CRANFIELD UNIVERSITY

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Exploring career change through the lens of the intelligent career framework

School of Management

PhD
Academic Year: 2015–2016

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ABSTRACT

This study explores what motivates engineers in their early-mid career to change careers. It first establishes the definition of a career change from the perspective of those who have changed careers, and then examines what drives, influences and facilitates a career change, as well as how a career change is enacted physically and emotionally. This has been looked at through the contemporary lens of the 'intelligent career framework'.

This research adopted a qualitative, abductive approach following an initial inductive small-scale exploratory study. The fieldwork consisted of a pilot and main study using semi-structured interviews. For the main study, 22 interviews were conducted within one organisation in order to elicit the subjective experiences of engineers who had undertaken a career change.

The findings show how the driving factors relate predominantly to knowing-why and knowing-where. The influencing and facilitating factors vary by individual, and relate to knowing-what, knowing-how knowing-when and knowing-whom. Six clusters of interacting factors were observed with knowing-why, knowing-how and knowing-when at the core. Whilst the process of career change was complex and long, differing pathways through which individuals changed careers were evident, as well as emotions that needed to be managed.

This study contributes to knowledge in the area of contemporary career theory by exploring career change through a new lens: the intelligent career framework. It demonstrates how individuals use their 'career capital' to effect a career change and the ways in which the six knowings interact to bring about a career change. It extends the understanding of the process of career change and discovers some of the organisational factors that influence or facilitate individuals making a career change. All of these contributions address identifiable gaps in the literature.

Keywords: intelligent careers, engineers, organisational factors, future orientation.

ACKNOWLEDGEMENTS

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1 INTRODUCTION

1.1 Research Aims

Why do professional engineers change careers? This study aims to investigate this question by examining what factors contributed to actual voluntary career change for a group of ex-engineers as well as mapping the process by which they changed careers. Career change is defined here as 'movement to a new occupation which is not part of typical career progression and for which new skills or expertise are required' (Rhodes and Doering, 1983; Higgins, 2001). The research problem as discussed below is concerned with retaining engineers in the profession; the focus is on cases in which an individual has made a career change as defined above. Engineers who have changed engineering discipline (i.e. engineering speciality) or moved into technical management or technical project management are not regarded as career changers. Importantly, this study focuses on voluntary career change; the participants are individuals who have voluntarily decided to leave the engineering profession and pursue a role in a new occupational area.

1.2 The Research Problem

According to Lord and Farrington (2006, p.25), 'there is growing evidence to support the position that engineering managers will find it increasingly difficult to find, attract, and retain qualified knowledge workers'. This sentiment exists widely amongst industry leaders in the UK. The concern is that the UK cannot innovate and compete globally due to skills shortages in engineering (West, 2015). It needs over a million new engineers and technicians (Grant, 2015), yet the number of engineering graduates in the UK remains low, at around 30,000 a year, and of those who graduate, just under two-thirds enter the engineering profession (Kumar, Randerson and Johnson, 2015). This is of particular concern when one considers the age demographic of the current engineering workforce, the number of engineers likely to retire in the next ten years, the demand shortfall for engineers and the low number of teenagers available in the UK population to replace those (Kumar, Randerson and Johnson, 2015). Over

the last two decades, a continual decline has been seen in the number of chartered engineers (those who demonstrate the required professional competencies). In the last two to three years, following extensive UK governmental initiatives, this decline has been halted, and currently there are approximately 180,000 individuals registered with the Engineering Council as Chartered Engineers (Kumar, Randerson and Johnson, 2015). It is estimated to take eight to ten years to become a Chartered Engineer, with the average age of engineers achieving chartered status being 36 years (King, 2011). It has been suggested that the number of chartered engineers is likely to decline more rapidly than the general workforce, given its current age profile (Lord, 2002; Hodgson, Farr and Gindy, 2004).

In addition, experienced professional engineers of approximately 40 years of age are choosing to change careers and leave the profession in large numbers (Kennedy, 2009), further reducing the number of professional engineers working in industry. Anecdotally, there appears to be a variety of reasons for this occupational turnover. Bailyn and Lynch (1983) commented that to still be an engineer at the age of 40 is considered a failure, implying that to be successful, engineers have to change careers and leave the profession. Empirically, there is a real need to understand why trained and professionally qualified engineers leave the profession and to understand what factors drive, influence and facilitate their decision to change careers in order to determine how best to retain them in the profession.

Cherniss (1991) observed that, whilst career change might be the best option for some individuals, it represents a loss for others. For this reason, he argued 'in many professional fields, career retention ultimately is a more significant issue than job retention' (p.420). As discussed above, this is certainly the case in the engineering profession in the UK. Farr, Hodgson and Gindy (2004, p.30) note that 'if companies are to prosper during the looming shortage, engineers currently in post must be persuaded to stay in post', possibly even beyond retirement age. Once the factors causing career change are fully known, HR practitioners and professional bodies can introduce appropriate policies and

procedures at critical stages targeted at those individuals at risk of leaving the profession, with the aim of increasing professional retention. The focus of this study is on the individual and on career change, that is those leaving the profession (occupational turnover) rather than the organisation (organisational turnover).

It is important to note that this is not a unique problem for engineering: similar shortages exist in the nursing (Parry, 2008) and IT professions (Shropshire, 2012) due to an ageing workforce, declining numbers of new entrants and professional turnover. Consequently there is a growing research interest in deepening the understanding of this phenomenon.

1.3 Research Gap and Questions

It is important to understand more about the phenomenon of engineers leaving the profession as it constitutes the research problem that this study seeks to address. As will be seen in Chapter Two, there is a paucity of research into career change, and much of what exists remains theoretical. There are relatively few empirical studies that have been undertaken in the last 35 years focused on actual voluntary career changers.

Early research focused on proposing theories and models about career change, yet very few of these propositions or models have been fully tested. Equally, many researchers agree that personal, organisational and environmental factors are critical to understanding career change (Neapolitan, 1980; Rhodes and Doering, 1983). However, little is known about the wider contextual or organisational issues that influence individuals and their decisions to change careers (Carless and Arnup, 2011) as researchers have paid attention to career rather than workplace aspects of the question (van der Heijden, van Dam and Hasselhorn, 2009). Researchers started to identify and investigate the determinants and antecedents through quantitative methods focused on the intent to leave one's profession, although, to date, very little qualitative research has considered the subjective and lived experience of the actual voluntary career changer. Researchers have noted that little attention has been paid to those individuals who are making major career transitions (Sullivan and Baruch,

2009), what motivates them or the factors that contribute to their decision to change careers (Doering and Rhodes, 1989, Feldman, 1989, Sullivan, 1999, Ng et al., 2007).

Most research has focused on individual characteristics – demographics, personality traits and personal factors – so that, whilst the needs and values of individuals appear to be driving the decision to change career, little is understood about the wider context in which their change is enacted (Neapolitan, 1980; Vardi, 1980; Louis, 1980; Rhodes and Doering, 1983; Nicholson, 1984; Feldman, 1989). Environmental factors are deemed to be pull (encouraging) factors, whereas the personal and organisational factors are deemed to be push factors, i.e. reasons for change (Lee and Mitchell, 1994).

Where empirical studies have occurred, important contributions to the literature have been made with regard to the factors impacting career change decisions and in trying to understand why individuals change careers. That said, there are still gaps in the knowledge. Ng et al. (2007, p.379) stated that 'it is important to examine the unique factors which contribute to the decision to change careers as this is an area that is still not understood'. Further research is needed to understand career change and the contextual and organisational issues that influence decisions to change careers (Teixiera and Gomes, 2000; Carless and Bernath, 2007; Carless and Arnup, 2011) which, within the context of this research, provide avenues for further exploration as to why professional engineers choose to leave the profession. Bearing all of this in mind, this study seeks to address the following two research questions:

- **What factors contribute to the decision to change careers?**

- **How is a career change enacted?**

These questions will be examined through the lens of the intelligent career framework, a contemporary career theory perspective, to ensure the relevance to the current era. It is hoped that by addressing these two questions subjectively, a deeper insight and understanding can be gained from the ex-engineers relating to the breadth of factors that come into play when deciding to

change careers as well as the process by which they change careers. This new perspective will be valuable to academics, HR professionals and the engineering profession alike. A detailed overview of the structure of this thesis is outlined in the next section.

