greater than the costs of implementing it. Recommendations should always be aligned with the organisational culture, those affected by the change should be considered, and the consultant should ensure that the recommendations are balanced between the client's needs and resources available.

4.3.4.2 A plan for implementation

Recommendations should include a plan for implementation which will describe how solutions will be implemented. A plan for implementation is a roadmap to the implementation phase, which reassures consultants' certainty regarding the feasibility of the proposed recommendations.

From a quality perspective nothing can be done without a feasible plan. Yet, it is known that deviations from the plan may occur during the course of the implementation phase. Thus the plan should make provision for corrective actions and risk analysis to ensure that these deviations are appropriately addressed.

4.3.4.3 Logical structure

When presenting the report to clients, consultants should communicate ideas in a clear way to convince them that the proposed recommendations are the best according to the problem or change needed. The best way to deliver a good presentation is to have a good logical structure with easy-to-follow steps. The reason for that is to strive to keep the client's attention all the time.

The presentation's arguments should be supported by the facts presented in the report, and by charts and graphs to better convey the message.

4.3.4.4 Client acceptance

Client acceptance is a key aspect of the QA framework, as it means that consultants have met the objectives of the CE. Thus, after having done everything right, the consulting team should – while presenting the report – focus on the audience by speaking their language, being completely knowledgeable about the problem and its roots, and being able to convince them about the recommendations proposed.

4.3.5 Implementation phase requirements

The implementation phase is considered to be the basic objective of any CE and very important within the consulting process. It is where the practical reality is initiated, as consultants aim to prove that the proposed recommendations are feasible or ideal to resolve the problem and bring about the awaited change. The implementation phase further includes three requirements (Figure 28). Refer to section 3.2.5 for a detailed explanation of this phase.

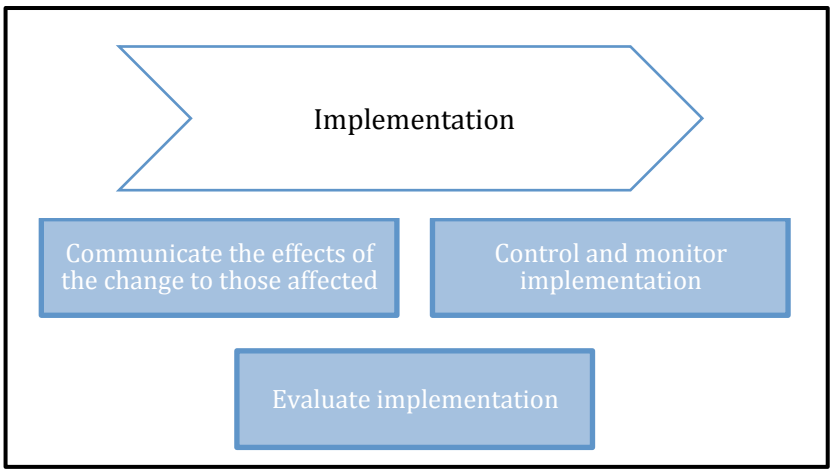

Figure 28: Quality requirements for the implementation phase

4.3.5.1 Communicate the effects of the change

The effects of the change must be communicated to those affected by it, due to the fact that the change awaited by management and consultants will only become a reality if those affected by the change agree with and believe that the idea that the transition required to accommodate the change, is possible (Kerzner, 2009:79).

Failure to effectively communicate what is to change and how, results in resistance to the change, generates misunderstandings and fear of the unknown, which ultimately jeopardises the implementation process.

4.3.5.2 Control and monitor implementation

During the implementation people's contribution, roles and tasks completion time shall be clearly specified. Kubr (2002:232) explains that this is done to better control and measure the results of operations in an attempt to assure conformity to the implementation plan.

From a quality perspective, control is crucial for the QA framework. Through controlling one can mitigate where certain shortcomings occurred while the plan was being performed, to then make the necessary adjustments and corrections.

4.3.5.3 Evaluate implementation

The implementation phase evaluation is the last quality requirement of the implementation phase. It dictates whether or not the CE has fully or partially achieved its objectives and/or consultants' have satisfied the client, but one should take into consideration that certain problems might occur during the CE process or during the implementation phase, and these may change the purpose of the CE.

4.4 Summary of QA framework requirements

Figure 29 gives an overview of the consulting process phases with the respective quality requirements, as discussed in section 4.3 above.

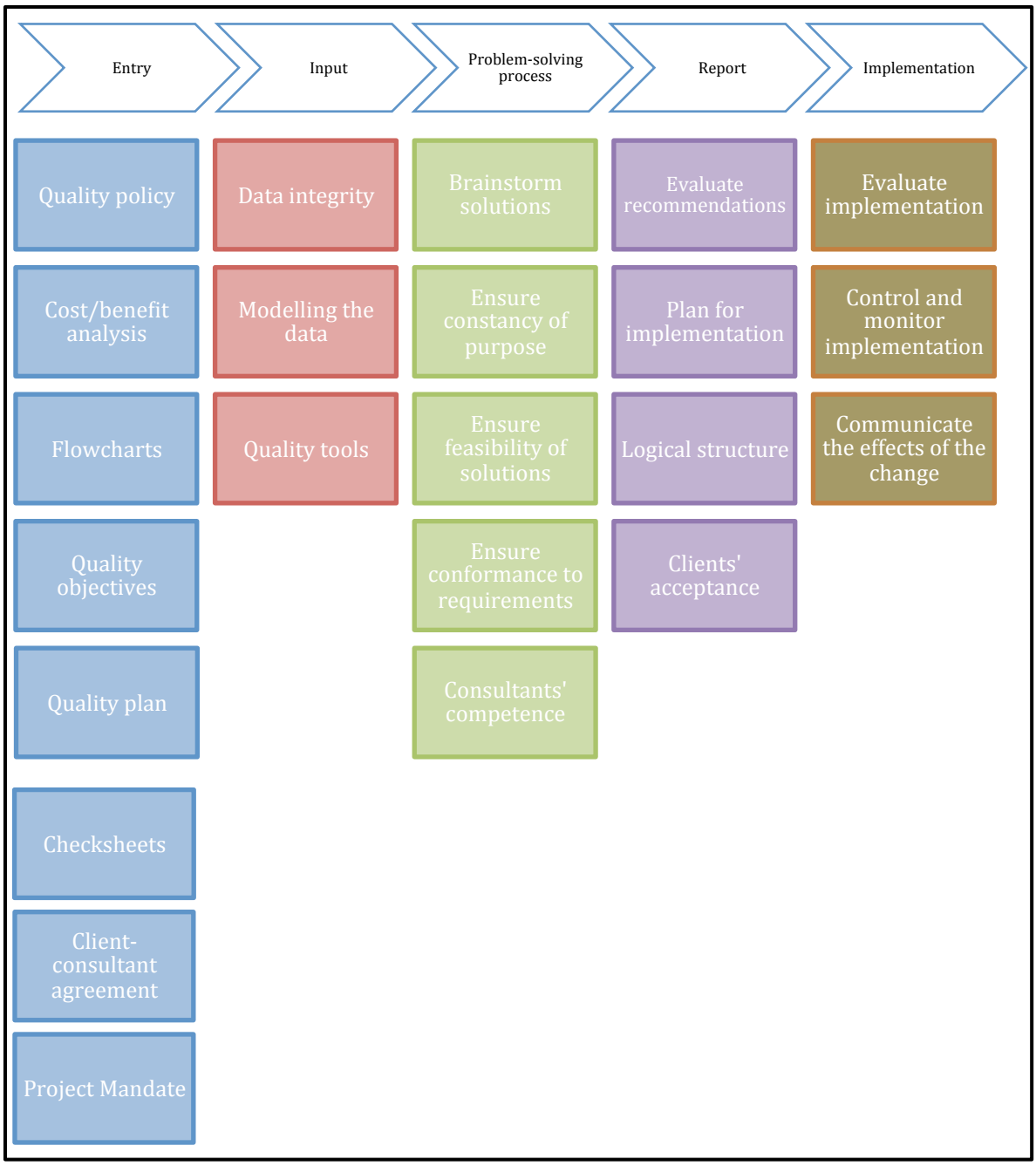

Figure 29: Summary of the QA framework requirements

4.5 Chapter conclusion

A generic QA framework for the consulting process was proposed and explained in this chapter. Reference was made to the necessary fields to run the framework and the quality requirements for each phase. These, however, are not the only ones but are believed to be sufficient for initial research in the field.

The development of the framework resulted from the analysis of literature and current quality tools and techniques. The proposed framework still requires testing and/or validation.

CHAPTER 5: RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

Every research study should have a roadmap and an appropriate methodology. Weathington et al. (2010:265) explains that research design refers to methods used to collect data that are to decisively answer the research question. On the other hand, Saunders et al. (2009:3) defines methodology as the theory of how research should be undertaken.

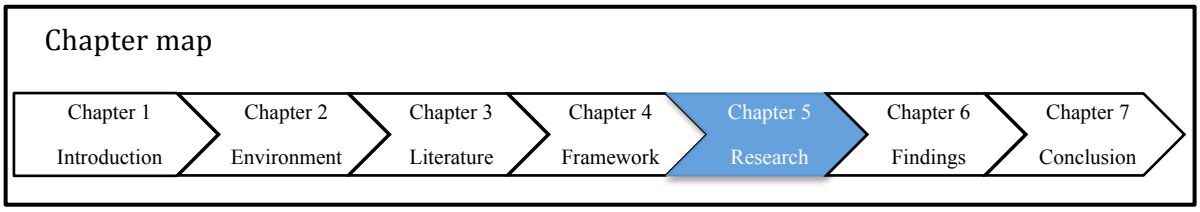

Figure 30: The fifth phase of the research

This chapter describes a research process designed to be aligned with the researcher's purpose and to answer the research question. The process was an adaptation of the works of Babbie (2008), Saunders et al. (2009) and Mouton (2013), with supporting literature from Mouton (2002) and Lodico et al. (2006). Yet, the final design and methodology was decided upon through a process of elimination of all available options to ensure that options that suit the research better, prevailed.

The implemented process followed the structure presented below:

- Determine the research philosophy.
- Determine the research approach.
- Decide on the purpose of the research.
- Determine whether the research will be empirical or non-empirical.
- Determine whether the research will be quantitative (numeric) or qualitative (textual).
- Decide on the research strategy.
- Establish time horizons.
- Define the data collection methods to be used.
- Select a sampling method.
- Determine how the research is to be validated.
- Determine how data is to be analysed.

5.2 The research philosophy

According to Saunders et al. (2009:107) the concept of research philosophy refers to the development and nature of knowledge. Thus, it is comprised of assumptions regarding the researcher's view of certain circumstances or realities. The authors emphasize that there are three main philosophies in the research process (Saunders et al., 2009:108). These are: positivism, interpretivism and realism.

The first philosophy discussed by Saunders et al. (2009) is positivism. Positivism is mostly adopted when undertaking research in the natural sciences. Here, the researcher is an analyst who acts as an observer to produce credible data through the instances he or she witnesses, attempting to do so without bias (Saunders et al., 2009:113). Therefore, this approach is based on facts rather than impressions, as the facts are supported by the observations made by the researcher, taking into consideration that the researcher cannot affect or be affected by the subject of the research (Saunders et al., 2009:113). Supporters of the positivist approach apply a highly structured methodology to facilitate replication and focus on quantitative statistical analysis.

Realism is the second philosophy discussed by Saunders et al. (2009). Realism adopts a scientific approach to knowledge creation that examines people's various interpretations conveyed by a certain reality or situation, as well as people's awareness of regarding the mental process used to reach such interpretations (Saunders et al., 2009:114). In this regard, an understanding of the environmental and social forces that have generated the situation is crucial, as it can broaden and change the researcher's knowledge or interpretations regarding the subject being studied. (Saunders et al., 2009:115).

Lastly Saunders et al. (2009) explain the concept of interpretivism. Saunders et al. (2009:116) argue that the interpretivism philosophy advocates that the business environment is far too complex and dynamic to be theorised by definite laws or generalisations. As a result it attempts to uncover differences between humans and the complexity of our roles in society. People interpret the world around them differently, and each person does it in a unique way, which ultimately affects their actions and interaction with others, resulting in different behaviour (Saunders et al., 2009:116). The interpretivism philosophy aims to explore the world of research participants in order to understand their world from their point of view to later gain sufficient knowledge to explain their purposes and actions (Saunders et al., 2009:116).

The world is constantly changing, therefore there is a need to understand its structures, processes and procedures as well as their interaction with one another to realistically analyse certain

situations. In this regard, the researcher adopted both the realism and the interpretivism philosophies for this research study as it focused on understanding the nature of gaps within the consulting process and applying a framework in an attempt to address these failures.

5.3 The research approach

The choice of the research philosophy leads the researcher to decide which form of scientific reasoning or approach is to be used when designing the research project. This allows the researcher to make an informed decision regarding the research design, and to determine the research strategies that better suit the research (Saunders et al., 2009:126). Saunders et al. (2009) and Mouton (2013) assert that a research study can either employ deductive or inductive reasoning.

Deductive reasoning entails the development of a theory or claim subjected to tests that are scientific-like in nature (Saunders et al., 2009:124) and drawing conclusions from these tests (Mouton, 2013:117). Mouton (2013:117) argues that the deductive reasoning conclusions are explicitly or implicitly comprised in the tests. According to Saunders et al. (2009:125) deductive reasoning involves the following important characteristics:

- The need to explain relationships between variables, which force the researcher to develop hypothesis to test these relationships.
- The creation of control measurements to test the hypothesis and to ensure that expected outcome is within the boundaries of the hypothesis.
- The use of a highly structured methodology such as experimentation to facilitate replication.
- The operationalization of concepts in an attempt to quantitatively measure the results of the experiment, and concluding whether the hypothesis has been proven or requires modification.
- The statistical generalisation regarding human social behaviour.

Contrary to deductive reasoning, Saunders et al. (2009:124) argues that inductive reasoning entails a different sequence, where information is collected first and then analysed to understand the situation and fully grasp the extent of the problem. The result of this analysis culminates in the creation of the theory. Saunders et al. (2009:124) adds that supporters of this approach to reasoning criticise deductive reasoning due to its attempt to force rigid methodologies that do not allow influences of other elements or alternative explanations. Inductive reasoning entails a small

number of participants, qualitative research methods and various forms of data collection (Saunders et al., 2009:124).

This research study focused in inductive reasoning as it allows the researcher to have different views of the reasons behind CE failure while focusing on the context of assuring the quality of CEs.

5.4 The purpose of the research

Research studies entail different purposes, thus, Babbie (2008:97) lists exploration, description and explanation as being the most common research purposes used. Babbie (2008:97) asserts that most studies encompass more than one purpose, but note that the choice of the research purpose depends on the objectives to be achieved.