1.4 Thesis Structure

This section outlines the structure of this thesis. In Chapter Two, the literature relating to career theory and career change is examined by discussing the traditional and contemporary career theories, and it includes an overview of the intelligent career framework. In this chapter, the current environment in which careers are enacted is considered. The next section discusses what constitutes a career change based on the extant literature, considering what is known about why and how individuals change careers. The chapter concludes with a summary of what is known and not known about the factors leading to the process of a career change, before identifying the research questions.

In Chapter Three, the research strategy used in this study is set out. The chapter commences with a brief discussion of the philosophical perspective that has been adopted in this study, as well as the implications for the design and methods used. There is a detailed account of the research design, data collection and analysis methods used in this study, including the organisational context and participant criteria. There is a section that describes the exploratory study and fieldwork undertaken in this study. This chapter concludes with a discussion of other considerations: the limitations of the chosen methodology, its validity and reliability, and the ethical concerns.

In Chapters Four to Six, the findings from the research are set out. Chapter Four discusses the findings in relation to what a career change is. This considers how the participants in this study define a career change and what it entails. This chapter starts to make sense of the process of career change and examines what is and is not a career change from the participants' perspectives. Chapter Five examines the findings in relation to the reasons why individuals choose to undertake a career change as well as considering the factors that influence and support them in making a career change. Having

done this, a discussion in respect of clusters of factors is presented, together with some example cases. Chapter Six considers how individuals enact a career change by examining the physical process, step-by-step actions and decisions taken by the individuals. It sets out the different routes through the career change process with cases as examples. Additionally, it considers the emotions which the individuals experience and manage.

Chapter Seven discusses the overall findings of this study in relation to the literature. It considers what is new, how this study supports what is already known and how and where it extends or differs from prior research. Finally, Chapter Eight concludes this thesis by discussing the contributions and limitations of this study, as well as discussing the practical implications of the findings and making suggestions for future research.

2 LITERATURE REVIEW

In the last 40 years, career change has been studied in many different fields, leading to a divergence in perspectives (Arthur, Hall and Lawrence, 1989; Ornstein and Isabella, 1993; Arthur and Rousseau, 1996; Peiperl, Arthur, Goffee and Morris, 2000; Feldman, 2002; Duberley, Mallon and Cohen, 2004). This chapter reviews the career change literature to establish what is known and not known about voluntary career change in early-mid career. Section 2.1 commences by defining careers and career change. Section 2.2 discusses the traditional and contemporary career theories and, in particular, the intelligent Career framework, as well as considering the current environment in which careers are enacted. Section 2.3 considers what is known about why individuals change careers. Section 2.4 discusses how individuals change careers by examining what is known about the process of career change. Section 2.5 concludes the chapter by summarising the review and identifying the gaps that exist before outlining the research questions for this research study.

2.1 Definitions

2.1.1 Career

The definition of a career depends greatly on the perspective of the researcher (Feldman, 2002; Baruch, 2004). In vocational psychology, the word 'career' refers to a carrier or vehicle used to navigate life (Dawis, 1996). The origins of the most commonly used definition can be traced to the field of sociology and Hughes. According to Hughes, (1958, p.63) a career consists 'objectively of a series of status and clearly defined offices' and subjectively is 'the moving perspective in which the person sees his life as a whole and interprets the meaning of his various attributes, actions and the things which happen to him'. Today, the commonly accepted definition of a career and the one being used in this research is 'the evolving sequence of a person's work-related experiences over time' (Arthur, Inkson and Pringle, 1999, p.3). This definition references the personal nature of careers, i.e. the subjective element as it relates to the individual's own experiences, as well as a temporal aspect relating to the

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evolution of work experiences over time. However, some would argue that this definition is overly narrow, for it fails to consider individuals' perceived attitudes and behaviours (Hall, 1976); it does not capture individuals' 'aspirations, expectations, values, needs, and feelings' (Greenhaus, Callanan and Godshalk, 2010, p.10) nor the non-work-related experiences relevant to many women's careers (Sullivan and Mainiero, 2007).

Synonyms such as 'vocation', 'profession' and 'occupation' are used for the term 'career' (Lee, Carswell and Allen, 2000; Collin and Young, 2000; Blau, 2007). However some authors, including Super (1976), argue that it is incorrect to use such words interchangeably as they have different meanings. 'Vocation', coming from the Latin word *vocare,* usually means to follow the voice of God and is highly specific. It is sometimes referred to as a 'calling' in relation to a particular occupation, e.g. priesthood or nursing (Dawis, 1996). A profession has been defined as 'a special type of occupation, one whose members exhibit high levels of such characteristics as expertise, autonomy' (Blau, 1999 p.687) and tends to be limited to a number of occupations, such as medicine, law, accountancy and engineering (Blau, 1988). An occupation, defined as 'an identifiable and specific line of work*',* is said to include both professional and non-professional forms of work (Lee, Carswell and Allen, 2000, p.800). However, none of these three terms adequately captures the totality of a career, which can span more than a single occupation or profession.

A career does not operate in isolation. Collin (1990) set out a diagrammatic explanation of a systems model of a 'career' demonstrating the different systems influencing an individual's career, as shown in Figure 1. If, in the context of this study, a career change is deemed to be the output (i.e. the action of the individual), it can be seen that there are many external variables that potentially influence the individual's career, ranging from macro to micro systems.

Environment

macrosystem   exosystem   mesosystem   microsystem

social class

government (local, national)

community

family

educational institutions

adaptation of system to its environment

transformation process: Inputs-throughput outputs

Inputs

educational opportunities

Outputs

(individual's actions and attitudes)

maintenance of system

political, social, economic, educational, legal systems; values of culture

occupation

workplace

industry/ commerce

local job opportunities

feedback

Figure 1: A systems model of a 'career' (Collin, 1990)

2.1.2 Career Change

As with the variety of synonyms used for a 'career', there are just as many for a career change. Some researchers use proxy terms for career change, such as transitions and mobility (Neapolitan, 1980; Kanchier and Unruh, 1989; Markey and Parks, 1989; Blau and Lunz, 1998; Blau, 2007; Carless and Arnup, 2011). The term 'career change' has been chosen for this research, but it could also be termed 'occupational change'. This is because this research is concerned with engineers who choose to leave the engineering profession and move to a new profession. As described above, a profession is a special kind of occupation, so these individuals are moving to a new occupation. Arthur, Inkson and Pringle defined a career as an 'evolving sequence of a person's work-related experiences over time' (1999, p.3). These work-related experiences could involve, as Inkson and Thorn (2010, p.259) discuss, 'transitions between jobs, organisations, occupations, industries and locations'. If, like Blau, Paul and St John (1993, p.311), we assume that 'an individual has one career for his/her

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entire life', then implicit in this assumption is the notion that a career change is not possible, and what is really being investigated is occupational change that is moving across occupational boundaries (Hess, Jepsen and Dries, 2012). Consequently, this research is examining occupational change, although it is termed 'career change' as this is more commonly used and understood in everyday language.

Two of the most popular definitions of a career change are 'movement to a new occupation that is not part of a typical progression' (Lawrence, 1980, operationalised by Rhodes and Doering, 1983, p.631) and 'entry into a new occupation which requires fundamentally different skills, daily routines, and work environments from the present one' (Feldman, 2002, p.76). These both emphasise a new occupation. Lawrence's definition implies stepping away from the normal career path and pursuing something different. This view relates very much to the traditional view of a career in which movement was upward; however, this perspective may be less relevant to the study of contemporary careers. Feldman's definition by contrast expands the definition further by suggesting that fundamentally different skills, routines and work environments are required when changing careers; however it appears to fail to consider the transferable nature of some interpersonal skills or leadership skills that might apply across a range of different occupations. A more accurate definition entails including technical or functional skills. Ibarra (2002, p.46) considers career change as 'a move into a position of greater managerial responsibility and organisational status, a transfer to a similar job in a new company or industry, a lateral move into a different work function within a familiar field'. However, this definition appears more relevant to a job change rather than a career change as it includes moving to a similar job in a different company, which, in essence, does not necessarily imply a career change, as well as moving into a position of greater managerial responsibility, which could be considered typical progression. The only aspect of her explanation which may suggest a career change is a lateral move into a different work function, which she then distinguishes as moving within a familiar field.

Other contemporary definitions of career change are similar in that they consider a movement across an occupational boundary, or to an occupation that requires different skills, expertise or training (Higgins, 2001, Murtagh, Lopes and Lyons, 2011). Having considered all of these definitions, for the purposes of this research study, a newly combined definition of a career change is used: 'movement to a new occupation that is not part of typical career progression and for which new skills or expertise are required'. This is based on Lawrence's (1980), Feldman's (2002) and Higgins's (2001) definitions and is concerned with the physical movement across an occupational barrier for which new skills and knowledge are needed. This can be considered as a radical change and a distinct step off a pre-defined career path in the original occupational field.

A career change can be voluntary (initiated by the individual) or involuntary (forced). Voluntary changes are said to be driven by personal agency (Fouad and Bynner, 2008) and allow sufficient time and resources to consider alternatives. However, societal and organisational forces will be present as the change will be enacted within the systems of the career. This means individuals will be affected by changes in the exo-system, meso-system and micro-system as per Collin's (1990) systems model. In Sections 2.2 and 2.4, two different theoretical perspectives are considered.

2.2 Traditional Perspectives

Traditional careers reflected the external environment and were often presumed to be linear, stable, predictable and secure in hierarchical bureaucratic organisations, in which there were clearly defined positions for career progression (Arthur, 1994; Walton and Mallon, 2004; Baruch, 2006). Success was determined as an upward, hierarchical progression, typically within one or two organisations (Sullivan and Mainiero, 2007). Traditional careers were deemed dependent on the firm for 'worth and marketability' (Arthur, Claman and DeFillippi, 1995, p.7).

The majority of traditional careers research has been dominated by adult development principles, in which a career is viewed as an ongoing developmental process, comprising several chronological stages (Ornstein and Isabella, 1993; Baruch, 2004). These theorists sought to find age/stage-related patterns of career development situated within the individual's wider life roles (e.g. spouse, parent) or based on organisational patterns (van der Heijden, 2002). They considered periods of exploration, consolidation and change in relation to age and family stage, characterised by periods of stability and turbulence. A career was seen as a dynamic entity of developing life cycles, shaped by complex interactions between personal traits, external forces and organisational circumstances (Arthur, Inkson and Pringle, 1999; Sullivan and Mainiero, 2007).

One such theory, Super's (1957) Life-span Development Theory, has endured longer than other theories. In this theory, career development is considered a never-ending process of improving the match between self and situations (Jepsen and Sheu, 2003). This theory suggests that individuals implement their own self-concept through their vocational choices during their lifespan to accommodate changing conditions. The theory combined the psychology of individual development throughout life and social role theory in order to understand multiple-role careers (Sullivan, Carden and Martin, 1998; Baruch, 2004) and proposed that individuals, regardless of their occupation, move through four stages: exploration, establishment, maintenance and disengagement (Super, 1957). Career stage was determined by the individual's perception and circumstances and not so much by age, although some subsequent research has inappropriately used age as a proxy for psychological career stage (Sullivan, 1999).

Super (1976) introduced the concept of career maturity, in which he set out a number of determinants: biographical (needs, values and interests), psychological (intelligence, aptitude) and socioeconomic (community, school, family, peers), as well as environmental factors, such as employment practices and labour markets. Research examining Super's theory supports the idea of

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there being differences in attitudes and behaviours across the career stages (Cohen, 1991; Sullivan, 1999), but some questioned its applicability to women's careers (Ornstein and Isabella, 1990; Wise and Millward, 2005; Sullivan and Mainiero, 2007).

Super (1980), in addressing some of his theory's critics, updated his model to make it more applicable to female careers and to reflect the cyclical nature or recycling through the four stages in an individual's career (Ornstein, Cron and Slocum, 1989; Arnold, 1997; Sullivan, 1999). Super suggested that individuals making major transitions return to the first stage of exploration regardless of their age, in what he termed a 'minicycle', whereby they re-evaluate and adjust at any point in time within the end-to-end series of life stages called a 'maxicycle' (Bejian and Salomone, 1995; Hess, Jepsen and Dries, 2012). Williams and Savickas (1990) reinforced this notion in proposing that individuals in the maintenance stage who change careers must recycle through the earlier stages to develop a new career. Super proposed that the roles played in an individual's wider life and their personal situation affect other role dimensions, and he argued that occupational preferences and competencies all change with time and experience. Supporting this notion of constant change, Hall (1993) and Hall and Chandler (2005) noted that individuals within their career experience cycles ranging from two to five years during which they make changes based on external factors.

Bejian and Salomone (1995) suggested that a fifth stage, known as career renewal, should be added to the end of Super's model, between establishment and maintenance. They contend that Super did not see recycling as a stage on its own but rather part of the other stages. Bejian and Salomone (1995) identified renewal as a transitional stage in which past decisions are reviewed, new decisions are made and courses of action planned, usually initiated by a trigger event. Based on their review of the literature, they conclude that 'renewal is a distinct career development stage, occurring between the late establishment and maintenance stages that has corresponding tasks of self-appraisal, reorganising personal and career priorities and reorienting to present

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and future planning' (Bejian and Salomone, 1995, p.58). This concept of recycling or renewal is particularly relevant to the study of career change, as one could argue that, in making a career change, an individual is, in fact, recycling within their career. This is in the sense that some individuals, despite having established themselves in one occupation, decide to explore alternatives, thereby returning to the 'exploration' stage in a different occupation. This concept has not been extensively studied and very few studies can be found in relation to it, suggesting a potential gap in knowledge. Smart and Peterson (1997) are some of the few researchers to test Super's idea of recycling. They found that individuals in the midst of a career change reflected the characteristics of those in the first stage of the model.

Traditional career theories and models reflected the external environment at the time, assuming minimal or only incremental change would occur (Sterrett, 1999). Many of these career models were 'supported by economic and workplace environments characterised by the introduction and growth of new technologies as well as social norms and structures that tended to support the male-as-breadwinner family structure' (Sullivan and Baruch, 2009, p.1542). Super's model was based on economic, social and organisational realities that may no longer be reflective of the current era (Ornstein and Isabella, 1993). It focused on the individual almost to the exclusion of the wider environmental context and assumed stability in the organisational, economic, social and political arenas in which the careers were enacted (Sullivan and Mainiero, 2007). In the next section, the current career landscape is examined.

2.3 The Changing Landscape

Economic, political, cultural, legal and technological changes, combined with demographic changes in the wider environmental context, have impacted organisations, individuals and, in turn, careers. These macro-forces have affected how careers are enacted, developed and managed both inside and outside of organisations. Broader societal changes may have led to changes in the attitudes and behaviours of individuals in respect of their careers. As a

result, some individuals are said to be making radical changes in response to these wider environmental factors (Sullivan and Mainiero, 2007; Sullivan and Baruch, 2009; Greenhaus, Callanan and Godshalk, 2010). These factors will be different at different times, so what may have been relevant in the 1980s, when career change research started, may not be wholly applicable in the 2010s. Hess, Jepsen and Dries noted that 'theoretical developments have shifted from traditional views of career as linear, predictable trajectories in favour of non-traditional or new views of careers' (2012, p.280).

Whilst not exhaustive, some of the influences that have been seen to affect contemporary careers relate to the recent uncertain global economic conditions and a greater focus on efficiency and productivity. Organisations have had to adapt and evolve to survive in this knowledge-driven economy (Poulsen and Arthur, 2005) in order to remain competitive and improve market value (Baruch, 2004), resulting in many organisational changes brought about by restructuring, downsizing, mergers and outsourcing. Consequently, organisations have adapted their ways of working, and forms relating to project-based, matrixed and networked organisations have been increasingly seen (Baruch, 2003; Feldman and Ng, 2007; Carless and Arnup, 2011). These have led to contractual and working arrangement changes, intensified by technological advances, which, whilst having eliminated some jobs, have opened up new career paths (Baruch, 2003). At a time when greater diversity and flexibility in the workforce has seen more dual career couples, working mothers and workers with responsibility for the care of elderly relatives all bring an added dimension to the study of careers (Sullivan and Mainiero, 2007). Adamson, Doherty and Viney (1988, p.255) identified how both 'the meaning and purpose of [a] career is changing' in response to such wider influences. In the section that follows, these contemporary perspectives are discussed.