Exploratory studies are used to explore a topic in order to familiarise the researcher with that topic (Babbie, 2008:97). Saunders et al. (2009:139) adds that the exploration allows the researcher to determine 'what is going on' and to develop a deeper understanding of the situation. These studies are appropriate for a persistent situation (Babbie, 2008:97), due to being flexible and adaptable with regards to the research direction (Saunders et al., 2009:140).

Descriptive research is a precursor of explanatory research therefore it is important to clearly grasp the situation by investigating the details of occurrence prior to collecting data (Saunders et al., 2009:140). The aim of descriptive studies is to answer the questions of who, what, where, when and how in an attempt to accurately depict the existence of certain instances (Babbie, 2008:99).

Explanatory studies seek to identify casual relationships between variables (Saunders et al., 2009:140). Babbie (2008:99) claims that data can be collected for both quantitative and qualitative analysis. Quantitative analysis is usually subjected to statistical tests such as correlation to generate a clear understanding of how the various elements influence one another, while qualitative analysis seeks to identify why a situation or problem has occurred (Babbie, 2008:99).

This research study incorporated all three approaches, as each research question seeks to answer different purposes within the research.

5.5 Empirical research versus non-empirical research

A research study can either be empirical or non-empirical. Empirical research tends to prove or disprove theories by collecting and analysing data, while non-empirical studies focuses on the meaning of concepts, main theories within debates and the creation of new models (Mouton, 2013:57). Figure 31 illustrates a broad classification of the main types of research for the options being discussed.

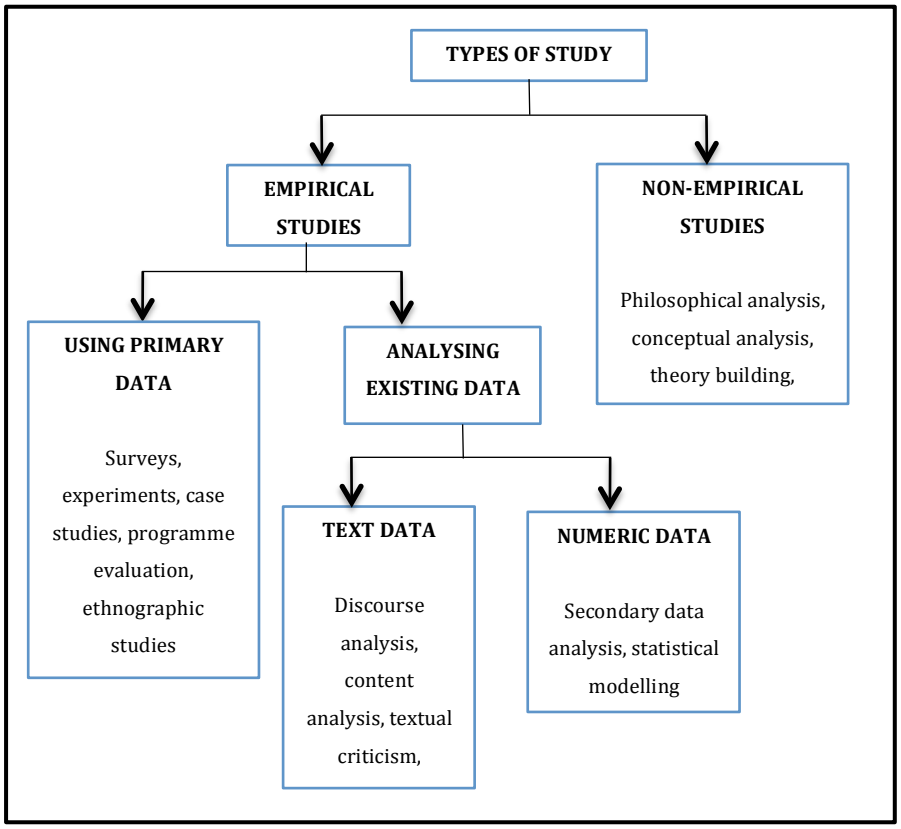

Figure 31: A typology of research design types (Mouton, 2013)

From Figure 31 the researcher can assume that empirical research can be both qualitative and/or quantitative in nature. Therefore, research questions can be answered by means of both numeric and/or textual analysis of primary or existing data (Mouton, 2013:57). Non-empirical research on the other hand focuses on textual analysis to answer the research questions, thus acquiring an understanding of interactions between concepts or building new theories (Mouton, 2013:2007).

In this research the non-empirical study approach is applied, due to the nature of the research questions and due to the framework developed in Chapter 4, since it allowed the researcher to understand the main concepts related to the quality of CEs.

5.6 Quantitative research versus qualitative research

The concepts of quantitative and qualitative research are often used to distinguish different data collection and data analysis methods or procedures. Saunders et al. (2009:151) explains that an easy way to differentiate the two is the fact that once focuses on numbers or numeric analysis and the other one focuses on textual analysis.

Saunders et al. (2009:151) argues that quantitative research is generally numeric, therefore it focuses on data collection techniques and data collection procedures that generates numerical data to measure a situation, such as customer satisfaction for example. Questionnaires are among the most popular data collection methodology in quantitative research and are designed to elicit information that is analysed statistically for analysis (Babbie, 2008:272). The result of the statistical analysis is then presented graphically to summarise the analysis and draw conclusions.

Saunders et al. (2009:151) explains that qualitative research is predominantly textual, with the aim of explaining how and why problems occurred rather than their frequency or impact. Lodico et al. (2006:264) notes that this type of research uses inductive reasoning and focuses on uncovering different perspectives regarding the feelings and perspectives of the participants being studied. Interviews and observations are the most popular data collection methods, as both methods allow the researcher to be close to the participants of the research (Lodico et al., 2006:264).

This study is qualitative in nature, as it involves textual analysis aimed at explaining different perspectives of how and why problems occur during CEs.

5.7 Research strategies

According to Saunders et al. (2009:141) a research strategy is a strategy employed to allow the researcher to best answer the research question and meet the research objectives. Research strategies are based on the nature of the research questions, the research time scale and other resources.

When conducting research, there are various strategies available. Table 5 provides a brief summary of the most popular options.

Table 5: Research strategies (adapted from Mouton, 2013)

Research Strategies	
Name	**Brief description**
Ethnographic research: participant observation studies	This strategy is usually qualitative and is concerned with the development of a detailed understanding of a group of people or community with regards to their environment, perspectives and practices.
Ethnographic research: case studies	This strategy is often qualitative in nature and attempts to provide an in-depth description of a small number of cases.
Participatory/action research	This qualitative in nature type of study is aimed at gaining a better understanding of the subjects of the research. It is also focused on empowering research participants and to change their social conditions.
Surveys	This study is quantitative in nature and aims to establish a broad overview of a large population sample.
Comparative, cross-cultural and cross-national studies	This study is aims to find differences and similarities between the subjects of the research, such as organisations, cultures, cultures and even individuals.
Experimental designs (laboratory studies)	This study is quantitative in nature, uses rigorous controlled conditions to casually study a small number of cases under laboratory conditions. These conditions allow for repeated measures over time, thus the researcher can experiment and compare the cases to draw conclusions.
Field/natural experimental designs	Quantitative in nature, it attempts to provide a broad overview of a large population sample, in a natural setting rather than in laboratories.
Evaluation research: implementation (process) evaluation	This study attempts to answer whether an intervention has been appropriately implemented or as designed and whether the target group has been properly covered.
Evaluation research: experimental and quasi-experimental outcome studies	Research that aims to establish whether an intervention has been effective or if the ultimate outcome was achieved. It includes short and long-term outcomes.
Evaluation research: qualitative (naturalistic) and empowerment evaluation	This is a qualitative study that aims to describe the performance of initiatives in their natural environment, with the focus on the implementation rather than the outcome.
Statistical modelling and Computer simulation studies	This study involves developing and validating models that represent the real world. Statistical techniques and computer simulation models are used to generate data to generate data that is compared to actual data for validation purposes.
Secondary data analysis	Research aimed at reanalysing existing quantitative data to test theories or to validate models.
Content analysis	Research that involves the analysis of documents, including illustrations, words, diagrams or any message that can be communicated.
Textual analysis, hermeneutics, textual criticism	Research aimed at examining religious or literary documents and their meaning.

Discourse and conversational analysis	This type of research is similar to textual analysis, as it also aims to understand the meaning of words but within a great context. It refers to examining language beyond the context applied in a conversation.
Historical studies, narrative analysis	Research aimed at explaining occurrences of the past in chronological order.
Life history methodology	This study examines a small number of individuals, in an attempt to retell their life histories as explained by them.
Methodological studies	Research studies that attempt to create new methods of data collection such as questionnaires. This study also validates newly invented instruments through a pilot study.
Conceptual analysis	The study of the meaning of words or concepts by analysing all possible definitions available.
Theory-building or model-building studies	Research aimed at the development of new theories or models to better explain certain circumstances.
Philosophical analysis	Research aimed at examining opinions in favour or against a particular situation. This type of study often contributes to a greater understanding of metaphysics, ethics and logic.
Literature reviews	This study aims at examining scholarship in order to gain an overview of the body of literature on a certain topic through an analysis of trends and debates.

This study uses of theory or model building and literature reviews as research strategies. The literature study enlightened the researcher's understanding of the research problem while the theory or model building helped in explaining the situation with regards to the researcher's assumptions and the creation of the QA framework.

5.8 Time horizons

Saunders et al. (2009:155) point out two options to researchers regarding time horizons. These are cross-funtional studies and longitudinal studies. The authors point that these horizons are independent of the choice of method or the research strategy chosen.

Cross-funtional studies involves studies of a particular situation at a specific point in time in an attempt to explain how certain aspects of the situation are related (Saunders et al., 2009:155). Depending on the type of study it may involve the use of questionnaires or interviews.

In contrast, Saunders et al. (2009:155) argues that longitudinal studies involve the monitoring and controlling of change and advancements over an extended period of time. Therefore, when the subjects of the research are being observed over an extended period of time it allows the researcher to measure and have control over them.

This study adopted a cross-functional approach due to time constraints.

5.9 Data collection

5.9.1 Primary data versus secondary data

There is a relationship between the type of research study and the type of data used in the research. Figure 32 illustrates the research design options when deciding between the type of study and the type of data.

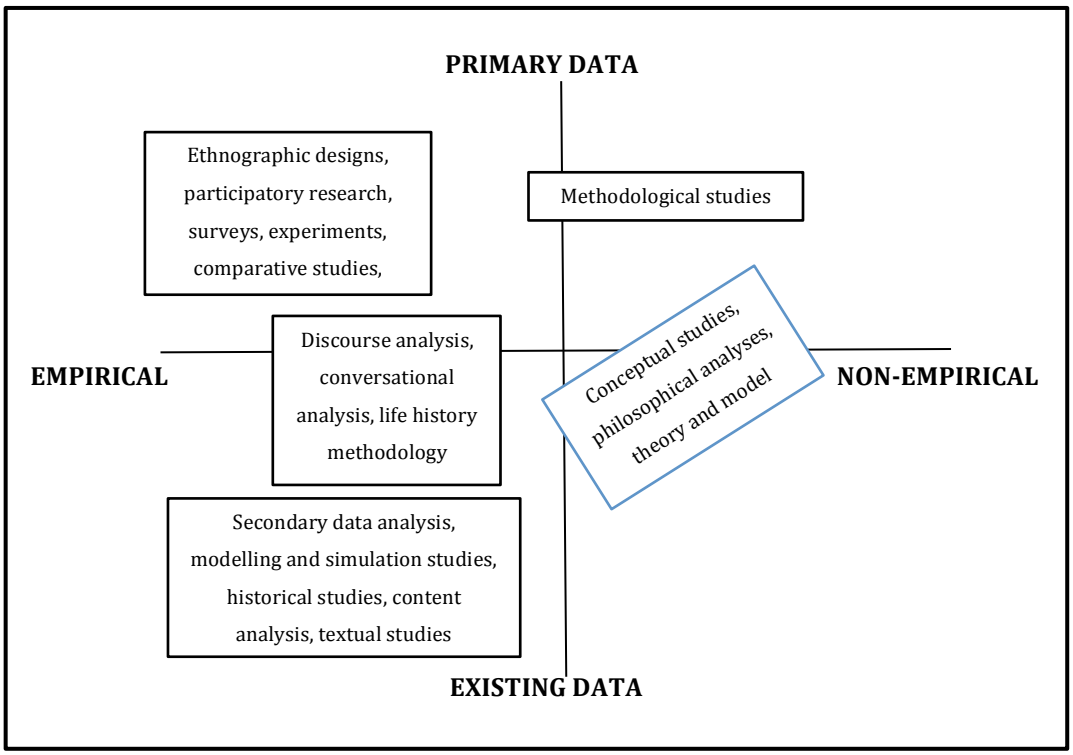

Figure 32: Relationship between the choice of study and the type of data (Mouton, 2013)

Through the collection of primary data researchers can make use of empirical studies such as ethnographic designs, participatory research, surveys, experiments and others; while the collection of secondary data allows researchers to draw conclusions using modelling and simulation studies, content analysis, historical studies and textual studies (Mouton, 2013:144). Interestingly, some researches fall neatly into both the two categories of types of data or choice of research. Conceptual studies, and theory and model building are examples of research that fall between empirical and non-empirical studies. While the ones that use two types of data include discourse analysis and history methodology as research methods (Mouton, 2013:144).

This research study uses both primary and secondary data, since the collection of primary data aims to support the secondary or existing data.

5.9.2 Data collection methods

Lodico et al. (2006:266) claims data collection in qualitative research is usually done by means of interviews, observations and document analysis.

Interview is a process involving an interviewer and an interviewee whereby the interviewer is very familiar with the questions to be asked and has a plan of inquiry that includes the fields to be covered (Babbie, 2008:336). The interviewer does not talk much, yet should not be a passive receiver, but should be able to guide the conversation into the direction he or she desires (Babbie, 2008:336). Saunders et al. (2009:319) identifies three types of interviewing:

- **Structured interviews** – refers to the use of questionnaires with a predetermined set of questions asked in a sequential manner.

- **Semi-structured interviews** – the researcher has a set of questions but they may vary in order and from interview to interview. It allows the interviewer to redirect the interview through the topics he or she whishes to cover.

- **Unstructured initerviews** – are generally informal and the researcher uses this type of interview to explore a field of concern in depth.

Observation refers to the process of recording, making a systematic description, analysing and interpreting the meaning attached to human beings' behaviour (Saunders et al., 2009:289). While observing, the researcher attempts to become part of the research participants' environment, not only to understand what is happening but also to feel what participants feel (Saunders et al., 2009:289).

Document analysis involves the analysis of documents, including illustrations, words, diagrams or any message that can be communicated (Mouton, 2013:165). Document analysis also refers to examining scholarship in order to gain an overview of the body of literature on a certain topic through an analysis of trends and debates (Mouton, 2013:179).

This research made use of semi-structured interviews and literature review or document analysis as a data collection methodologies. Interviews were chosen in order to allow the researcher to gather an expert opinion regarding the research problem to better address the research questions and fully grasp the situation from different perspectives, while document analysis allowed the researcher to fully understand the research problem based on results of previous studies by other researchers.