2.4 Contemporary Perspectives

In the late 1990s, a number of contemporary career perspectives gained prominence in the literature. These perspectives reflected the external

environmental changes that were occurring and affecting both organisations and individuals' careers. These contemporary theories reflected a shift in responsibility for the career from the organisation to the individual. As a result, individuals are required to manage their careers as the concept of a career for life in one organisation no longer holds true for most individuals (Sturges, Simpson and Attman, 2003). These contemporary theories acknowledge that individuals will and do change occupations over the course of their career (Inkson, 2006), a concept earlier denied. Historically, changing career above the age of 30 was uncommon (Bejian and Salomone, 1995) and considered deviant behaviour (Collin, 1990).

Whilst some individuals will follow traditional career paths, Sullivan, Carden and Martin (1998) anticipated that more individuals would follow unpredictable, non-traditional, non-linear paths, reflecting changing organisational forms. Such careers have been described as: 'unfolding across multiple organisations, occupations and cultural settings and attributed labels like boundaryless, protean, nomad, spiral and post-corporate careers' (Chudzikowski, 2012, p.298). Over the last decade, two of these newer career theories, protean and boundaryless, have become popular (Briscoe, Hall and DeMuth, 2006) and dominant (Arnold, 2011) in the literature, and are discussed below.

2.4.1 Protean Career

First identified in 1976 by Hall but not popularised until the mid-1990s, a protean career is one in which the person and not the organisation is in charge. The term protean, taken from the Greek god Proteus, who changed his shape at will, describes a career that is self-directed, values driven (Arnold, 2011), flexible, adaptable, versatile and initiated by the individual to achieve psychological success (Greenhaus, Callanan and Godshalk, 2010). It concerns the core values of freedom and growth, with success deemed as subjective (i.e. psychological) as opposed to objective (i.e. position and salary) (Hall, 2004). Hall (1976, p.201) explained that a protean career 'consists of all the person's varied experience in education, training, work in several organisations, changes in occupational fields'. This suggested that a career change is an integral part of

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a protean career. An individual pursuing a protean career is said to take values-based career decisions (Greenhaus, Callanan and Godshalk, 2010). A protean career has been characterised as involving greater mobility, taking a more holistic life perspective and developmental-based progression (Briscoe, Hall and DeMuth, 2006).

Given the highly individualistic nature and subjectivity involved in a protean career, it follows that an individual self-managing their career in such a manner would need a high degree of self-awareness and knowledge, as well as confidence in their ability. A protean career approach implies that more active management is required by the individual and that knowledge about oneself and one's values, as well as self-confidence, are prerequisites to bringing about changes. It also suggests that career decisions need to be considered on an individual basis in order to fully understand their perspective.

Kerno (2007, p.31) explained how a protean career 'with the growing need for individual motivation and continuous, career-related learning and development is indeed a contemporary reality for many engineers', which suggests that taking a contemporary career perspective in this study is appropriate.

2.4.2 Boundaryless Career

Arthur and Rousseau (1996, p.3) developed the concept of a boundaryless career, which 'does not characterise any single career form, but, rather, a range of possible forms that defies traditional employment assumptions'. A boundaryless career is said to 'transcend the boundaries of organisations and occupations, is sustained by social networks, intertwined with other parts of people's lives and under personal control' (Arnold, 2011, p.106).

Boundaryless careers are said to be more complex and ambiguous than organisational careers, which unfold in a single employment setting (DeFillippi and Arthur, 1994; Jones and DeFillippi, 1996) and involve mobility patterns that depart from a traditional career through differing levels of physical and psychological movement (Arthur and Rousseau, 1996), requiring the individuals to employ diverse competencies or strategies. Like a protean career, there is

the need for individuals to maintain a high degree of self-responsibility for their career choices (Greenhaus, Callanan and Godshalk, 2010) as the boundaryless career is not reliant upon organisational promotions and career paths to determine success (Briscoe, Hall and DeMuth, 2006). Individuals are expected to be proactive, navigate the changing environment, manage their own career path and engage in activities that simultaneously develop and maintain important career competencies (Arthur and Rousseau, 1996; Colakoglu, 2011). A boundaryless career is said to be more externally focused, in which individuals move between organisations to pursue opportunities that will contribute to their growth (Lamb and Sutherland, 2010).

In the context of this study, career changers who are crossing occupational boundaries can be deemed as having a boundaryless career or at least be experiencing a boundaryless career. Briscoe, Hall and DeMuth (2006) explained that individuals can have a boundaryless mindset about their careers within a single organisation.

Whilst there appears to be some overlap in the contemporary perspectives described above, in that the individual is responsible for managing their career, there are some subtle differences, as shown in Figure 2 below. The protean career concept appears more holistic about the whole person, concerned with an internal and psychological career orientation, which implicitly gives rise to particular career behaviours. A boundaryless career concept is more focused on the external career and the individual's work roles, with individual behaviours as the observable starting points (Suutari and Mäkelä, 2007).The meta-competencies of self-knowledge and adaptability are explicit in descriptions of the protean career and implicit in the boundaryless career (Inkson, 2006). In this study, it is the behaviour, i.e. the actual voluntary career change, that is being studied, and it may be that protean career attitudes are driving those behaviours.

Career Type:	Traditional	Protean	Boundaryless
Employment Relationship	Job security for loyalty; Relational	Employability; Transactional	Employability for performance; Transactional
Boundaries	One or two firms	Multiple Organisations	Multiple: physical and psychological
Skills/Competencies	Firm specific (know-how)	Adaptability/Self-awareness	Transferable
Success Measured by	Pay, Promotion, Status	Psychological success	Psychologically meaningful work
Responsibility for Career Management	Organisation	Person	Individual
Training and Development	Formal Programme	Continuous, self-directed, relational	On the Job
Core Values	Advancement	Freedom, Growth, Whole Life Development	Flexibility, Self-development
Milestones	Age-related	Career age, not chronological age	Learning-related
Degree of Mobility	Low	High	High
Key Attitudes	Organisational Commitment	Satisfaction and Professional Commitment	Satisfaction and Professional Commitment

Figure 2: A comparison of traditional, protean and boundaryless careers adapted from Sullivan (1999) and Hall (2004)

In the next section, the intelligent career framework, a boundaryless career concept, is examined.

2.4.2.1 Intelligent Career

DeFillippi and Arthur (1994) introduced a competency-based view of careers in the context of a boundaryless career, with its foundations in the 1992 work of Quinn and the intelligent enterprise (Peiperl et al., 2000). This competency-based view of careers consisted of a set of three career competencies: knowing-why, knowing-how and knowing-whom, which, in 1995, became known

as the intelligent career (Arthur, Claman and DeFillippi, 1995). Individuals are said to invest in their careers through these three forms of knowing.

Knowing-why relates to the nature and extent of an individual's identification with their organisation's culture, based on their career motivation, beliefs, values and meaning, as well as their identification with their career, family and other non-work circumstances (Arthur, Claman and DeFillippi, 1995).

Knowing-how refers to the individual's skills, experiences and job knowledge, developed both formally and experientially, as well as the individual's ability to apply and expand their skills and knowledge (Arthur, Claman and DeFillippi, 1995).

Knowing-whom reflects the individual's career relevant networks as well as wider contacts drawn from the individual's family, friends, colleagues and mentors (DeFillippi and Arthur, 1994), as well as relationships with suppliers, customers, clients, contractors, old school or college contracts, previous employers, industry affiliations and professional associates (Arthur, Claman and DeFillippi, 1995).

The intelligent career reflects the application of these three forms of knowing in response to shifting environmental, employment and personal variables and emerging opportunities. Likewise, a career change is another form of response to the environment and the opportunities presented.

In 1996, Jones and DeFillippi extended the intelligent career framework to include knowing-what, knowing-where and knowing-when, describing the original three knowings to be about self-knowledge and the three new knowings to be about industry knowledge. They likened these additional three knowings to the topographical map of the industry in which an individual's self-knowledge is required to navigate their career.