5.9.3 Interviewing process

The interviews took on the face-to-face and one-on-one format. The interviewing process questioned the interviewees regarding the research questions and feasibility and reliability of the QA framework. The interviewees were subjected to a presentation, which is attached as Appendix B to establish an understanding of the research being conducted and an understanding of the proposed framework. Interviews were recorded, transcribed and later summarised for the purpose of analysis. Interviews transcripts can be found in Appendix C. During the interviews interviewees often replied with examples related to the company they work for or their previous experience.

Ten questions were posed to interviewees during the interviewing process. These questions and the justification for their inclusion are presented below:

1. *What is the nature of the gaps that inhibit CE success?*
   This question was posed to uncover where the gaps lie. Once they were identified it was easier to address them.

2. *What are the main reasons for these gaps that lead to unsuccessful CE?*
   This question was posed to uncover the causes of the gaps, which ultimately become the causes of CE failure.

3. *What quality methodologies are required to narrow the gaps between the various consulting process phases?*
   This question was posed to identify possible quality methodologies capable of addressing the gaps between the consulting process phases. It draws a lot on the participant's experience and/or understanding of quality.

4. *What can be done to prevent the occurrence of these gaps during the consulting process?*
   Quality assurance and/or management is about prevention, therefore this question was posed to identify prevention mechanisms for the occurrence of the gaps.

5. *How can the framework implementation impact the consulting process?*
   Without a practical implementation it is impossible to determine how the QA framework would impact the consulting process, but it is believed that the experts' knowledge and experience should allow some validation to this question.

6. *Can the framework successfully address the CE causes of failure?*
   Again it is impossible to determine whether the framework would or would not successfully address the causes of CE failure if not implemented, but the experts' knowledge and experience should allow some validation to this question.

7. *Could you add and/or remove anything from the framework?*
   This question was posed to allow validation of the quality requirements proposed for each phase of the consulting process and to allow constructive criticism to assist in the creation of an improved framework.

8. *Do you see any factors to consider when implementing the framework in the consulting process?*
   This question aimed to uncover factors that would prevent the successful implementation of the framework.

9. *Does this framework add anything to the consulting industry?*
   This question aimed to determine whether the framework could add value to the consulting industry with regards to QA.

10. *Would you consider implementing or adapting the framework?*
    If an expert in the field is willing to implement the framework, then not only it allows an opportunity for future research focused on the implementation of the framework, but it will allow for some validation of the framework.

5.9.4 Sampling method

According to Babbie (2008:200) sampling is "the process of analysing the characteristics of a small group of a large population".

A critical aspect of the sampling method is the choice of the sample frame, which is to represent the small group of a population. Therefore, Babbie (2008) lists four sampling methods aimed at researches that do not allow the kinds of probability samples used in large-scale surveys. These are:

1. **Reliance of available subjects** – involves the relying on available subjects. It is an extremely risky sampling method, which does not allow any control over the representativeness of the sample.

2. **Purposive or judgemental sampling** – involves the selection of a sample based on his or her knowledge and the purpose of the study. This type of sampling enables the researcher to select participants who are able to provide the key information for the research study.

3. **Snowball sampling** – in snowball sampling each participant interviewed is asked to suggest additional people to be interviewed.

4. **Quota sampling** – involves the selection of units into a sample based on specific characteristics, in an attempt to have a total sample with the same distribution of characteristics in the population being studied.

Purposive sampling was chosen as a sampling method for this research study. It is due to the qualitative nature of the research and due to the sample being based on the participants' knowledge and/or experience in the field.

5.9.5 Respondents

The interviewees were selected from different consulting engineering firms, which focus on different engineering activities such as asset management, industrial engineering, design and management service, and construction management. This was done to ensure diversity in perspectives regarding quality and the nature of the gaps between the various CE phases within the industry, as well as the applicability of the QA framework. A list comprising the experts interviewed (respondents) for this research study is presented in Table 6, where interviewees are listed according to the date and time of the interview. The sample of six respondents is deemed to be sufficient for this research study due to the inductive approach to reasoning applied, since this approach advocates the inclusion of a small number of participants.

Table 6: Experts interviewed

Date	Interviewee name	Occupation
21/10/2015 (10h00)	Andre Rademeyer (1)	Senior Industrial Engineer Consultant
21/10/2015 (11h00)	Matthew Lutz (2)	Engineering Consultant
29/10/2015 (16h00)	Peter Loubser (3)	Structures Technical Executive
11/11/2015 (15h00)	Kolosa Madikizela (4)	Cape Regional Manager
11/11/2015 (16h00)	Karl Nepgen (5)	Partner Consultant
19/11/2015 (14h00)	Simon van Wyk (6)	Associate, Risk & Decisions Analytics

5.10 Validity

Babbie (2008:343) defines validity as "the extent to which measurements actually measure what they are supposed to rather than something else".

There are two ways in which the research findings can be validated. These are:

1. **Interviews with experts** – the interviewer in the case of validating the research questions and the QA framework decided to obtain knowledge from the interviewees which would consequently assist in answering the research question and prove or disprove the claims of the framework.

2. **Application or implementation of the QA framework** – the application/implementation of the framework in a consulting process by a consultant or consulting firm would definitely prove or disprove the feasibility and reliability of framework. The most evident benefit that would prove the feasibility and reliability of the framework would be narrowing the gaps between the various CE phases, while failure to address the gaps for whatever reason would be the main disadvantage.

The implementation of the framework in this study is not feasible at publication time, since development of the framework came into fruition 6 months prior to the submission of the research, but it can form part of a future research.

Interviews with industry experts were therefore the most feasible for validation of this research study, as it gives sufficient basis to understanding the gaps and reasons for CE failure, specifically in engineering.

5.11 Data analysis

Lodico et al. (2006:301) argues that data analysis in qualitative research is an inductive process, which poses to gradually collect and combine numerous small pieces of data to form a broader, more general description of the conclusions. Bowen (2005:2017) adds that in the inductive analysis process patterns, themes and categories are identified, thus they emerge from the data rather than being imposed on them prior to data collection and analysis.

The following steps of data analysis were applied to data in this research study:

1. Preparation and organisation.
2. Review and exploration.
3. Analysis.

During the preparation of the data, the interviews recorded with permission from participants were transcribed verbatim. Interview transcripts were organised and categorised chronologically and according to participants' names.

The initial review involved the examination of all the interview transcripts in an attempt to understand the data. It also allowed the researcher to start to categorise the data and discover patterns to achieve a partial or overall insight regarding the interpretation of the data.

Data were analysed using the constant comparative method. The method is explained by Babbie (2008:418) as one that involves the comparison of incidents applicable to each category, the integration of categories and their properties, and delimitation of the theory. In summary it entailed that firstly, each question of the interviewing process was analysed and responses from all participants were compared. Secondly, relationships and general patterns among each question were identified and grouped into codes. Thirdly, the researcher eliminated concepts that were irrelevant and showed no relationship to other variables after relationships were identified. Lastly, the researcher formalised the findings into a concise report. Figure 34 represents the data analysis process.

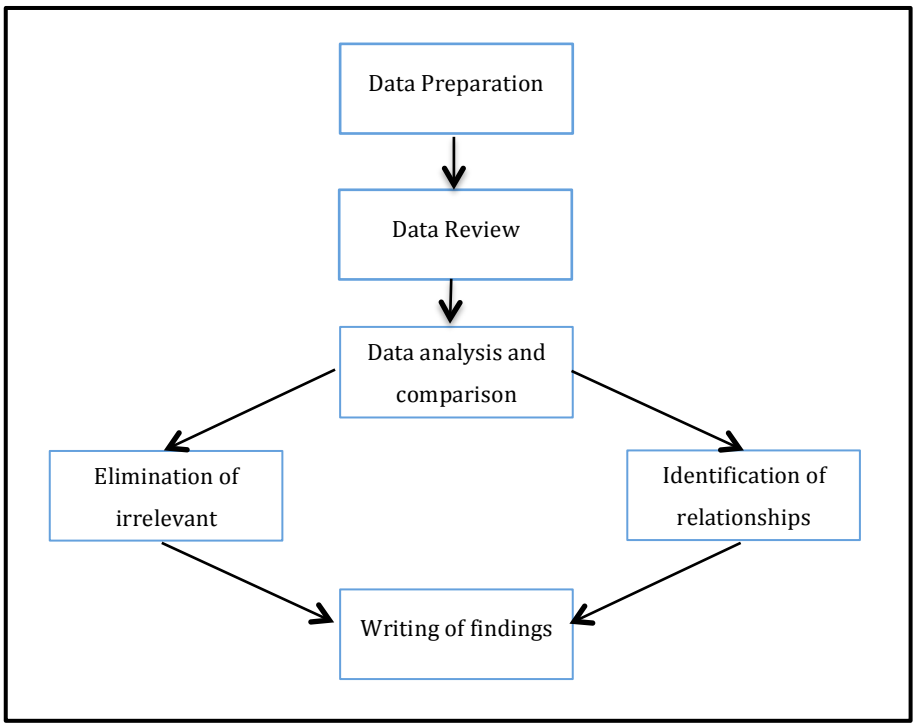

Figure 33: Data analysis process (adapted Lodico et al., 2006)

5.12 Chapter conclusion

The aim of this chapter was to describe the research design and methodology. Therefore the different options available when considering research design and methodology were discussed in this chapter. In summary, the following was addressed in this chapter:

- The research study adopted the realism and interpretivism philosophies as the research focused on understanding the nature of gaps within the consulting process and applying a framework in an attempt to address these failures.
- The research adopted the non-empirical and qualitative research approaches.
- The research made use of inductive reasoning with exploratory, descriptive and explanatory purposes.
- Theory building and literature review were chosen as research strategies while a cross-functional approach was applied for time constraints.
- Primary and secondary data were collected by means of interviews and literature reviews, respectively.
- Purposive sampling was the sampling method applied.

CHAPTER 6: FINDINGS AND DISCUSSION

6.1 Introduction

The methodology designed and used to answer the research question was discussed in Chapter 5. This chapter is the sixth phase of the research study, which presents an analysis of the data collected to investigate whether quality assurance methodologies can successfully address or narrow the consulting process gaps that inhibit consulting engagement success.

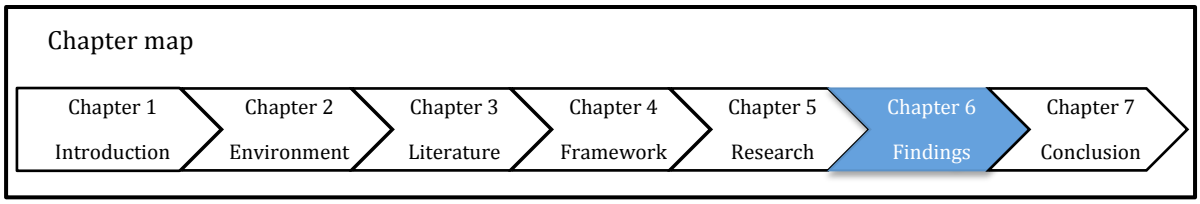

Figure 34: The sixth phase of the research study

During the interviews, interviewees often described their views and thoughts in different ways. However, these views displayed a lot of similarity which enabled the researcher to uncover patterns and relationships between views. In addition, participants used similar wording to express certain situations in their narratives, which also aided in the grouping of patterns or relationships generated from analysis of interview transcripts to allow a better explanation of the findings of the research study.

When analysing the data, each question was considered separately. The results and subsequent patterns and/or relationships that emerged during the process are to be discussed on the next sections.

6.2 What is the nature of the gaps that inhibit CE success?

Some of the shortcomings overlap to the next question's responses but are addressed here to enlighten the reader as to why the gaps occur on the mentioned phase. Some participants explained the nature of the gaps as within one or more CE phases, and gave specific reasons for each phase. The main themes that emerged during the data analysis were:

- **Entry phase gap** – all of the respondents mentioned that the nature of the gaps lie within the 'entry phase' and alerted that when shortcomings happen in this phase they usually affect or compromise the whole CE. The gap within the entry phase is a result of:

- Poor definition or poor understanding of the problem.
- Misunderstood or incorrectly defined CE requirements.
- Incorrect formulation of the contract.
- Lack of communication.

- **Input phase gap** – respondents 4, 5 and 6 highlighted the reasons mentioned below for the gap residing within the 'input phase':

  - Inability to gather data.
  - Misunderstanding the requirements to gather data.
  - Poor definition of the problem leading to the collection of the wrong data.

- **PSP phase gap** – respondent 2 and 6 expressed the view that the nature of the gap resides in the 'PSP phase' due to the following:

  - Unsuccessful resolution of shortcomings during input phase.
  - Poor understanding of the problem or process methodology to resolve the problem.

- **Report gap** – respondents 1, 2 and 6 support that the gaps resides in the 'report phase' due to:

  - Poor planning due to either not validating the report within the consultant's firm or the client changing due dates.
  - Report format being incompatible with the client's systems.
  - The report not being applied to facilitate a change, but rather being kept in a cabinet.
  - Implementation not becoming a reality.

- **Implementation gap** – respondent 1 asserted that the gap lies in the 'implementation phase' when implementation:

  - Does not add value to the client organisation.
  - Is not performed correctly.

- **Implementation versus client's readiness to change gap** – respondent 1 believes that the gap lies 'between the implementation phase and the client's readiness to change' when:

    - The client's readiness to change is not understood and/or assessed.
    - Those affected by the change are not communicated with.

Respondents shared the view that the effects of failing to address the gap at one phase adversely affects the next phase and can consequently compromise the success of the whole CE.

6.3 What are the main reasons for these gaps that lead to unsuccessful CEs?

Some of the main reasons for failure were already mentioned in the previous section but are elaborated with more detail in this section. The main patterns identified in the data include:

- **Poor definition or poor understanding of the problem** – according to respondent 1, 2, 5 and 6 this relates to:

    - The client's inability to fully understand or formulate the problem due to lack of knowledge regarding the problem or not spending enough time studying it.
    - The client's inability to explain the problem due to only visualising the end goal.
    - The consultant's assumption that the problem is exactly as the client describes it, without a critical analysis of the problem.

    In addition, respondents asserted that poor definition or poor understanding of the problem leads to:

    - Incorrect definition and/or understanding of CE requirements.
    - Lack of solution feasibility.
    - CE failure due to the focus not being clearly stated.

- **Misunderstood or incorrectly defined CE requirements** – all respondents asserted that the reasons include:

    - Misalignment of perspectives regarding the problem from both the client and the consultant. It is a result of the incorrect definition of the problem.

- Misalignment of expectations from both the client and the consultant, where both expect something totally different. For example: the consultant delivers exactly as stated in the project's scope yet it does not satisfy the client.
- Unclear definition of requirements and/or expectations.

In addition, the respondents asserted that misunderstood or incorrectly defined CE requirements lead to:

- The report not being aligned with the client's needs and objectives.
- Lack of solution feasibility.

- **Poor or lack of communication** – respondents 2, 4, 5 and 6 claim that poor or lack of communication leads to the following due to poor analysis or understanding of the client and/or situation:

  - The consultant's assumption that the problem is the same as other problems or a symptom of something else.
  - Not asking the right questions.
  - Inappropriate definition or poor understanding of the problem.
  - Weak problem analysis.
  - Incorrect identification of the client's needs.
  - Incorrect formulation of the contract.

- **HR or input data** – reasons for unsuccessful CEs associated with HR or input data, according to respondents 2, 4, 5 and 6, include:

  - Incorrect or inaccurate data provided by staff.
  - Delays when providing the data, which ultimately leads to delays of CE deliverables.
  - Unavailability of key personnel to provide the necessary data due to fear of the outcome of the CE (i.e. fear to loose their jobs).

Respondent 5 and 6 claimed that the successful outcome of the engagement is threatened whenever the necessary input data is not readily available. Thus, whenever a consultant doesn't have full access to the input data or key personnel, he or she needs to rely on

interpretation and experience to fully grasp the situation at hand. Consequently, the report risks being debatable or not being fit for purpose.

- **Poor PM** – all respondents presented the view of poor PM as a reason for failure when:

    - Project manager is changed during the CE execution and the new manager institutionalises completely different methods.
    - Implementation takes too long to materialise.
    - CE deadlines are not adhered to.
    - Non-adherence of control checks takes place, which was supposed to enable the consultant to maintain focus and ensure constancy of purpose.

6.4 What quality methodologies are required to narrow the gaps between the various consulting process phases?

Respondents proposed the following quality methodologies to narrow the gaps:

- **Constancy/fitness for purpose** – some of the of the propositions suggested by respondents include:

    - Project managers ensuring optimal functioning of the project as well as assure awareness of project goals.
    - Constant evaluation regarding alignment of perspectives from the client and the consultant to ensure that neither of them deviates from the CE requirements and the CE objectives.
    - Progress reports as means of formal communication to present what is to be done and validate what has been done.
    - A well-formulated set of documents or framework as a guiding tool to guarantee visibility and a sense of direction.

- **Good client-consultant relationship** – all respondents asserted that a good relationship between the client and the consultant facilitates in addressing the consulting process gaps. It should:

    - Allow a clear understanding of the client's needs and objectives – especially at the entry phase but also throughout the CE phases.

- Ensure constancy of purpose as a result of clearly understanding of the client objectives.
- Allow a better articulation of PM, CM and KM to provide an understanding of what should be done, how to prevent the occurrence of problems and facilitate the change.
- Allow good communication and a better flow of information to foster a learning atmosphere during the CE. It should also allow cooperation from the client's staff and establish a good atmosphere where he or she easily gets the appropriate people to assist him or her in the resolution of the problem.

- **Stage gates** – respondent 4 defined stage gates as checkpoints used to monitor whether or not to move on to the next phase or sub-phase. Stage gates should do the following according to the all respondents:

  - Assess whether the deliverables of each phase of the CE meet the requirements and objectives.
  - Assess whether the client and consultant's perspectives are aligned.
  - Identify problems within a phase or sub-phase at an early stage.
  - Assess the client's environment in an attempt to identify gaps and assure what the client wants before proceeding with operations.
  - Ensure compliance with the requirements of each phase by applying a continuous feedback loop at every phase.

- **Good communication** – all of the respondents stressed the importance of communication as a way to ensure the quality of the outcome of CEs and ensure a good client-consultant relationship. Communication provides means to:

  - Question the client with regards to his expectations.
  - Ensure that the consultant provides exactly what the client expects (alignment of expectations).
  - Understand the way the project is set-up and planned to ensure constancy of purpose.
  - Adhere to project deadlines, progress report submission and stage gates.
  - Ensure provision of information related to the progress of the project as well as possible completion dates.
  - Ensure that those involved understand what is required from them.

- Establish a link between the client's readiness to change and the implementation.
- Ensure buy-in from the client at all levels to ease the implementation of the change.

- **Customer focus** – clients are key elements and the ones providing jobs for consultants. Respondents stressed the importance of:

  - An in-depth assessment of the client environment prior to scope definition.
  - Constantly addressing client's needs to ensure alignment of expectations.
  - The adoption of a questioning methodology to eliminate assumptions regarding client expectations.

- **Client involvement –** respondents 1, 3 and 5 claimed that the quality of CEs cannot be assured without client involvement. They argue that:

  - Client involvement is important to ensure timely validation of the inputs provided by the consultant during every phase of the consulting process.
  - Good communication is a way of ensuring client involvement.
  - The client should establish staff cooperation with regards to the provision of information.
  - The client should provide support to the CE operations and to the consultant.
  - The client should establish good PM practices and appropriate HR to assist the consultant with the delivery of a good consultation.

Respondent 6 suggested the implementation of international standards such as PRINCE 2, PMBOK and ISO 3100 as methodologies to address CEs' gaps.

6.5 What can be done to prevent the occurrence of these gaps during the consulting process?

Some of the patterns emerged in this section may overlap with replies discussed in the previous section, but are explained here as all of the respondents mentioned their personal importance in the prevention of the occurrence of the gaps. The below-mentioned aspects should be used for the prevention of the occurrence of gaps:

- **Communication** – was one of the aspects which respondents stressed the most, as they did when explaining the quality methodologies required to address the gaps. As a prevention mechanism, communication entails the following:

    - Alignment between the requirements of the project and the expectations of both the client and the consultant. This ensures constant tracking and working towards the same goal.
    - Stakeholders' visibility regarding what is to be achieved and what is required from them creates awareness where they want to work to achieve the visualised end goal.
    - Informing the effects of the change to those affected to ease resistance and ensure buy-in.
    - A feedback loop of information to correctly investigate the problem and establish a clear grasp of what it entails.
    - A clear definition and understanding of the CE requirements due to the feedback loop of information.
    - Better application of PM, KM and CM to provide an understanding of what should be done, how to prevent the occurrence of problems and facilitate the change.

- **Visibility** – all of the respondents provided the following reasons for listing visibility as a prevention mechanism:

    - It allows a sense of achievement where those involved can see the bigger picture, and therefore they do not deviate from the CE objectives.
    - It allows those involved to understand how their role fits into the greater project, therefore ensures alignment towards the CE goals.
    - Information and answers to questions are made visible to facilitate the above-mentioned points.
    - It improves communication and eases acceptance as the client stays informed of the activities being performed and CE progress.

- **Stage gates** – all of the respondents provided the following reasons for listing stage gates as a prevention mechanism:

- It allows the creation of a continuous feedback loop that critically analyses each phase and identifies shortcomings. Once these shortcomings are identified they are adequately addressed.
- It allows the CE to be divided into smaller sub-phases to ensure that every phase is well understood and well performed before activities can start on the next phase.
- It determines whether the client and the consultant's perspective are aligned.

6.6 How can the framework implementation impact the consulting process?

Respondent 1 explained the impact to be one that adds value to the consultant or consulting firm applying it. Implementation of the framework would allow more confidence in the solutions provided to the client, as the client validates these solutions throughout the consulting process.

Respondent 2 is of opinion that the impact of implementing the framework is threefold. These being, that it assists:

- In decreasing the various gaps existent in the consulting process.
- In assists in having a better relationship with the client, due to enabling consultants to answer questions and resolve problems within the consulting process.
- Consultants in satisfying clients.

Respondent 3 claimed that the framework creates a feedback loop where consultants can assure equality between what they provide and what the client expects. He added that the impact is somewhat similar or part of an audit process.

Respondent 4 described a twofold impact by explaining that it can either be positive or negative. The positive impact relates to the correct implementation of the framework and the likelihood of a successful CE outcome due to the framework being a guiding tool, which should be adhered to. The negative impact however, is related to the incorrect implementation of the framework.

Respondent 5 explained the implementation of the framework as an activity that would impact the following:

1. Leadership – in the sense that leaders will aid the creation of the ideal atmosphere within the client organisation to embrace the change that is to come.

2. Customer focus – in the sense that consultants will aim to satisfy customers by providing a quality product and nurturing a good relationship.
3. QA awareness – the framework raises awareness regarding quality and mistakes, because of human error. Error should be kept at around 5%.
4. Systems thinking – by enabling consultants to have a clear understanding of the problem, evaluating alternative solutions and providing informed recommendations to the client.
5. Communication – by facilitating timely communication during the CE.

Respondent 6 argued that the framework could only be beneficial and improve quality matters, but highlighted that it should align the level of QA with the purpose of the CE.

6.7 Can the framework successfully address the CE causes of failure?

All the respondents answered positively, thus with a "Yes" to this question.

Some respondents added comments such as:

- "…because the framework has all the various stages, and the various inputs such as flowcharts and quality objectives, almost creating stage gates." – Respondent 4
- " …flowcharts at the entry is good as it includes process flows and gives consultants a good understanding of what should be done." – Respondent 2
- "…it is definitely something that could help, if there are audits yes it can help." – Respondent 5
- "…because overseeing everything from a quality assurance perspective as you did would definitely remove the gaps that happen during the consulting engagement." – Respondent 1

Respondents 3 and 6 emphasized that causes of failure deems the framework centred around reactive thinking, when it is actually centred around proactive thinking. Thus, the framework attempts to ensure success rather than prevent failure. Responded 6 added – "by design, the framework can achieve causes of failure through the performance of audits".

6.8 Would you add/or remove anything from the framework?

All the respondents answered that they would not remove anything due to everything being well articulated. Yet, some respondents had suggestions to add.

Respondent 1 stressed the importance of adding an agile functionality to the framework between the input phase and the PSP. The proposed agile functionality entails an iterative process with the client involving a design, testing, implementation, quality checks and validation to determine whether there is enough information to formulate solutions to the problem. This process between the two phases should be reinforced until the consultant is confident enough to proceed to the preparation of a feasible report and recommendations. This approach is aimed at assisting the framework in the resolution of shortcomings before the preparation of the report and the implementation phase.

Respondent 4 added what was defined as stage gates in section 6.4. The respondent suggested applying stage gates at the end of every phase or sub-phase of the consulting process, because they act as quality checks, which assess and identify challenges, problems and risks before one can proceed to the next phases. Stage gates eliminate the incorrect post-evaluation – generally applied to CEs – by ensuring a continuous evaluation through each phase.

Respondent 3 and 5 added the need to have a formal communication approach in the form of progress reports. These reports should be submitted to the client for feedback and validation at specified intervals during the entry phase, input phase, PSP and throughout the implementation phase. A formal communication is important to close the client-consultant relationship gap.

Respondent 6 stressed the importance of linking QA awareness to the objectives of the CE, since being aware of quality without understanding the objectives of the CE does not ensure fitness for purpose. With regards to systems thinking Respondent 6 suggested a link with risk based thinking in an attempt to identify and address risks before they become a problem.

6.9 Do you see any factors to consider when implementing the framework?

Respondents stressed the importance of different factors to be considered when implementing the framework.

Respondent 1 considered leadership, quality and PM as factors of importance. Leaders or management should not force people into implementing the framework as means to get things done as quickly as possible. The reason for this is because it adds an extra layer of workload and pressure on staff due to the necessity of reworking in case the requirements of one particular phase are not met.

Respondent 2 argued that CM and quality checks are factors to consider. CM should be considered because it requires time to ensure buy-in and understanding of the benefits of implementing such a framework. The respondent added that it is vital to stress the importance of performing quality checks at each phase of the CE before proceeding to the next phase. He agreed with Respondent 1 regarding the extra pressure staff members might experience due to the necessity of reworking, as previously mentioned.

Respondent 3 could not have put more emphasis on the importance of communication. The respondent explained the communication as formal and aimed at the assurance of an alignment of perspectives and expectations from both the client and the consultant.

Respondent 4 and 6 considered risk as a major factor. The respondents argued the importance of considering all the risks associated with implementing the framework, as well as which risks could impede the achievement of project objectives. While analysing risk one would most likely look at opportunities, therefore incorporating a SWOT analysis at the end of each sub-phase as it would allow continual monitoring and review in each phase of the CE.

6.10 Does this framework add anything to the consulting industry?

Five of the respondents replied, without hesitation: "Yes, it adds value" and some of the respondents' comments were:

- "…it is something that could be taken and used to improve processes and consulting engagements." – Respondent 4
- "…it is a critical tool for both the consultant and the client who is expecting a value add that you can call a benefit… applying the framework is an effort that supports and promotes the benefits expected by the client, and for the consultant to claim a quality delivery and ensure to have a happy client." – Respondent 5
- "…it adds a quality assurance awareness to the industry…ensures that consultants are answering the questions posed by the client, working towards resolving the problem and keeping the customer happy." – Respondent 2
- "…it could be used as a way to view the consulting process from a quality assurance perspective." – Respondent 1
- "…everything is geared towards quality assurance which I like… but make sure that when applied it is fit for purpose" – Respondent 6

Respondent 3's answer was inconclusive and stated that the framework related a lot to what is currently being done.

6.11 Would you consider implementing or adapting the framework?

Four of the respondents' answer was "Yes". Some comments were:

- "…especially for training purposes to encourage junior consultants to get a quality assurance mind-set." – Respondent 2
- "…it is a good framework but I think it is more applicable to smaller start-up consulting firms." – Respondent 4
- " …I would for all the reasons already stated." – Respondent 1.
- "…for me it is a bit of a synergy between PMBOK, PRINCE 2 and ISO 9001" – Respondent 6

Respondent 5 stated that the framework is valuable and that he agrees with it, but is not sure whether or not to implement it, because his years of experience would help him to intuitively grasp what the framework entails. Respondent 3 emphasized that it is what the company he works for does, but on a bigger scale.

6.12 Discussion

The findings showed that CE gaps could occur within any of the consulting process phases due to different reasons. Poor definition or poor understanding of the problem and misunderstood requirements are among the main reasons for the occurrence of these gaps. A feasible way to prevent the occurrence of these gaps is the use of quality methodologies. These include: stage gates, constancy of purpose and good client-consultant relationship.

Results also showed that the framework developed for the purpose of addressing or narrowing the occurrence of these gaps is considered a viable tool. Hence, the framework was accepted by almost all of the respondents, who in turn had general comments and recommendations to elucidate towards the improvement and/or usability of the framework.

Respondents argued that the following is important to improve the framework:

- The adoption of stage gates at the end of every phase or sub-phase of the consulting process, since it will act as quality checks, which assess and identify challenges, problems and risks before one can proceed to the next phases.
- Formal communication aimed at the assurance of an alignment of perspectives and expectations from both the client and the consultant.
- Consideration for all the risks and opportunities associated with implementing the framework. Therefore, mitigating them in every phase to ensure fitness for purpose and added value.

In addition to the recommendations respondents also made general comments regarding the framework. Some include:

- "…the idea of systems thinking and leadership for quality assurance stood out for me." – Respondent 1
- "...well it is a framework and a very high level framework." – Respondent 5
- "…the big impact of the framework is reducing the gaps and increasing satisfaction." – Respondent 2
- "…I think it is a fantastic thing you are doing, I really do." – Respondent 6
- "…flowcharts at the entry phase are good, as it includes process flows and gives consultants a good understanding of what should be done." – Respondent 2.