Knowing-what is concerned with the types of career system in operation (i.e. the culture and rules of game), that is understanding the industry's opportunities,

threats and requirements for career success, as well as the organisation's specific practices, jobs, roles and culture (Jones and DeFillippi, 1996).

Knowing-where concerns the individual's understanding of where geographically, spatially and culturally to gain entrance, training and advancement as there are many viable paths into a career (Jones and DeFillippi, 1996), That said, pathways into some career fields are open, but sadly pathways to engineering are still rigid; that is, there is a one-way movement, outwards, due to the barriers to entry that exist.

Knowing-when concerns the temporal aspects and choice of activities within one's career in terms of when to stay or leave an employment situation (Jones and DeFillippi, 1996). In traditional careers, temporal issues were dictated largely by the employer's definition of when new roles, promotions and lateral transfers should occur. In boundaryless careers, timing and pacing are more difficult to predict since advancement depends on the definition of career success.

Together these six knowings form important considerations for any individual managing their career within a professional and organisational context. Jones and DeFillippi (1996) identified a relationship between these six knowings, in which knowing-what generates knowing-why, which, in turn, requires knowing-where, which necessitates knowing-whom, requiring an understanding of knowing-when, which is essential to developing knowing-how, which links back to knowing-what. They identified that 'these six competencies interact with one another and define the parameters of career success in a boundaryless career system' (p.101), such that when all six are considered, they provide a rich description of the domain to be travelled. These six knowings are inextricably linked. Parker, Khapova and Arthur (2009) and Culié et al. (2014) discussed the relationship between the three original knowings, as set out in Figure 3 below.
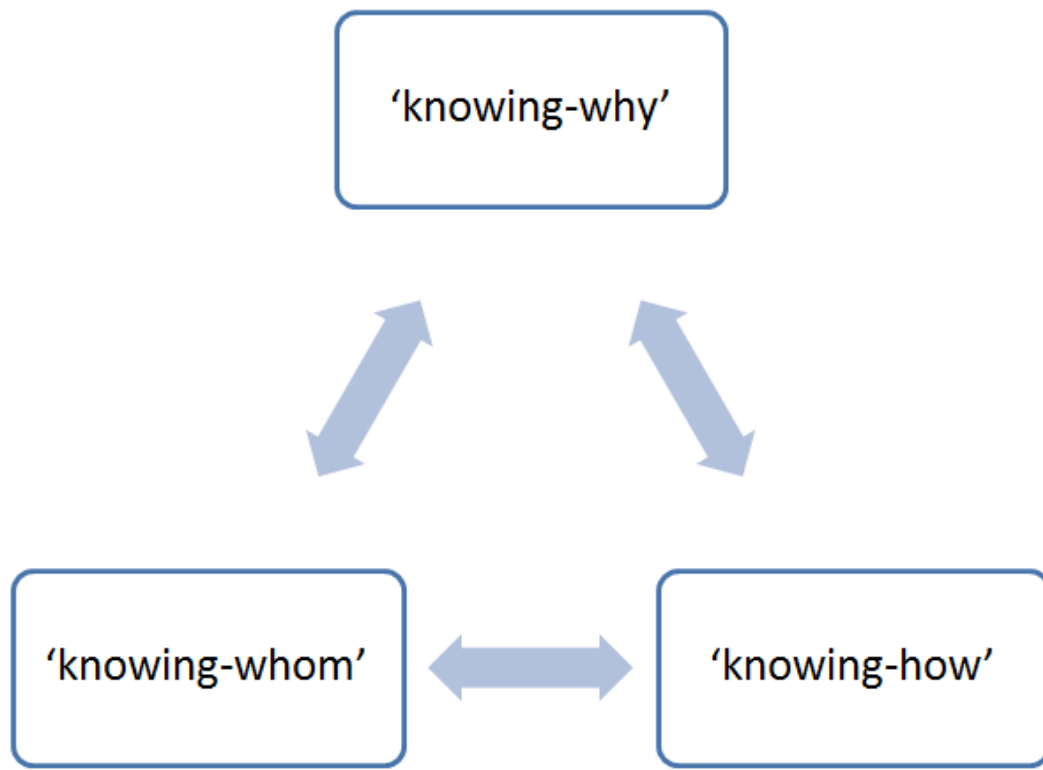
Figure 3: Interaction of the three knowings

Jones and DeFillippi (1996) discussed the applicability of this framework to a growing number of boundaryless project-based career systems found in some highly skilled professions such as engineering, in which engineers from all different engineering backgrounds are brought together to work collaboratively on long-term, large-scale projects. They each bring knowledge, skills and competencies to the project, which set them apart from others.

In considering careers in the widest systems context, it is essential that one considers the industry knowledge that is needed to be successful, as well as the self-awareness, making this extended career competency model more complete and applicable for the study of contemporary careers.

Unlike the traditional career theories, the intelligent career framework is not specific to gender, age or career stage; it does not assume upward hierarchical progression or an organisational specific career. It encompasses both the individual perspective (motivations, skills and networks) as well as the wider context in which careers are enacted. It is sufficiently broad to encompass both objective and subjective career considerations, and it offers a holistic and dynamic perspective on influences affecting an individual and their career decisions. The intelligent career framework provides a more inclusive and innovative platform through which to study career change, in which a career change is considered as one form of career management. DeFillippi and Arthur (1994, p.320) noted how 'each form of career competency contributes to the propensity of an individual to pursue a career in which a person's subjectively defined career success is associated with intentional or voluntary changes of employment setting', thus advocating that it is a suitable framework through which to examine the subjective perspectives of individuals making a career change. Supporting this perspective, Peiperl et al. (2000, p.102) identified that 'the intelligent career framework stands in marked contrast to traditional' views requiring individuals to remain adaptive to the environment, focus on subjective measures of success such as growth and learning, develop their own career competencies and 'assume responsibility for their future employability'.

Whilst the intelligent career framework offers a new and exciting approach through which to study careers and, in particular, career change, to date only a handful of career studies have been undertaken using it. Colakoglu (2011, p.48) commented that 'even though the career literature has paid a considerable amount of attention to identifying and conceptually explaining these competencies, there has been a lack of empirical studies conducted to test the relationships between these competencies'.

Of particular interest is the work of Parker, Khapova and Arthur (2009), who used the intelligent career framework to examine whether the separate disciplines studying careers could be brought together to understand the dynamics of contemporary careers. They examined in depth the six uni-

dimensional cause-effect relationships between the three career competencies and concluded that the intelligent career framework is 'useful for viewing separate disciplinary approaches to careers on the same page' (p.299). This further suggests that the intelligent career framework may be a useful lens through which to examine career change as it has historically been studied from a variety of academic disciplines.

In reviewing the studies on the intelligent career framework, there appears to be very little consistency between the studies. A notable exception is the work of Dickmann (Dickmann and Harris, 2005; Dickmann and Doherty, 2008, 2010; Dickmann and Mills, 2008), who has used the intelligent career framework for studying international assignments and the development of career competencies. Three other studies have looked at the relationship between career success and career competencies, finding that the three knowings (why, when, how) are important in predicting career success as an outcome variable (Eby, Butts and Lockwood, 2003; Singh, Ragins and Tharenou, 2009; Colakoglu, 2011; Kong, Cheung and Song, 2012). Despite the disparate nature and context of the research, many studies have used the intelligent career framework as their theoretical basis when examining how individuals through their experiences can build, develop or accumulate their career competencies, or 'career capital' as it has become known (Arthur, Inkson and Pringle, 1999; Inkson and Arthur, 2001; Parker, 2002; Sturges, Simpson and Altman, 2003; Carr, Inkson and Thorn, 2005; Suutari and Mäkelä, 2007; DiRenzo and Greenhaus, 2011; Kong and Yan, 2014). In many of these studies, interactions between the different forms of knowings have been identified and discussed in the broader context of their study (Colakoglu, 2011). Most studies have been qualitative, specific and small scale in nature and have concluded that the intelligent career framework is a useful framework to utilise in the study of careers (Parker, 2002; Parker, Khapova and Arthur, 2009).

A study of particular interest is that undertaken by Mayotte (2003), which considered the influence of previously developed career competencies in transitioning and adapting to a new role in teaching. She described how the

career competencies provide a framework for describing the factors that are utilised when switching careers, bringing both a benefit to themselves and their organisation. She likened the role of the career competencies to stepping stones leading to success in the new occupation. However, Mayotte (2003) only interviewed four individuals, which somewhat limits her findings.