6.13 Chapter conclusion

The findings of the research study discussed in this chapter confirmed the positive nature of the interviewing process. The aim of this chapter was to validate the research questions and the framework developed as a quality methodology aimed at reducing the CE gaps.

In light of the findings presented it can be said that while experts' opinions vary regarding the different reasons for the nature of CE gaps, it is virtually certain that the QA framework is a mechanism theoretically capable of addressing the consulting process gaps that inhibit CE success. Theoretically – due to the framework not being implemented yet, but the knowledge and experience of the interviewed professionals validate the framework and deem it necessary.

Like other theories, the QA framework still requires to be tested via implementation to prove its worth. But, what would the world be without theories? All products and services go through a theoretical process before production can initiate. The same applies to the framework. It is a

preventive tool developed to address CE gaps and reasons for failure; therefore it was theoretically validated first. During this validation process areas of improvement were identified and recommendations were made.

CHAPTER 7: CONCLUSION AND FUTURE RESEARCH

7.1 Introduction

In this chapter the research conducted within the ambit of this study is to be concluded. The findings are revisited to determine whether this research study has adequately answered the greater research question and future research is discussed as recommendations of this research study.

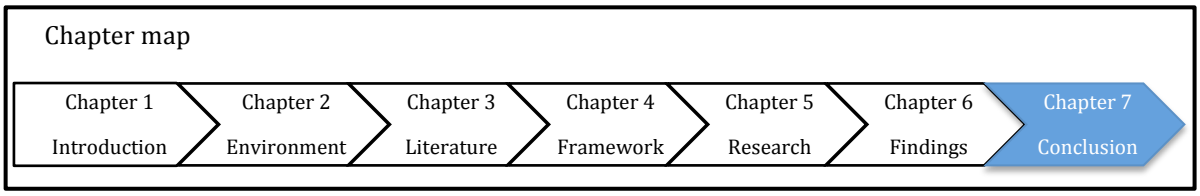

Figure 35: The seventh phase of the research study

7.2 The greater research question

In section 1.4 the following research question was posed:

"Can quality assurance methodologies successfully address or narrow the consulting process gaps that inhibit consulting engagement success?"

7.3 The research thus far

Chapter 1 presented the reasoning deemed necessary to conduct research in the field of consulting. Research questions and objectives were presented as well as ethical considerations provided.

The research environment was analysed in Chapter 2. Special reference was made to the current state of the industry, its key role players and the fields of most relevance. Literature was examined in Chapter 3. The consulting process was decomposed and explained, CE evaluation methods such as the Swiss questionnaire for quality in consulting and ROC were described, an analysis of the fields of KM, PM, CM and TQM proceeded.

The QA framework was developed and explained in-depth in Chapter 4. The framework is a tool developed by the researcher to assist in answering the greater research question. Chapter 5 provided the research design and methodology as a roadmap for the study. It was explained that

this research adopted the philosophies of realism and interpretivism were adequate to grasp the nature of gaps within the consulting process, and applied a framework in an attempt to address these failures. A non-empirical and qualitative approach involving literature reviews and theory building as research strategies was applied. Primary and secondary data were collected while purposive sampling was applied due to the sample been based on the knowledge and experience of participants.

A logical interpretation of the findings was presented in Chapter 6. The research was also validated with the information provided by respondents who are experts in the field under study.

Chapter 7 is the final phase of the research, which aims to conclude the dissertation, answer the research question and discuss recommendations.

7.4 Overview of findings

Failure of CEs is sort of a taboo in consulting industries. Consultants avoid to elaborate about failure due to it being something that could attract a bad reputation to the billion-dollar industry they operate. Yet, the reality is that shortcomings can occur because of humans error and the only thing consultants can do is to prevent the occurrence of these mistakes. These facts led the researcher to ask the research questions posed in this research study and revisited in this section.

The findings of the research are separated by each research question to facilitate the reader in understanding the results.

7.4.1 Research questions

7.4.1.1 What is the nature of the gaps that inhibit CE success?

The research findings clarified the nature of the gaps, which can occur in any of the consulting process phases. The effects of failing to address the gap at one phase, adversely affects the next phase and can consequently compromise the success of the whole CE.

They occur in the entry phase due to poor problem definition, misunderstood requirements or lack of communication. The entry phase is crucial for the CE due to it being the initial phase, where the problem and the requirements are discussed. Thus if both are not well understood and defined, the entire CE can be compromised.

The nature of the gap lies within the entry phase whenever there is an inability to collect data, either because of poor problem definition or data gathering methods not being adequately defined.

The gap lies within the PSP either because certain shortcomings were inadequately addressed in the previous phases or the project's methodology was incorrectly applied.

When implementation does not become a reality, the gap resides in the report phase. In contrast, when implementation does not add any value to the client organisation due to being incorrectly performed, the gap resides with the implementation phase.

The client's readiness to change should also be addressed correctly and those affected by the change communicated to, otherwise implementation faces resistance, which may lead to failure and consequently a gap between the implementation and the client's readiness to change.

7.4.1.2 What are the main reasons for these gaps that lead to unsuccessful CE?

The following are listed amongst the main reason for the gaps:

- **Poor definition or poor understanding of the problem** – it is the main reason for unsuccessful CE which uncovers shortcomings such as the client's inability to formulate the problem, and the consultant's assumption that the problem is as described by the client. It usually leads to another main reason for unsuccessful CEs, which refers to misunderstood or incorrectly defined requirements.

- **Misunderstood or incorrectly defined requirements** – due to misalignment of expectations and/or perspectives regarding the problem, from both the client and the consultant. It generally leads to unfeasible solutions and a report that does not meet the client's expectations.

- **Poor or lack of communication** – when there is not a good exchange of information reasons for failure such as the one mentioned above occur. The consultant is also likely to draw on assumptions rather than facts and that is usually a recipe for unsuccessfulness.

- **HR and input data** – it refers to the consultant's inability to gather important and necessary information for the project, either because it is not available or because the

client's personnel are not willing to cooperate. It impedes the consultant in performing his or her duties.

7.4.1.3 What quality methodologies are required to narrow the gaps between the various consulting process phases?

The below listed quality methodologies were proposed:

- **Constancy of purpose** – refers to a constant evaluation of project goals and alignment of expectations from both the client and the consultant, to ensure that the CE does not deviate from its intended objectives.

- **Good client-consultant relationship** – allows a better from of information to foster cooperation from both sides. It ensures awareness of the CE goals and a good understanding regarding what the problem and the requirements are.

- **Stage gates** – these are checkpoints used to monitor whether or not the deliverables of one particular phase meet the requirements and objectives the same particular phase. They facilitate the early identification of problems within a phase or sub-phase earlier.

- **Customer focus** – refers to the consultant fully understanding the client organisation and its environment, and constantly liaising with the client in an attempt to ensure customer satisfaction and delight.

7.4.1.4 What can be done to prevent the occurrence of these gaps during the consulting process?

It was discovered that quality methodologies discussed in section 6.4 could prevent the occurrence of the gaps during the consulting process.

Visibility was one of the aspects not discussed under the quality methodologies, which emerged as a prevention mechanism for the occurrence of the consulting process gaps. Through visibility, individuals involved can acquire a sense of achievement and be able to see the bigger picture. As a result, they will not deviate from the CE objective.

The QA framework was also one of the mechanisms discussed as a means of preventing the occurrence of the gaps. It is discussed on the next section.

7.4.2 The framework

The QA framework is a complement to fields such as PM, CM and KM which are used and aligned to run a CE. When applying the QA framework consultants increase the chances of consistently yield satisfactory results, and consequently reduce the occurrence of gaps during the CE process.

The results presented from section 6.6 to section 6.11 were positive as the experts interviewed accepted the framework and stated that:

- The framework will add value to the consulting industry.
- The framework – if correctly implemented – could ensure the success of CEs and allow more confidence in the solutions consultants present to their clients. It could assist in establishing a good communication between consultants and clients, which in turn would result in a better relationship between them.
- The responses from the interviewees assert that the framework is a feasible tool, which can address gaps in the consulting process. The reasoning lies on the fact that almost all respondents had recommendations to add, which were aimed at improving the framework.

The framework was developed using an approach were the requirements for each phase were addressed to assist consultants to deliver the outcomes of the particular phase. In the end methodologies such as systems thinking, corrective action, leadership and customer focus are interconnected to provide a systematic approach to quality within the CE process.

7.5 Proposed impact on the current body of knowledge

This research study supports the literature on CE failure and the works of McLachlin (2000), Deelman and Mohe (2006), Haferkamp and Drescher (2006) and Seidl and Mohe (2007). The research also adds to literature on the field of TQM, as quality methodologies were the motive of the development of the QA framework presented in Chapter 4. The field of PM, CM and KM are therefore also contributed to as their articulation culminated in the necessary synergy to insert the QA framework into the consulting field.

7.6 Future research

During the interviewing process some interviewees stressed the need to look at risk management and a more agile functionality with a formal communication. Risk was suggested due to the fact that whenever applying quality one should look at the risks associated with performing tasks and the opportunities thereof. The agile functionality with formal communication was argued to be of utmost importance as it assures alignment in perspectives and expectations as well as allows the client to be constantly involved validating the consultant's work.

Further research would include the improvement of the framework with the suggestions made and implementing it in various consulting firms, especially the small start-up engineering consulting firms. These firms are the focus because through the interviewing process the researcher could notice that the big consulting firms already have a well structured quality management system which incorporates all the elements of the framework and also some elements that the framework does not.

The results of the implementation would thus focus on the various requirements stated for each phase. The entry phase would be the most interesting phase to monitor during the implementation of the framework, due to it being the phase where most of the misalignment occurs. The use of stage gates shall provide more confidence as to whether every requirement for each phase is being met. If not the synergy proposed by the framework shall enlighten those managing the project as to what action to take.

The lessons learned from the implementation are to be documented and used as basis for continuous improvement of the framework. The framework could also be used in different sectors other than engineering to test its applicability.

7.7 Chapter conclusion

This research study has uncovered the research questions' answers and validated a framework developed to assist in answering the greater research question. Hence, the literature reviewed supported by the research method applied, together allowed the researcher to confirm that quality methodologies can indeed address the consulting process gaps that inhibit CE success.

The consulting industry is a billion-dollar industry, which gave impetus to the field of KM, by consistently applying knowledge generated from previous engagements. However, it contains its

pitfalls, which are not necessarily exposed as much due to possibly exposing the industry to a lot of criticism. The reality is that CE do fail, yet the research uncovered ways to successfully address its failures.

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Appendix A – Ethics form

Dear Research Participant

Thank you for showing interest in this study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. *Please note: There are 3 pages to this document*.

TITLE OF THE STUDY AND RESEARCHER DETAILS:

Quality Assurance of Consulting Engagements in Engineering Industries

By researcher: **Leonel Galvino Luciano Sobrinho**
Cell/ email: 078 032 4027 / leonelgalvino@gmail.com
Supervisor: Prof. Mellet Moll

RESEARCH INFORMED CONSENT FORM

INFORMATION SECTION:

Purpose of the Study

The purpose of this study is to investigate quality methodologies in engineering consultancies, and how quality can specifically be used to overcome gaps in the consulting process. As an expert in the field you have been invited to participate in this study. The information provided to the researcher will be used **for academic purposes only**. Aside from the educational benefit and M. Tech Quality Degree, the researcher will derive no personal gain from the study.

Study Procedures

The researcher will conduct a semi-structured interview with you, which will last between 30 minutes to 60 minutes. The interview will be recorded (sound only) and will later be transcribed.

Risks

The researcher does not anticipate any foreseeable risks associated to any of the procedures used in the study. You may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

Benefits

There will be no direct benefit to you for your participation in this study.

Compensation

If there is no compensation offered for partaking in this research study.

Contact information

If you have questions at any time about this study, you may contact the researcher whose contact information is provided on the first page.

Voluntary participation

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT SECTION:

Quality Assurance of Consulting Engagements in Engineering

By researcher: **Leonel Galvino Luciano Sobrinho**
Cell/ email: 078 032 4027 / leonelgalvino@gmail.com
Supervisor: Prof. Mellet Moll

Please read the following statements and, if you agree, initial the corresponding box to confirm agreement:

Initials

I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐

I understand that my data will be treated confidentially and any publication resulting from this work will report only data that does **not** identify me. ☐

I freely agree to participate in this study. ☐

Signatures:

Name of participant (block capitals)	Date	Signature
Researcher (block capitals)	Date	Signature

If you would like a copy of this consent

Appendix B – Interview presentation

Quality Assurance of Consulting Engagements

Leonel Sobrinho
leonelgalvino@gmail.com
October 2015

Background.

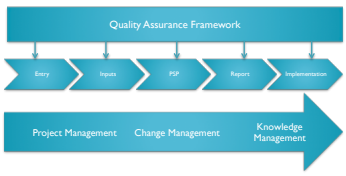
A Consulting Engagement (CE) process is to be seen as a systematic process, comprising the following phases: entry, inputs, problem solving process, report, implementation.

These will take into account Project Management (because it takes the perspective of consulting as a project), Knowledge Management (because consulting is about creating and sharing knowledge), Change Management (due to change being almost inevitable in CE) and linked to a quality framework (in an attempt to assure the successfulness of the project)

A CE should at its completion satisfy client's needs and agreed upon goals to be considered successful. However, some CE fail to meet this criteria and are abandoned before the implementation, during implementation or in some cases the consultants' recommendations have disasterous consequences to the client. In this regard, something might have gone wrong in the phases leading to report and implementation, which I assume to be gaps or shortcomings in trying to assure quality.

Therefore, this non-conformance in one of the phases overlaped and it is believed to create a gap.

Consulting Engagement Process



Question Part 1

- What is the nature of the gaps or why are consulting engagements unsuccessful?
- What are the main reasons for these gaps that lead to unsuccessful CE?
- What quality methodologies are required to narrow these gaps or shortcomings?
- What can be done to prevent the occurrence of these gaps during the consulting process?

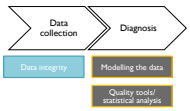
QA framework

The framework presented here is not a recipe regarding what should or should not be done in every phase of the CE. It is just a proposition of how quality requirements can be implemented in the consulting process in an attempt to ensure satisfactory results or CE successfulness.

- **ENTRY:** is the initial phase of the CE, where the scope of the CE and the approach or methodology to be taken are agreed.

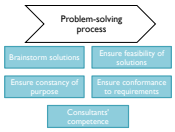
QA framework cont.

- **INPUTS:** Considered the first operational phase and the heart of the CE process, the inputs phase is divided into data collection and diagnosis.



QA framework cont.

- **PROBLEM SOLVING PROCESS:** The problem solving process phase is the basis of the development of solutions, which will ultimately become recommendations that will be provided to the client.



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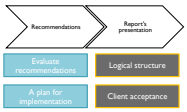
QA framework cont.

- **REPORT:** The report provides a tangible, accessible and permanent communication of the finding of the CE. It should be a simple, concise and impactful explanation of the consultants' diagnosis regarding the client's problem and their efforts to find solutions for it.



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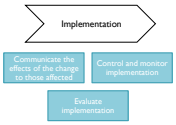
QA framework cont.

- **IMPLEMENTATION:** refers to the culmination of the consulting firm and the client's joint effort. Thus it is the basic objective of any CE and increasingly regarded the crucial element of the consulting process.



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QA Framework necessary fields

4

Question Part 2

- How can the implementation of the QA framework impact the consulting process?
  - Can the QA framework address the Ces causes of failure?
- Would you add/delete anything from the framework to make it more consistent?
- Do you see any factors to consider when implementing the QA framework in the consulting process?
- Does this framework add anything to the consulting industry?
- Would you consider implementing the framework or adapting it?

5

Appendix C – Interview transcripts

Interviewee: André Rademeyer
21 October 2015 – 10h00

Interviewer: What is the nature of the gaps that inhibit consulting engagement success?

Interviewee: I would say, the gap is in the 'implementation phase'. Because most consulting firms basically always stop at the report phase, so their deliverable is taking through all the steps getting to a final report and giving recommendations but that links back to your Change Management. So, I think what happens is, not all consulting firms go next step of assessing their clients with the implementation phase where they assess with the Change Management. Therefore I would say, it is sort of at that stage but the implementation is the most important phase, which is not really done correctly or understood correctly. And I think, if you think about the quoting system most consulting firms would quote to give you a report, but it is not where a consulting engagement ends. Therefore, without implementation a report is just something that goes into the cabinet and it is not being used to actually make a change and add value to the clients objectives. So implementation and Change Management are key factors and that is a gap, in terms of getting a total product and add value to the client.

Interviewer: What are the main reasons for these gaps leading to unsuccessful CE?

Interviewee: It links back to the 'entry phase' because if a client doesn't know what they want, they just sort of understand the end goal but don't exactly know what they want. That is where I think there should be a good relationship with the client throughout the whole process, to ensure that you understand their needs at the beginning and you don't go run through the whole process in the wrong direction. And that is also linked to the inputs phase because if you get the correct inputs you can get the right output and the right implementation. But if you misunderstand the problem requirements at the beginning definitely it will not be implementable and aligned with the clients needs and objectives. In summary the reasons for the gaps could lye on the report not being aligned with the clients needs because the entry requirements were not defined correctly. In terms of quality assurance, it is good to have a great workshop session at the beginning to ensure that all levels and all stakeholders are aligned with what the end product should be for the whole implementation, because if something goes wrong there everything an easily go wrong.

Interviewer: What quality methodologies are required to narrow the gaps between the various consulting process phases?

Interviewee: A good thing to do as I mentioned previously, is to have a well documented first workshop or phase, which then gives a good indication to have a well document set of framework from which the client and consultants will work from. Then, there are multiple people working on the project and Project Management which should be taken into account because the project manager should ensure that all the other people working on the project are willing to achieve that one goal and follow that one direction. Another thing is engagement with the client, making sure that their requirements are inline with what they expect as an outcome to consequently add value for them. Then using Project Management to ensure that the team working on this is also aligned with the same information or goal; which in the end would ensure that the project is implemented as discussed in the beginning (entry phase).

Interviewer: What can be done to prevent the occurrence of these gaps during the consulting process?

Interviewee: To prevent the occurrence is to take every step of the consulting process and basically subdivide into smaller sub-steps to make sure every part of the project that is performed is well discussed and well understood. And project management, change management and knowledge management are taken into consideration. Thus, these fields allow an understanding of what should be done and prevent the problem, but the main thing is visibility between all the stakeholders. Because the consultant cannot perform all the phases and the first time he or she talks to the client is at the report phase, as the client will question why certain aspects where not discussed before and reject the consultants recommendations. For this reason, at every consulting engagement the client should take part of the quality assurance process of every phase and throughout the consulting process. For example, the inputs should be validated after they are given to the consultant. Consultants should work on it and if necessary question the client to ensure that both views are aligned. If not changes should be made, instead of making assumption regarding what the client is really expecting. But again it will link to the Project Management, Change Management and Knowledge Management. To ensure that the people involved know what is going to happen, they understand or have knowledge about the information the consultant is working with and the Project Management to oversee the whole process.

In terms of project deliverables and time along with project dates, I think is something that could be a factor if you do not define your entry requirements very well, because getting into the report and implementation phase could be way longer than what the client maybe has anticipated.

Therefore it is important for the consultant to define this right at the beginning. And as the project goes on the consultant should keep the client informed of how far the project is and when it is going to reach its completion. Because sometimes problems may occur during the consulting engagement and deliverables are not going to be handed to the client at the agreed date. These problems may be result of a delay from their side or a problem with the data collection process, but keeping the client informed and up to date as is very important and allows for a good relationship between the client and the consultant.

Interviewer: How can the implementation of the QA framework impact the consulting process?

Interviewee: It could add a lot of value for the consulting firm, as the consulting firm would be more confident in the answers they provide to their clients. In the QA framework the answers given are always validated by someone else.

Interviewer: Would you add or delete anything from the framework to make it more consistent?

Interviewee: I would add a bit of an agile functionality to this framework. I think what is important is when you get to the problem solving process before you get to the report phase, there is definitely a sort of an iterative process going on where you design, you think, you implement, you check, you test, with the client to judge whether there is a need to get more input from a particular step in order to finalise the phase. It will work as a sort of reinforcing loop between the Inputs phase and the Problem solving phase where validation and quality checks are performed before the consultant can prepare the report and recommendations. Because, the findings might need reinforcement of new inputs, which can be retested to a point where the consultant feels it is feasible and of quality to continue to the report phase. It is called the agile approach, which is important to remove the gaps before consultants can proceed to the report and implementation phase.

I like the idea of systems thinking and leadership which are used to do quality assurance. These two components stood out for me. Looking at it from a realistic view, ensuring that there are quality checks at every step throughout the process before you continue to the next one.

Interviewer: Do you see any factors to consider when implementing the QA framework in the consulting process?

Interviewee: One thing that could perhaps a bit tricky is leadership or project management to sort of force people into this framework and try to get things done as quick as possible. That adds an

extra layer of workload you need to do before you can continue to take it through the necessary channels. People need to sign-off a number of papers and internally check the quality of their work

I think the important thing I can see from here is when implementing a framework like this, you not looking only at the Project Management you are overseeing everything from a Quality Assurance perspective which is vey important because that would definitely remove the gaps that happen during the consulting engagement.

Interviewer: Does this framework add anything to the consulting industry?

Interviewee: Yes definitely, I would say it could be used as a way to view the consulting process from a Quality Assurance perspective. It is something that could add value.

I think the important thing is the whole idea about quality, but what also happens is quality almost gets sort of down in terms of trusting everyone to do the best quality work can. But most companies still go through rigorous quality processes. So they trust that every engineer or anyone else involved trying to do a task will do it at their best and they will perform their own internal quality checks before they move on to something else. In the end it would definitely help reducing the number of negative clients.

Interviewer: Would you consider implementing the framework or adapting it to your firm's future consulting engagements?

Interviewee: Yes, I guess I would for all the reasons previously stated.

Interviewee: Mathew Lutz

21 October 2015 – 11h00

Interviewer: What is the nature of the gaps that inhibit consulting engagement success?

Interviewee: The nature of the gaps would probably be between 'entry and inputs' -when there is no correct understanding of the entry requirements and the input data for the problem solving process, or 'inputs and problem solving process' where there is no correct understanding of the information, the actual process or problem at hand. So then your possible solution might not actually be feasible or correct for the possible problem, and then from there you implement the wrong things. That's is why something would go wrong.

Interviewer: What are the main reasons for these gaps leading to unsuccessful CE?

Interviewee: Main reasons for failure and an important part of the whole process are your 'entry' and 'inputs', so if you don't exactly know what the problem is that would be a large reason for failure. So the actual identification of the initial problem at hand, and your possible solutions must also be correct otherwise you are going to solve a problem, which is not the correct problem or the base problem. So identifying the needs and objectives of the clients incorrectly are a big reason for these gaps.

Interviewer: What quality methodologies are required to narrow the gaps between the various consulting process phases?

Interviewee: I would say, engaging with the client to ensure that all project steps are followed to ensure that the client's needs and objectives are constantly taken into consideration. Also ensuring that the requirements of each phase are met.

Interviewer: What can be done to prevent the occurrence of these gaps during the consulting process?

Interviewee: To prevent the occurrence of these gaps, it is important to have good communication, visibility to everyone involved to ensure they can see the bigger picture and understand what is required from them. Therefore, with that you do not stray and these gaps can be closed. If you start straying from the problem at hand or the one you want to fix the visibility aspect allows the consultant to see the bigger picture and stop before he or she end up doing something totally off-track.

Another thing is that poor input equals poor output, so the base where the consultant is building everything on needs to be clear and good, so that the change is linked to the problem and to the client's engagement. Therefore it is very important to get buy-in from the client at all levels. Remember that top management hires consultants to get a solution, but the consultants do not necessarily work with them. Consultants work with the lower level stuff to gather data, and perform most of the consulting engagement; therefore their buy-in is also important because they are the ones affected by the change and the ones implementing the change. Failure to do so, may result in lower level staff providing the wrong data, take too long to provide the data, being resistant to the change, and all of that delays the whole consultation process or lead to failure due to having the wrong input. In summary, a good client-consultant relationship at all levels of the client organisation will allow the consultant to easily identify problems and assign the right people to resolve the right tasks. Because, consultants always want to complete a project and deliver the best product possible but they need to make the client understand that its efforts are also important for that to happen.

Interviewer: How can the implementation of the QA framework impact the consulting process?

Interviewee: Well, like you said or aim it will assist in decreasing the gaps in the consulting process. So you have a better relationship with your client, and you answering the questions they want answered or you are resolving the problem they want resolved. Like you said, it will help consultants in delighting their customers and keeping them happy. Because ultimately clients are the ones providing work for consultants and it is important to delight them to ensure call-backs. In summary, the big impact is reducing the gaps and increasing satisfaction from your work.

Interviewer: Would you add or delete anything from the framework to make it more consistent?

Interviewee: No, I think it is good in general. I think the idea of flowcharts at the entry is good, as it includes process flows and gives consultants a good understanding of what should be done. Like I said previously, it is all about visibility and communicating with the client. If everyone understands what is required from them and what tasks to perform when they can easily track down the problem. You have done it nicely.

Interviewer: Do you see any factors to consider when implementing the QA framework in the consulting process?

Interviewee: So, in a long term process it is a good framework and would work well, but short term it is a challenge as Change Management requires time to get everyone involved and understanding the benefits of implementing something like this. So it is doable, but it is vital to understand the importance of doing quality checks at each phase or sub-phase before they continue to the next one. People need to get used to the idea of perhaps having someone asking them whether or not they have quality checked task A or B and if they did not understand their reasons and explain why it needs to be quality checked and its impact on the bigger picture or the outcome of the consulting engagement.

Interviewer: Does this framework add anything to the consulting industry?

Interviewee: Yes it does, it adds value and a Quality assurance awareness or compliance to the industry. QA at each step plays a role in ensuring that consultants are answering the questions posed by the client, working towards resolving the problem and keeping the client happy by letting them see the progress of the project. In case consultants are starting to stray a bit from what the client wants or believe something might be value adding to the client communication will allow both the client and the consultant to discuss about it and get back on track. Communication is also important as it bridges the gap in the client consultant relationship, allows the consultant to also better understand what the problem is and how to solve it to give them a value adding experience.

Interviewer: Would you consider implementing the framework or adapting it to your firm's future consulting engagements?

Interviewee: Yes, especially for training purposes to encourage junior consultants to get that QA mind-set. Because when you get to a senior level it becomes sort of second nature to you, as you know the processes. So to get that fundamental building block earlier on is very important, as junior consultants learn by doing, but it is important for them to kind of have a pictorial illustration of the whole consulting engagement to quantify it.

Interviewee: Peter Loubser

29 October 2015 – 16h00

Interviewee: That is only part of what we do, that is a consulting engagement which focuses on investigating a problem and giving a report. Most of our work is to develop something right to the construction stage. Our final deliverable is a set of drawings and a close out report once the thing has been built. So what you are showing me, seems like what we do at the early stages, we run right through from feasibility studies, right through final maintenance manuals for operations of the building. So what you looking at from our point of view is only part of a consulting engagement.

Interviewer: Consulting engagements vary in nature and because my focus is on engineering industries I could not make it specific for any kind of engineering. It needed to be kind of generic, to cover the whole industry.

Interviewee: Ok.

Interviewer: What is the nature of the gaps that inhibit consulting engagement success?

Interviewee: The gaps lies in the entry phase.

What we do in terms of our own internal QA process, as we are an ISO 9001 assured company. We are quite strict internally with regards to our QA process. There is quite a detailed system put in place for every single project, with regards to the way the project is set-up, the way that is planned, the way that is managed, the way that no deliverable, document, drawing or anything of that nature goes out of the office without it being checked and signed off. So in terms of the pure quality assurance process I can say that it is well managed within the company.

The problem is proper scope definition at the beginning, and it is the responsibility of both parties to understand what that means. You might find that the client defines a scope in a manner which he thinks is clear, but maybe when it is being read by the consultant it is interpreted to be something different. So the way to close the gap is to have a continual feedback loop. So imagine I'm saying something, I need to make sure that you've heard what I'm saying, so the way for me to ask you is tell me what you think you've heard? And when you repeat I'd say I didn't actually mean it quite like that. What we normally do is write a brief of what the scope is and we discuss that with the client at the first scoping meeting to make sure it is clear. At some point early in the process you present a baseline report or a scoping report that defines the scope of work you are

going to present, and you need sign-off on that, you need the client to look at it and understand, and you need to have experienced people within the client's body that can say 'yes' I understand what it is that you want to give us and yes it is what we want. But you need to keep reinforcing that to ensure that both are going to the same direction, so that the scope of work you have defined for yourself is what the client wants. Also you can't go on to the next phase without having sign-off from the previous phase.

So, in terms of closing the gap it is a continuous cycle. The consultant needs to explain what it is that he is providing, and get feedback to make sure that the client understands what it is that he is providing and 'yes' it does satisfy the scope of work. This prevents that the consultant doesn't end up 2 or 3 months down the line presenting something that there has been no discussion and the client replies that it was not what he wanted.

Interviewer: The second question was going to be **'**What are the main reasons for these gaps leading to unsuccessful CE?' but I guess you have answered that with what you said previously.

Interviewee: Yes, yes, definitely.

Interviewer: What quality methodologies are required to narrow the gaps between the various consulting process phases?