Whereas most of the studies to date have considered how individuals have developed or accumulated career capital through their respective activities (e.g. completing a MBA or undertaking an international assignment), Mayotte's study considered how the individuals drew upon their career competencies, knowingly or unknowingly. With the exception of Mayotte (2003), none of the above studies have considered how the intelligent career framework could be useful in investigating career changers, and how the factors involved relate to six knowings. Colakoglu (2011) suggested that crossing boundaries provides both the motivation and opportunity to develop and accumulate these career competencies, although this suggestion remains untested as no study has examined this. Given these gaps, there is a real opportunity to use this framework and take a contemporary view in this study of career change. This study proposes to take a perspective that is unlike any previous studies that have used the intelligent career framework, in the sense that it focuses on how individuals are using, developing and exploiting the six knowings when undertaking a career change.

Parker concluded that 'the concept of the intelligent career, with its three interdependent ways of knowing, provides a framework through which the counsellor can integrate disparate career data into a coherent picture' (2002, p.94), and De Janasz and Sullivan (2004, p.280) found the intelligent career framework to be a 'fresh and different way' of examining various aspects related to career management. All of these studies imply that the intelligent career framework may provide a holistic, integrative lens through which to examine career change and provide a rich description of the phenomenon of an individual crossing an occupational boundary. It is important to consider all six knowings rather than the original three knowings in the context of this study as

that allows insights into the industry knowledge aspects to be gained. This holistic perspective is important as it provides the systems approach to the career change.

In the section above, it has been argued that taking a traditional career theory perspective may not adequately describe the experiences of voluntary career changers in the current context since such traditional definitions of a career emphasise upward, hierarchical progression and development, typically within one or two organisations in a stable environment (Arthur, 1994). Success has been measured objectively, for example, in terms of hierarchical position or status (Adamson, Doherty and Viney, 1998). Given the changing landscape, careers today are said to have become boundaryless, dynamic, diverse, knowledge driven and flexible, reflecting the market-driven environments in which they have evolved, whereby success is measured in numerous ways, including subjectively (Arthur, 1994; Arthur and Rousseau, 1996; Baruch, 2003). These new career forms are said to require individuals to manage their careers differently than in the past, develop 'resilience, intelligence [and] employability' (Baruch, 2003, p.62) and are considered wider in scope as well as being relevant for an increasing number of individuals and environments (Baruch, 2006). As argued, taking a contemporary career theory and, in particular, using the intelligent career framework may be more relevant to the study of career change in the 2010s, as it enables a holistic viewpoint to be examined at an individual level of this highly personal and complex phenomenon. This study will therefore contribute to the literature by addressing the call for studies adopting a contemporary careers perspective.

2.5 Career Change

Research into career change does not have a long history. Much of the research has occurred since the late 1970s. Its theoretical foundation is derived from voluntary turnover, in which an individual chooses to leave his/her current position or organisation (Morrell et al., 2001) whilst recognising that career change is not the same as turnover (Shropshire and Kadlec, 2012). Following a

comprehensive literature search, 108 papers relating to career change (and related proxies) were found. Of these papers, almost a quarter were theoretical in nature, a third related to intention or willingness to change studies and a third related to actual career change studies with a few meta-reviews, suggesting a relative dearth of actual voluntary career change studies. The themes from these studies will be discussed below.

2.5.1 Why Individuals Change Careers

Identifying those factors that lead to an individual's decision to change careers is critical to understanding the concept and process of career change. Sullivan (1999, p.465) noted that 'despite evidence that adults are making occupational choices throughout their lifetimes, relatively little research has been conducted on what motivates adults to change occupations', and a decade later, even with an increase in interest in understanding of why employees change careers, it seems there is still less attention being paid to occupational rather than organisational turnover despite occupational turnover being a significant work transition (van der Heijden, van Dam and Hasselhorn, 2009; Chapman et al., 2009).

Early studies considered vocational choice theory to at the heart of career change. Researchers examined the person-environment fit, with an assumed lack of fit considered as a reason why individuals changed careers (Vaitenas and Wiener, 1977; Thomas and Robbins, 1979). Most of these studies considered male-only samples and were inconclusive or led to inconsistent findings. Vaitenas and Weiner (1977) found that adult career change seems to be associated with factors such as incompatibility of interests with occupational field, regardless of age. Contrary to this, Robbins et al. (1978) did not find support for the Holland's (1973) assumption that people search for environments that will let them exercise their skills and abilities when examining mid-career professionals who had changed careers. Likewise, Thomas and Robbins found no support that individuals moved to more congruent environments and suggested that 'whatever the reasons ... it appears that occupation holds less importance for many people than it perhaps did in the

past' (1979, p.182), concluding that new theoretical models were required as work is not central to many individuals' lives.

As a result, researchers started to examine the motivating factors which were critical for understanding actual career change (Neapolitan, 1980; Thomas, 1980; Lewis and Thomas, 1987; Doering and Rhodes, 1989; Markey and Parks, 1989). Interestingly, a few researchers compared career changers with non-changers to identify differences (Neapolitan, 1980; Cabral, Rhodes and Doering, 1985; Kirk, 1989; Kanchier and Unruh, 1989). However, many of these studies were limited by their chosen samples, which were predominantly mid-life males or involved individuals other than voluntary career changers, making it impossible to determine what voluntary changers actually cited. The methods employed at this time were predominantly positivistic in nature, employing quantitative or mixed methods and, as a result, failed to consider the individual's own definition of a career change as well as the subjective dimension of an individual's career (Collin, 1990). Most researchers assumed a stable external environment reflecting the society at large without due consideration for any contextual factors. With the exception of Lewis and Thomas (1987), these studies were US based, contributing to a lack of studies undertaken in different cultural contexts.

Some researchers explored relationships with job satisfaction, job involvement and the work values of the individuals (Cabral, Rhodes and Doering, 1985; Markey and Parks, 1989; Kanchier and Unruh, 1989). Dissatisfaction with one's work or job appears to be the most cited reason for changing careers, having been cited in studies in all of the last four decades. Research findings suggest that job dissatisfaction contributes to employees' intentions to leave their professions (Fochsen et al., 2004; Ingersoll et al., 2002), which suggests those dissatisfied are more likely to change careers (Rhodes and Doering, 1993; Blau and Lunz, 1998; Teixiera and Gomes, 2000; Blau, 2000; Carless and Bernath, 2007; van der Heijden, van Dam; Hasselhorn, 2009). However, not all studies have found this. For example, Kanchier and Unruh (1989, p.182) found that changers 'preferred more intrinsic rewards reflecting higher order needs'.

Similarly, Carless and Arnup (2011) found that job dissatisfaction was not an antecedent to career change, although they rationalised this in relation to the measures they used (intent to change rather than actual change behaviour). However, their finding does provide some support for Breeden (1993), who examined job satisfaction in relation to job and occupational change, and found it not to be a strong predictor of occupation change. Whilst many quantitative studies have set out to examine job satisfaction in relation to career change, other studies have not examined this factor, which van der Heijden, van Dam and Hasselhorn (2009, p.617) found surprising, given that 'research on organisational turnover has shown that dissatisfaction with the work situation is an important precursor of the decision to leave the organisation' and as such one would expect 'that dissatisfaction with the work situation is also a precursor of occupational turnover'. Interestingly, Kirk (1989) proposed that an individual does not need to be dissatisfied with their former occupation to change careers: some individuals make changes whilst maintaining high levels of satisfaction, and an attraction to the new occupation seems to play a greater part in their career change decisions as well as other possible driving factors. This is partly supported by Ostroff and Clark's (2001) finding that willingness to change careers with the same organisation varied depending on whether it involved relocation, which led Carless and Bernath (2007) to conclude that the influence of job satisfaction on intentions to change careers may depend on whether the change in careers involves a promotion or relocation. Given all of this, it is clear that mixed results have been obtained in relation to satisfaction and career change.

In the last 20 years, further studies have investigated the motivating factors and determinants leading to actual career change (Higgins, 2001; Sullivan, Martin, Carden and Mainiero, 2003; Blau, 2007; Chudzikowski et al., 2009; Carless and Arnup, 2011; Chinyamurindi, 2012). Many of these studies identified how the drivers for career change were varied and related to a range of personal values (Wise and Millward, 2005). However, consistent factors involved in the decision to change careers were noted. Based on the research to date, the findings from

the identified studies in relation to why individuals change careers are set out in Figure 4 overleaf.

The review of the literature has led to a wide variety of factors being identified above, which substantiates that there are a multitude of factors involved in the decision to change careers. However, these factors are likely to vary by individual as well as by the wider environment in which these careers are enacted. Researchers such as Neapolitan (1980) and McGinley et al. (2014) have proposed that these factors exert different forces (push or pull) on the decision to change careers, as well as acting as barriers and holding them in their original occupation (Lee et al., 1996). However, what appears to be unclear is how these factors are related or in what combinations they operate. This shortcoming is possibly due to the quantitative nature of many of the studies that have been used to identify these factors. Sun and Wang (2011, p.27) 'identified that 'the underlying relationships and the conditions of such factors' requires further research. This study will address this gap, by considering not only the factors that are involved in the decision to change careers but also identifying the combinations of factors that occur together in an attempt to predict possible relationships.

Factor	Identified/studied by:
Work/job dissatisfaction	Neapolitan, 1980; Lewis and Thomas, 1987; Doering and Rhodes, 1989; Markey and Parks, 1989; Kanchier and Unruh, 1989; Breeden, 1993; Holmes and Cartwright, 1994; Mallon, 1999; Higgins 2001; Teixiera and Gomes, 2000; Sullivan et al., 2003; Fochsen et al., 2004; Wise and Millward, 2005; Blau, 2007; Donohue, 2007; van der Heijden, van Dam and Hasselhorn, 2009; Chapman et al., 2009; Ingersoll et al., 2011
More leisure time with family/flexible working/work-life balance/family demands	Thomas, 1980; Lewis and Thomas, 1987; Greenhaus et al, 1997; Mallon, 1999; Cohen and Mallon, 1999; Lee and Maurer, 1999; Teixiera and Gomes, 2000; Higgins 2001; Deeming and Chelin, 2001; Wise and Millward, 2005; Mainiero and Sullivan, 2006; Chudzikowski et al., 2009; van der Heijden, van Dam and Hasselhorn, 2009; McGinley et al., 2014
Financial/salary considerations	Neapolitan, 1980; Thomas, 1980; Lewis and Thomas, 1987; Doering and Rhodes, 1989; Markey and Parks, 1989; Blau, 1989; Heppner, Multon and Johnston, 1994; Mainiero and Sullivan, 2006; Chudzikowski et al., 2009; Chapman et al., 2009
Health reasons, inc. stress and exhaustion	Thomas, 1980; Doering and Rhodes, 1989; Kanchier and Unruh, 1989; Blau, 1989; Mainiero and Sullivan, 2006; Blau 2007; Donohue, 2007; Chapman et al., 2009; Otto et al, 2010; Shropshire and Kadlec, 2012
Career progression/advancement	Lewis and Thomas, 1987; Doering and Rhodes, 1989; Holmes and Cartwright, 1994; Cohen and Mallon, 1999; Mallon, 1999; Sullivan et al., 2003; Mainiero and Sullivan, 2006; Chapman et al., 2009; McGinley et al., 2014
Personal/professional development	Kanchier and Unruh, 1989; Mallon, 1999; Cohen and Mallon, 1999; Teixiera and Gomes, 2000; Wise and Millward, 2005; Mainiero and Sullivan, 2006; Chudzikowski et al, 2009; Chinyamurindi, 2012; Hess, Jepsen and Dries, 2012
Lack of congruence/better fit value and work	Neapolitan, 1980; Thomas, 1980; Holmes and Cartwright, 1994; Cohen and Mallon, 1999; Sullivan et al., 2003; Wise and Millward, 2005

Location	Thomas, 1980; Lewis and Thomas, 1987; Doering and Rhodes, 1989; Lee and Maurer, 1999; Deeming and Chelin, 2001; Mainiero and Sullivan, 2006
Job insecurity/need a job	Thomas, 1980; Lewis and Thomas, 1987; Doering and Rhodes, 1989; Holmes and Cartwright, 1994; Carless and Arnup, 2011; Shropshire and Kadlec, 2012
Need for intrinsic reward /recognition/motivation	Neapolitan, 1980; Thomas, 1980; Doering and Rhodes, 1989; Holmes and Cartwright, 1994; Cohen and Mallon, 1999; Chapman et al., 2009
Challenge/unfulfilled potential	Doering and Rhodes, 1989; Holmes and Cartwright, 1994; Cohen and Mallon, 1999; Mallon, 1999; Deeming and Chelin, 2001; Wise and Millward, 2005; Mainiero and Sullivan, 2006
Nature of work environment/supervisor	Kanchier and Unruh, 1989; Mallon, 1998; Deeming and Chelin, 2001; Kidd and Green, 2006; Fochsen et al., 2008; Chapman et al., 2009
Meaning/purpose	Thomas, 1980; Heppner, Multon and Johnston, 1994; Wise and Millward, 2005
Opportunity, luck or job offer	Lewis and Thomas, 1987; Holmes and Cartwright, 1994; Mainiero and Sullivan, 2006; Chudzikowski et al., 2009; Chinyamurindi, 2012
Interest/enjoyment	Doering and Rhodes, 1989; Preston, 2001; Costello, 2001; Chapman et al., 2009; Chinyamurindi, 2012
Responsibility/autonomy	Markey and Parks, 1989; Kanchier and Unruh, 1989; Cohen and Mallon, 1999; Chapman et al., 2009
Changing needs	Sullivan et al., 2003
Disillusioned with work life	Mallon, 1999
Desire for something new	Chudzikowski et al., 2009
Corporate politics	Mainiero and Sullivan, 2006
Test ideas/avoid regret	Wise and Millward, 2005

Figure 4: Factors involved in one's intent to or actual decision to change career

In general, what appears to be evident is a changing focus in relation to the factors identified, from the more objective (e.g. financial considerations) to the more subjective (e.g. changing needs) factors. In earlier studies, the more objective and extrinsic factors, such as financials, career progression, recognition, lack of challenge and fit between personal and organisational values were consistently shown to be important ones leading to the decision to voluntarily change careers but were less evident in those studies undertaken in the last decade. During the mid-late 2000s, there was more recognition and focus on the subjective factors, such as more leisure time, personal development and not using one's abilities to the full, as well as being influenced by corporate politics (Mainiero and Sullivan, 2006) and not wanting to have career regrets (Wise and Millward, 2005). Sullivan and Baruch (2009) identified how some individuals were making dramatic career changes in response to their own changing needs, which suggests that individuals were taking more ownership and control of their own careers and making holistic career and life decisions.

This switch in prevalent factors points to both the relevance and necessity of the contemporary career theories in the study of careers. It also suggests a need for researchers to take a qualitative approach to understanding the subjective perspectives of the career changers in which they can discuss the multiplicity of factors involved in their career change decision, rather than being constrained by a narrow set of pre-defined constructs with hypothesised relationships that may or may not be applicable to their own circumstances. This study contributes to the literature by adopting a qualitative approach, in which the individuals are free to state all the factors affecting their decisions to change career.