Interviewee: It is what I said, there's got to be a process, a continual reinforcement of what the consultant is going to provide versus what the client wants. Sometimes it may be that the different aspects of the project are running … for example a new railing, just one aspect of it is about the station design but I mean the other initiatives running around, the aspects like rail link, bridges, and things like that all got to run in parallel with each other so that you are defining the scope of work and the client is signing off on it as you go along. At some point what you will do is put them all together into one scoping report. That allows you as a consultant to explain to the client how you understand the scope to be, what you are going to provide, what are the concept designs you have in place and if it is exactly what he wants. And then, sometimes there is a process where the client has a look at it and says 'well ok, we thought we wanted that, but we've been talking to some other people and we've actually changed our mind a bit…'. So that's really the quality methodology to narrow gaps.

Interviewer: What can be done to prevent the occurrence of these gaps during the consulting process?

Interviewee: That should be pretty much the same thing as I answered in the last question. Because if you follow what I said, you will definitely prevent the occurrence of the gaps.

Interviewer: How can the implementation of the QA framework impact the consulting process?

Interviewee: It's the feedback loop, it's making sure that what you providing matches what the client expects he is going to get. That's part of the audit process, it's part of what you do, it's not something that you now take a snapshot and say I need to do a quality audit. It is a continual process of feedback and reassurance all the time, if you say that's part of the QA process then yes.

Interviewer: Can the QA framework indeed address the consulting process gaps or causes of failure?

Interviewee: Well, you are talking from a negative perspective I would rather say it is ensuring success rather than stopping failure.

Interviewer: Would you add or delete anything from the framework to make it more consistent?

Interviewee: I think what you've done is quite generic, here we self-regulate, self-check. As I said, any deliverable that goes out is checked and approved.

But what I would suggest is that audits should be performed at the end of the Report process, because you wouldn't do a formal quality audit at the Inputs necessarily, I mean it depends. Depends on what the nature of the Inputs are, you might want to do it. You don't necessarily audit the Problem-solving Process, because that is an input to a deliverable. So, you assume that the team involved in that process essentially self regulates themselves so that the inputs to the Report are valid.

The formal quality audit should normally be done towards the end of the project by quality auditors, not necessarily by engineers but people who are familiar with the quality process and are looking for specific documentation within the quality process to say 'yes all the checks have been done within the process'.

Interviewer: Do you see any factors to consider when implementing the QA framework in the consulting process?

Interviewee: I think I can't stress more on this process of reaffirming and cycling back with the client, so that there is a proper understanding that the client knows what he is getting and you as a consultant know what he is expecting. You must make sure that those two match, because that is really the cracks of it. If at any point you miss each other somewhere then you both will be upset. Because the client is not going to get what he wants, he is going to expect you to do some more work and you have already finished your work as far as you are concerned, and then it becomes an issue.

Interviewer: Does this framework add anything to the consulting industry?

Interviewee: I would say it relates a lot to what we currently do. I'm not sure where your literature is coming with regards to this process but I mean I think it's currently what we do.
Interviewer: Would you consider implementing the framework or adapting it to your firm's future consulting engagements?

Interviewee: Yes of course, we are doing that already.

Interviewee: Kolosa Madikizela

11 November 2015 – 15h00

Interviewer: What is the nature of the gaps that inhibit consulting engagement success?

Interviewee: Ok, obviously the first one if you look at 'entry' sometimes the scope is not defined properly. So there is a misalignment in expectations between the client and the consultant. So the 'entry' needs to be very very very clear, the scope needs to be clear, the brief needs to be clear, before you can move on to the next stage. So I believe that is sometimes the problem is that right at the beginning there is a misalignment and the scope definition is not done to the point where everybody is comfortable about what it is that they want. That leads to a number of problems but that is usually the main problem.

With 'inputs' that would be a ripple effect of not understanding the problem, of gathering the information and the inputs requirements and there could be a misalignment with a consultant and what they believe. That is where Change Management comes in. So during Change Management hopefully is when they address these things, because if they are not addressed properly when it comes to the 'problem-solving process' there will be problems that should have been addressed at the inputs phase. Hopefully if they are addressed properly you shouldn't have problem when it comes to 'report' and 'implementation'. If they are not addressed when it comes to 'report' problems will arise.

So for me the problem of not having the scope defined properly and not understanding or setting the right parameters will set a ripple effect on the success of the consulting engagement. So I think information is important, I think defining the scope and defining exactly what the client requires and making sure you understand. So what normally happens is… I'm now going to jump to implementation, if you have stage gates for example for each of the consulting process phases, then you can assess if you are still inline with the scope and with the requirements. So I think stage gates help a lot, and I think that is also where the gaps are. Sometimes during the process there are no stage gates whether we are still inline so there should be a stage gate at 'entry', a stage gate at 'inputs', a stage gate at 'problem solving process' and all of the other phases before you move on to the next phase so you identify the problems. And I think sometimes consultants or consulting groups during a consulting engagement loose site of that and don't use stage gates properly.

Interviewer: What are the main reasons for these gaps leading to unsuccessful CE?

Interviewee: And the reason would be communication due to not asking the right questions and making assumptions. I think, very often as consultants we want to sell our offer to the client and we don't take time to understand the client properly. So I think the reason for the gap is not doing enough questioning with the client. I think as consultants we jump to quickly to solution mode and not really into understanding what the client wants. So lack of upfront investigation and proper understanding of the client.

Interviewer: Would that make an immediate effect on the client consultant relationship?

Interviewee: Yes, yes.

Interviewer: What quality methodologies are required to narrow the gaps between the various consulting process phases?

Interviewee: Ok, the one I spoke about already 'stage gates'. I think you should have stage gates. And in the beginning, what Pragma does and does well, in the beginning we have an AMIP, which is an Asset Management Improvement Plan. This looks at what are the gaps of the client. So I think the first one is to identify what exactly does the client want? And the methodology you could use for that is an assessment. Is an assessment of the client environment that uses questioning as a methodology.

And I think where we've been successful in our projects is where we've spent in-depth time in the client environment, even before we can define the scope. One of our clients in the retail industry that we are busy with a proposal, we have spent numerous hours just in their business, trying to understand their business before we jumped into solutions.

So I think the methodology is to make use of upfront research of the client before scoping the problem. Sometimes consultants come in to understand the problem and jump to solution mode, when the methodology should be at the beginning spending time understanding the client first before you even define the scope.

Interviewer: That would answer my next question, which is 'what can be done to prevent the occurrence of these gaps?'

Interviewee: Yes.

Interviewer: How can the implementation of the QA framework impact the consulting process?

Interviewee: If not implemented properly it can impact it negatively. So it can either impact positively and you can have a good outcome. Because it is a framework so it is almost like a guiding tool, it needs to be adhered to. And I think again this is where stage gates come in, so for each of the phases and sub-phases there should be stage gates 'did we do it right, didn't we do it right'. Almost taking stops at each and every single points of the stages. So I think if the framework is used very well it may ensure that the consulting engagement is a success. If it is not done well it will ensure that the engagement is not a success.

Interviewer: Can the QA framework address the consulting process gaps or causes of failure?

Interviewee: Yes, I think it can. It can address the causes because you have all the various stages, and the various inputs and the various things that you need like flow charts, quality objectives etc. So you are almost creating stage gates so I think it would definitely.

Interviewer: Would you add or delete anything from the framework to make it more consistent?

Interviewee: The only think I would add is 'stage gates' because is the only think I don't see. I would add stage gates at the end of every phase of the consulting process and even at the end of each sub-phase. Because they allow you to take stops before you move on, so that you assess and identify the challenges, the problems and the risks before you get to the end of the consulting engagement process. Because usually very often in a project or consulting engagement you want to do a post evaluation which is done at the end. And that is already to late at the end. So if you have the stage gates you can identify them before you move. You need continuous evaluation through each phase.

Interviewer: Do you see any factors to consider when implementing the QA framework in the consulting process?

Interviewee: I think risk. You've looked at the quality but I think you should also look at the risks. What are the risks associated? Like risk of failure. And I think also you can have a section where you look at opportunity. So you almost want to have a SWOT analysis when you do the stage gates, to assess what were the strengths, what were the weaknesses, the opportunities and the threats. That is the only thing I would add on to it, so ensure that the consulting engagement is successful.

Interviewer: Does this framework add anything to the consulting industry?

Interviewee: I think it does, I really think it does. I think it does really add a lot, and I think it is something that could be taken and used to improve processes and consulting engagements. And did you do any research to see if there aren't any such frameworks already existing.

Interviewer: No there are not. My research wasn't going to contain a framework at first, but because I couldn't find anything that would directly link quality and consulting I decided to develop the framework.

Interviewer: Would you consider implementing or adapting the framework?

Interviewee: I think I would. But I think it is a good framework for smaller consulting companies, not the big market leaders. For the smaller start-up consulting firms it would be more applicable. Even the big ones could take it and adopt it as well but I think for small emergent consulting firms is an excellent tool.

Interviewer: I understand what you saying. Because the big consulting firms are more likely to have a detailed or accredited quality management system that would cover all the points of the framework and others that the framework did not touch on.

Interviewee: Yes, that is exactly it.

Interviewee: Karl Nepgen

11 November 2015 – 16h00

Interviewer: What is the nature of the gaps that inhibit consulting engagement success?

Interviewee: The most obvious one is the fact that the client didn't really fully formulate his requirements or terms of reference. And the second is that the consultant just accepts that and is not critical about that. In other words, he sees something and he assumes in other words, assumptions are made. The client assumes he's thought of everything, either because he's not competent enough himself or he didn't spend enough time on it. And secondly the consultant assumes the client has done his work. That is typically where one of the gap is on the entry side. That relates to requirements definition and understanding by the consultant. That is still fairly intangible. When it comes to the tangible side 'the contract'. If the contract isn't well formulated to unambiguously describe those things, then you have another potential shortfall. So on the entry phase you can have a misunderstanding but well formulated, that means it has been very well described but it wasn't thought up previously and you have a problem. It could be, define the requirements and understood but in the contracting almost procurement process it is not well written down. In the end it is going to rely on the memories of both the client and the consultant, to actually go back for a tacit agreement rather than the formulation of the contract.

Assuming that everything is fine at the entry and lets presume the problem was well defined. For the purpose of the inputs phase, the client's organisation information base and knowledge base needs to be queried. It's either in a form of tacit knowledge resting in other employees or other resources, so you need to speak to those people. First of all you need to get access to them, what would happen is we define upfront that the project will require that we speak to these technicians. And when it comes to the actual assignment either they not available or they are available but they don't want to cooperate and they see it as a threat. The outcome of this engagement might actually threaten their position, so you won't get cooperation there. Or maybe is just not the right person and doesn't understand enough what is required. On the person side it is about information such as documents information. If everything is available then there is little argument about the outcome of the report. If you can only get access to half of the required documents then it's already becoming a bit debatable for the report to be accepted. If you only find very little information then you have to rely a lot on interpretation. So that's the other source of possible shortcomings. So speaking to people's resources, humans on the one hand and on the other is shortcomings in either the access to or the quality of information relating to the problem.

Interviewer: What quality methodologies are required to narrow the gaps between the various consulting process phases?

Interviewee: Lets start with the entry phase, on the formulation or the precise definition of the requirements. The only way to solve that would be an understanding between the client and the consultant. There must be a critical approach to it from both sides. The client must have a critical evaluation, and make an effort so that the consultant actually understands him. So after that critical evaluation the client must make sure that the consultant fully understands the same as he does, exactly what he wants. And the consultant must also make sure that what he understood is exactly what the client wants. That's for understanding the requirements and also ensuring that the requirements are defined properly. And when it gets to the contracting site sometimes the processes at the client organisation will leave that to a procurement official. And that's where the client should be involved there as well to ensure that what is written down in the contract with regards to the terms of reference actually reflects exactly what he wants.

On the inputs phase, quality is in terms of interaction between the consultant and humans. Like engaging and cooperating with people responsible for providing you with information. And if those people do not provide you with information provision must be made. Hold the process and go back to the project manager and tell him that you are not getting the joy so you either come and motivate the guys or do something because I need that information. Obviously a good consultant will have some tactics and processes where he can engage with humans in a way that will foster their cooperation. But sometimes you get a guy that is just threatened and will not cooperate. And that is when you need some involvement from the project manager. And that is basically the same with information and documentation inputs if it is not readily accessible it can compromised the quality of the engagement deliverables. So it's a continuous critical approach. Some guys will say "I just want to get this job finished irrespective" but it doesn't allow them to see all the possibilities involved as the process rolls out.

Interviewer: So, this critical process approach will be the main way to prevent the occurrence of these shortcomings within the consulting process?

Interviewee: well, while describing it I sounded pretty subjective but it is an approach and likely there is a hard method and it is a hard method. But it is a methodology that could prevent the occurrence of the gaps.

Interviewer: How can the implementation of the QA framework impact the consulting process?

Interviewee: Well, leadership will hopefully sort of create the right climate and atmosphere in the client's organisation to accept that the change will be coming and someone will be coming to consult.

Customer focus refers to the consultant, as he will aim to satisfy the customer when he's there to deliver a service for a certain benefit for himself. So if he considers his long-term growth he will consider the fact that he has to keep the customer happy in the sense that he has to provide a quality product. Not necessarily telling him what he wants to hear but give him an honest, truthful and objective report.

I think the general QA is just that there must be a critical approach by everyone. But look, things can go wrong. There is nothing such as a 0 error situation and there is nothing such as 100% correct situation. So if you are somewhere 5% error and 95% correct you good. But always check whether or not you are on the right track.

Systems thinking are definitely part of the approach at the consultant's side to have a clear understanding of a problem, evaluating alternative solutions and doing informed decision or recommendations to the client. So the client might receive certain alternative solutions for him to go about in a systematic way about deciding which one is the best.

Also a very crucial part is communication. Not just working on assumptions but communicating and being critical about how you going ahead and whether you going to reach the intended and the proposed outcomes that communication is important. Well it implies communication and timely communication where the client is communicated as the project goes on.

Interviewer: Can the QA framework address the consulting process gaps or causes of failure?

Interviewee: well it is a framework and a very high level framework. But the danger is if you don't detail it enough then it cannot solve anything. So the answer could be yes, but I don't know how. I couldn't guarantee that it would address the gaps but it is definitely something that will help. Because if there are audits yes it might help. Nothing here is wrong or out of place but it needs a bit more detail if you really want to ensure a successful consultation engagement. So my answer is roughly yes.

Interviewer: Would you add or delete anything from the framework to make it more consistent?

Interviewee: Nothing I would take away, but would add something like communicating progress or progress reporting. Some sort of activity that says regular communication where progress reports are handed to the client for feedback and validation.

Interviewer: Where exactly do you suggest that could be added?

Interviewee: specifically in entry, inputs and problem-solving process. Not in the report because at that point you have reached your outcome. Also obviously in implementation if the consultant is called to assist with the implementation. Regular communication is important to close the loop between the client and the consultant. By communication I mean formal communication, specific progress reports handed over and accepted by the client.

A phrase I always use with people who contract me is "I hate surprises, so don't surprise me anywhere along the line. I don't want to see a surprise, either by the quality of what you do or a lack of delivery". Sometimes they do deliver what I said and expected but somehow you added cost elements or other things. And that is also not good for acceptance.

Interviewer: Do you see any factors to consider when implementing the QA framework in the consulting process?

Interviewee: interviewee did not answer this question.

Interviewer: Does this framework add anything to the consulting industry?

Interviewee: Yes, I think it is a critical tool for both the consultant and the client who is expecting a value add that you can call a benefit. Because, it is costing him money and time, so applying the framework is an effort that supports and promotes the benefits expected by the client. So of course yes it would add value. And for the consultant to claim a quality delivery and ensure to have a happy client.

Interviewer: Would you consider implementing the framework or adapting it to your firm's future consulting engagements?

Interviewee: well, lets say I retire and decide to open my own consulting firm, which is what a lot of guys do when they are at a certain point of their career where they've had enough of the big corporate. Well awareness of a quality framework like this, and note I'm saying awareness

because it is still a high level. What I specifically mean is there are no specific tools there that are new to me.

Is the framework valuable? Yes it is valuable. The same way there are books on consulting where the principle is valuable. Because it is one thing for an experienced guy, because the years of experience do help. I can go out now and start my consulting firm and I could grasp intuitively what you have in the framework and that is why I agree with it. But for young guys starting off now and has a very good technical knowledge or a specialist consultant might require specific tools.

And that is another side, a consultation by the virtue of experience and knowledge and by other types of consultants like specialists or experts in a specific field. These specialists are usually very systems orientated and for them I think this type of framework would be very valuable.

Interviewee: Simon van Wyk

18 November 2015 – 14h00

Interviewer: What is the nature of the gaps that inhibit consulting engagement success?

Interviewee: In terms of entry the biggest problem, the one that hurts the most for consulting engineers. A client will often put forward a request for quotation or a formal tender and in that they will describe the scope of service that they would like. As a consulting engineer we respond to that and we put forward a proposal. Often, I would say 85% of the time assuming you win the project you would then be awarded a purchase order to that scope. The sad thing is that you deliver on that scope and it doesn't meet the client's expectations. And this is a major problem, well this is where quality assurance has a critical part to play. Because you could argue that we as consulting engineers put forward a methodology to meet your scope and we delivered therefore it's a success. The reality of the big consulting world out there is that often they have got protocol and things, lets for example take a company like Company X (name cannot be mentioned) for example. They quite a mature client, they have a lot of infrastructure so they used to handling very large products, one of their divisions is purely around project management of major infrastructure projects. And they follow all the quality procedures and so forth, but the one thing you cannot take out of any project is that people are people. And the problem with people being people is that there are different interpretations of a specific procedure or a policy. Actually delivering what their policy says.

So what I want to make a remark in terms of entry is to really ensure quality at that level where you are awarded the project. Do not work on an assumption that because your answered the scope in terms of methodology and you have delivered that you are actually going to make your client happy. The reality is you need to seat the client down and have a formal expectation meeting. Because the other problem that I've encountered is that people understand things to be different. Lets say for example as part of our submission we put forward a quality management plan to deliver the project. For us we have our systems and processes in place, and they simply don't agree with the content of that plan, yet they've awarded us the contract. So the disconnect comes that we are simply implementing what we said we would but it's not really meeting the expectations of the client and the problem then is that you have to do rework. Often they won't increase your budget so there is no opportunity for a variation order and then you start running into financial loss. And engineering hours cost a lot.

So at the entry level there I would say that the biggest problem is defining expectations and capturing that information. There are tool that the project information can fit into, one is your

project plan. Because the timeline might need to shift per deliverable, but at the project plan you state your deliverable and explain by when you'll start and complete. At the entry level is good to seat down with that plan and say is this an accurate representation of what we will deliver and will it meet your expectations? So that is my comment on that phase.

In terms of inputs this is a huge factor for consulting engineers. We rely on the client to give us the specific inputs that we need and a classic example lets say you have a port project, you need to expand a port. To do that port expansion your designs for your conveyors, tipplers and ship loaders and so forth needs to be benchmarked against a forecast of what you want to either import or export. So you are reliant on the inputs from the client to say well if I want ship loaders to export X amount of bulk product to do that we need to know the amount of volume we need to move. So they run their own models, their own processes and their own market trends and so forth, and they get to a point where they come and tell you ' you know what we want to move 80 million tons per annum of iron. So obviously as a consultant engineer you need to design according to that. We've had on a few occasions where we had a very advanced level of design and they got that marketing strategy wrong, and you then end up designing a white elephant because you've got this fantastic facility but no product to move. So at the inputs level, what we as consulting engineers do from a quality point of view we put forward a RFI, which is a request for information. And the problem is we often don't get the information that we need back from the client. And even when we do get that information back from the client we cannot always be guaranteed that it is accurate. So you can already see where gaps start to manifest. Imagine you've got poor inputs and you have being asked to design a specific solution by the time you get to your end point it is not fit for purpose. That is what we as consulting engineers need to do, every design we do must be fit for purpose it must meet that mandate. So inputs for me is actually trusting the data that you get. And if you are familiar with ISO 9001, but a critical aspect of ISO 9001 is verification. And that is a tool that you could use at every single step in your process here. Because at inputs, you could actually rectify that data and verify that is correct. Now the only thing you can do as a consulting engineer is to get the client to sign it off on those inputs. Because we can only design based on the information that we have or based on the expectations of the client. Because engineers can design anything but there are problems associated with that, and that's where accurate inputs from the client come in. But is all about meeting that entry requirements.

For the problem-solving process, well at Aurecon we have our protocols, which we call our A+ systems. And that is an in-house system that's been developed by our Project Delivery Support Services Group and that has all the requirements that you would wants to lets say tick the box of quality when undertaking a solution. So one of the first documents we do is what we call a PEP –

project execution plan. In that plan you will define exactly what the scope is, what the resources and methodology will be to achieve that scope. And coupled to that will be an end product of some sort. And that PEP filters down to a whole range of other quality plans like a quality management plan itself. We also have a project risk assessment process that we need to follow, and I think that is an important view-point to take at a problem-solving level. If you've heard about ISO 31000, it provides a basic framework where you need to establish the context. What that means in this type of setting is to define your project objectives. Once you have done that you can ask what risks can be identified and impede me from achieving my objectives? And then you go through an assessment phase, an then you evaluate based on this analysis what you should or shouldn't do. And that is the other aspect at problem-solving process that is very very relevant, what am I willing to pay for? versus what am I willing to accept? As far as risk and quality exposure are concerned. And I think is vey important when you talk about quality that you incorporate risk, because all the new standards and ISO 9001 and others, have all become risk based. And they are all risk based on this one standard ISO 31000. So if one can incorporate this process into quality engagements the probability of having a design that does not meet the client's expectations is very low. Because you are establishing your context at the start, and within that context all you risk is flowing. And I think that's where ISO 9001 is taking a nice turn for the better. Because to provide any level of quality assurance you need to understand what level of risk and even opportunity could be presented by a project. That allows for continual monitoring and review at each level of the process. And also communication on the consultation which means you should be talking to the right people at the right time. So I would say that where quality assurance may have gone wrong in the past is a bit of a weak link in truly grappling with risk management. Also in ISO 31000 there are 11 guiding principles which when added to a process add tremendous value especially in terms of your problem solving phase.

So in terms of reporting, that could take quite a couple different steps because a report might even be schematic or design. So various things that can happen with regards to bad planning, because you know you got to issue your report on a certain day but you haven't scheduled your approvers or reviewers. Therefore the person that needs to look at it is not there. So due to bad planning it can go out without being approved and then create an issue. If there isn't an experienced person assigned to review your report it can also be a problem. Because as a consultant your work needs to be reviewed within your company before it goes out. If there is nobody to review your work it is a problem, because you also don't want to send it to another consulting firm because you don't want them to look at your intellectual property. Another thing related to planning is the client moving due dates. Something the consultant has no control of and it can bring additional pressure on the team to issue something that is not up to standards. As far as quality is concerned in the report phase other than all the things we've just discussed, I think the definition of the report format with the client before the report is compiled. Because what sometimes happens is we

provide what in our opinion is a stunning technical report and the client says that it is incompatible with their systems. And you need to convert it to our format otherwise we cannot use it. But that's typically for mature clients. And quality can go wrong even on the simplest things such as the format of the report. But that is also discussed at the entry phase where the requirements are set out.

I don't have much to say about implementation because the bulk of our work is design and that is primarily what we do. When it comes to implementation that's normally a third party.

Interviewer: You have identified where all the gaps happen, and you mentioned why they happen, but can you please explain what are the main reasons for the occurrence of these gaps?

Interviewee: It is often difficult for clients and the engineers alike to articulate in words what they are going to produce. Lets say for example I want a table to look a certain way and I am explaining to you before you have ever seen it, and therefore it is difficult for you to produce this table. So the main reason for that would be resources, and I don't just mean people, I mean the commodity itself. So can you get the right material? Can you get the right mouldings? So for me, it comes down to constraints and again if you can appropriately define your context at the onset of your project, you should have minimal challenges to actually produce your end product. So for me resources are a problem and also people are people as I said before. And I have been on projects where the project manager is changed half way through and the whole project changes because the newly appoint project manager needs to pick up the pieces. And often their delivery method is completely different to the project manager that was there before. So where quality assurance has a role to play is to provide that framework, the parameters within which you should deliver your service. And I hope if you do that properly through quality assurance you should still deliver what's expected of you. But as a root cause I would definitely say that's one of the causes.

Interviewer: You have mentioned a couple of quality methodologies already, but can you think of more quality methodologies that could be used to narrow the gaps between the various consulting process phases?

Interviewee: Yes, look from a quality point of view there's obviously things like PRINCE 2 and PMBOK. These are the most respected internationally for project management. Coupled in to that ISO 31000 is important, but there is another standard IEC I think is 63000, which is project risk management. It's a specific standard that's being set up to manage risks on projects and it's starting to get its presence known. But most of the guys I know are running PMBOK or PRINCE 2, those are the respected standards at this stage. Obviously as a company, we rely on our quality

gurus to make sure we meet ISO 9001 requirements. Also there are a lot of tools developed depending on the needs of the project. We've got our planning tools, opportunity tools.

Communication I think is a big thing on projects. There must be suitable communication, especially on the larger projects where you've got a building component, a civil component, a risk component, water component. It's all different units within our organisation. So if communication with consultants in our organisation and between us and the client is not correct lots of things can go wrong. So communication and the plan for communication is important as long as you stick to it. So continuously monitor if you are on track, so say now during planning we have a financial tool to see whether we are within the budget because obviously wee need to monitor that. Also we have to deliver within the time that we've got, within the standard that we've got, so if there are lessons learned during the project you shouldn't wait until the end to share it with the business. But a pitfall if that people don't want to share when they've made a mistake and that counts for anybody. But it can only do good for any business if you can share what went wrong with the project

Interviewer: How can the implementation of the QA framework impact the consulting process?

Interviewee: the simple fact of the matter is, any process that you can create centred around quality improvement is a benefit. However, whatever quality framework you have it must be efficient. Because if there is a quality protocol that gets deployed in a company that's not efficient and value adding then it doesn't get entertained or there is a lot of resistance. So you need to match your level of quality assurance with the business appetite. So I would be careful that whatever framework I put forward that is actually practical. But my concluding remark on that is that the framework can only improve matters. I'd say that a quality assurance framework is better if it is risk based because that is the current trend of thought that's how the standards are going. And they found that you would achieve a higher level of quality almost indefinitely if you squash your risks as you go. So if your framework can be centred around risk based thinking and is effective and is efficient it's only going to add value.

Interviewer: Can the QA framework address the consulting process gaps or causes of failure?

Interviewee: causes of failure, is too reactive because then it's already manifested. So the way consulting engineers are now turning their thoughts and again it comes back to risk based thinking is to proactive management on quality. So the framework by design can achieve causes of failure through things like audits, which you have in your framework. But the value add would have been if you could've predicted what the potential quality impacts could be, mitigating them out through every phase within your framework. When you get to a point of causes of failure, it's actually

genuine. And I think that's what Aurecon tries to achieve, that's why we have all these processes and these systems and so forth. Because you can imagine if a client comes to us with a 50 billion rand project the last thing they want to do is discuss causes of failure. They would be much more tuned to looking at proactive measures to ensure quality assurance, so that their project can be delivered and never have to talk about causes of failure, so I'd say the framework should be centred on proactive measures.

Interviewer: Would you add or delete anything from the framework to make it more consistent?

Interviewee: ok the quality assurance awareness is good, but I you'd define quality assurance project objectives. Because you can make someone aware of all the protocols and all the templates and all the things you need to use, but if it is not aligned with the project objectives it might simply become a compliance issue. And there is nothing more I think that would upset our internal auditors or even the management of our company when you just ticking a box. You want to do something because it adds value now, you don't want to be in a position where you say I had to fill in this form because if I get audited I'm in trouble. Then you not adding value. So I'd say at my awareness stage if I am already defining the project objectives right at that stage, it is going to add tremendous value as far as quality assurance is concerned.

On systems thinking I just have one thing to say, make sure you have risk based thinking at that level. Instead of corrective action I'd have had preventive action and corrective action. Simply because we want to be proactive and not reactive, because in project management there is always two things you always encounter 'an issue and a risk'. An issue is a risk that has already happened, and therefore is an issue and you need to manage it. No one wants to get there, is better to know what the risk is to manage that out before it becomes and issue.

The customer focus here is fantastic, but maybe a couple of bullets around saying fit for purpose and managing expectations. Audits are imperative, and I am assuming that includes internal and external audits. Does that include audits from the client itself?

Interviewer: No it doesn't.

Interviewee: consider that as well because you can imagine when you doing major capital projects, given that a lot of these guys have projects around the world they have their own people that say yes we have employed you but we want to see if you can do what you say you can do. And the client comes to audit you.

Interviewer: Do you see any factors to consider when implementing the QA framework in the consulting process?

Interviewee: Yes, Risk management as I said. I am going to hop on that because it is very topical. ISO is amending all standards comply with the PDCA (plan-do-check-act) model and all of them are going risk based thinking. It seems to be the way people are going and that is why ISO 31000 has become the global guideline.

Interviewer: Does this framework add anything to the consulting industry?

Interviewee: yes it does. It does because everything is geared towards essentially quality assurance which I like. Other than the comments I've made I think if you can take that to a proactive approach is going to add tremendous value. And make sure that the framework when applied is fit for purpose.

Interviewer: Would you consider implementing or adapting the framework?

Interviewee: I would consider both. The adapting part would obviously come from the comments I've given. And in terms of implementing the framework obviously you need to set the requirements for each of these points in the framework. Because that is where the value add is going to come in. And I think it is a great opportunity because for me it is a bit of a synergy between PMBOK, PRINCE 2 and ISO 9001that your model focuses on. But I think it is a fantastic thing that you are doing here, I really do.