Despite researchers' attempts to investigate all possible antecedents of career change, there is still much to learn and discover in relation to why individuals change careers. Whilst the wider environmental and economic factors can be assumed to affect one's decision to change careers, based on those identified factors, very few of the known factors relate to organisational aspects. One

assumed reason for this lack of consideration of organisational factors was presented by van der Heijden, van Dam and Hasselhorn (2009, p.617), who stated that 'because occupational turnover is often regarded as the outcome of career decision-making process, researchers have generally focused on career aspects as important predictors of this decision and less on organisational or workplace characteristics that may precede occupational turnover'. Another proposed reason relates to the different cultural backgrounds between the US and Europe, in which the dominance of US-based career literature often 'underestimates the importance of structural restrictions' in which 'labour market segmentation, institutional rules and regulations and organisational policies may influence career behaviour' (Forrier, Sels and Stynen, 2009, p.740). As seen in the systems models of careers (Collin, 1990), the organisation is one important system in which careers are enacted, and there is value in considering its effect on the decision to change career, as not all occupational turnover decisions lead to organisational turnover. Carless and Arnup (2011) examined the effect of two organisational factors (salary and job security) on career change behaviour. They found that only job security was related to career change, concluding that little was known about the wider contextual or organisational issues that influence individuals and their decisions to change careers. This is an important gap in knowledge, and it is critical that it be investigated given that Kong, Cheung and Song (2012) found that organisational factors play a more powerful role than individuals' ones in developing the career competencies that make up an intelligent career. Similarly, Ashforth and Saks (1995, p.170) identified that the individuals cannot be divorced from their context, finding that work-role transitions are 'a complex function of both dispositional and situational antecedents'. Research is still essential for understanding career change, and, in particular, to 'examine the unique factors that contribute to the decision to change careers' (Ng et al., 2007, p.379) as well as for considering the wider contextual and organisational issues that influence an individual's decision to change careers (Teixiera and Gomes, 2000; Carless and Bernath, 2007; Sullivan and Baruch 2009; Carless and Arnup, 2010). This study will address this gap by considering actual career change qualitatively, and examine from a

subjective perspective the factors involved in decisions to change careers including any of the wider contextual and organisational factors at play.

Many previous studies have examined intent to change or willingness to change careers, which can be considered a limitation of career change research. A reason often cited for using intent to change in these studies is that it has been shown in some studies (Blau, 1989; Hom and Griffeth, 1991; Blau and Lunz, 1998) to be an immediate antecedent of changing careers and a stronger predictor than other variables (Lee et al., 2000); however, it is not known if a career change occurs. Van der Heijden, van Dam and Hasselhorn (2009) discussed how, based on Ajzen's (1991) theory of planned behaviour, intention to leave is the most proximal precursor of actual occupational turnover behaviour. Career change intentions are said to be the psychological formulations made by individuals who intend to seek alternative professions. They relate to various factors, such as financial reward and opportunities for development, as well as work-related attitudes, such as job satisfaction (Shropshire and Kadlec, 2012). The majority of studies (Blau, 2000; Ostroff and Clark, 2001; Blau, Tatum and Ward-Cook, 2003; Kidd and Green, 2006; Khapova et al., 2007; Donohue, 2007; Mignonac, 2007; Otto, Dette-Hagenmeyer and Dalbert, 2010) have taken a quantitative approach to determining the predictors and antecedents of 'intent to change' careers, which further restricts the factors identified, and, as mentioned above, may not necessarily be the same factors as in the decision to actually change careers or of intentions to change (Rosin and Korabik, 1991). Another reason cited for studying intent to change careers is that it is easier than studying actual career changers (Aryee, 1993) as intent to change participants are more readily available than career changers (Blau, 2007; Blau, 2008). It is important to note that findings from this literature review continue to echo the view of Feldman and Ng (2007, p.370), who stated that 'there has been much more research on intentions to move than on actual mobility behaviour' further adding that 'the relative lack of attention to actual mobility in academic disciplines besides economics has resulted in a situation in which we know more about willingness

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to move than actual mobility itself'. This study will address this gap by examining actual voluntary career changers.

Furthermore, the literature on actual voluntary career change is somewhat scarce. In over two-thirds of the studies examined, the voluntariness of the change was unknown or the researchers examined both voluntary and involuntary changers without distinction (Lewis and Thomas, 1987; Cohen and Mallon, 1999). The voluntariness of the change is important because it has been identified that 'voluntary turnover is more heavily influenced by motivational forces such as work attitudes whilst involuntary turnover is more influenced by ability and performance-related factors' (Blau, 1989, p.90). When the nature of the change is undistinguishable, or a mixed sample is used, it is hard to isolate those individuals who have chosen to make a voluntary change and determine the factors involved in their decision to change careers. Of the few empirical studies that examined voluntary career change, they were limited to a few occupations and countries. For example, the literature review for this research study revealed that almost 55% of the empirical studies relating to actual career change were conducted in the US and Canada. Despite the relative frequency with which individuals are said to change careers, there continues to be a dearth of studies that examine actual voluntary career change, particularly, at an early-mid career stage, outside of the US. This study again seeks to address this gap by examining career change from a different cultural context.

Another limitation of the studies in this area concerns the career stage of the career changers. Where actual career change studies were found, more than half focused on mid or late career changers, such as, Young and Rodgers (1997), and Costello, (2001). Eleven studies were found that focused on the entire working age (e.g. Carless and Arnup, 2011). With the exception of Wise and Millward (2005) and McGinley et al. (2014), very few studies were found that examined career change in the early-mid career stage, which is somewhat surprising given that research has shown that most career transitions tend to occur in early career, that is, within the first eight to ten years of working

(Cohen, 1991; DeFillippi and Arthur, 1994; Neal, 1999; Chang, Chi and Miao, 2007; Chudzikowski, 2012). Cohen (1991, p.258) proposed that the propensity to change decreases as individuals proceed into mid and late career stages as their attitude 'towards their job become less important', suggesting that different factors may also be at play in mid-late stage career decisions. This notion is supported by research in which Mirvis and Hall (1994), who quoted Derr (1986), suggested that people have different orientations to career success and that these can change in response to life experiences. Despite the recognition that individuals are more likely to leave their present occupation in an early career stage, there is little research examining career change in this career stage. Additionally, age has predominantly been used in quantitative studies as a control variable (Armstrong-Stassen and Ursel, 2009). Hence, little is known about the factors that are pertinent to those who change careers at an early stage. Given the relative dearth of studies and evidence suggesting that career change in an early career stage is prevalent, it would seem prudent to examine the factors that affect such career changers. Interestingly, Sun and Wang (2011, p.35) noted that, the number of studies on the phenomenon was limited, 'protean and boundaryless careers may be emerging at least observed among younger generations', which again points to a further reason to study career change within a population of early career professionals to determine the factors that are leading to career change. This known gap in the literature is one that this study seeks to address so as to make valuable contribution to knowledge in this area.

2.5.2 How Individuals Change Careers

Having looked at some of the factors involved in the decision to change careers, this thesis now considers how individuals enact a career change by considering what is known about the process of career change through examining some of the models identified in the literature.

As discussed above, career change is one form of career development (Teixiera and Gomes, 2000), a way in which career goals can be actualised (Bedeian, Kemery and Pizzolatto, 1991). When changing careers, a transition

occurs between occupations akin to withdrawal behaviours. Much of the early research on career change was premised on traditional models of voluntary organisational turnover (Mobley, 1977). These turnover theories suggested that job attitudes together with suitable alternatives would predict one's intent to leave, which was deemed an immediate precursor of turnover. Turnover intentions were thought to develop from the accumulated affective reactions over time that trigger searching behaviours and ultimately lead to quitting, although supporting evidence for these antecedent variables was mixed (Yao et al., 2004). More recently, these narrowly defined attitudes have been extended to include non-attitudinal variables, such as job performance, absenteeism and shocks (Perosa and Perosa, 1987; Lee et al., 1999), as well as dispositional factors (Forrier, Stynen and Sels, 2009). As such, early process models tended to include antecedent variables or determinants, such as job satisfaction and organisational commitment, which would influence the development of thoughts of turnover, leading to intentions to leave and finally the actual decision to leave (Baroudi, 1985). Early withdrawal models presumed a linear process (Mobley, Horner and Hollingsworth, 1978), although Hom and Griffith (1991) did not find this and Jaros et al. (1993) suggested that the understanding of the withdrawal process was not definitive.

In the current environment of constant change, a career change can be considered as a dynamic process. Studies have shown that the process of career change takes time and is neither a linear nor an easy process (Ibarra, 2005; Wise and Millward, 2005, Chinyamurindi, 2012, McGinley et al., 2014). Many have suggested that it is a slow and gradual process, which evolves over time (Amundson, 1995; Ibarra, 2005). The process is said to begin before the change is enacted. Carless and Arnup (2011) suggested this could be around 12 months. Similar discussions exist as to when the process of career change ends. Breeden (1983) noted that in some cases, the process of career change was still ongoing two years after the change, suggesting that it is a longitudinal process. Various other timeframes have been suggested in the literature, ranging from as little as one month (Doering and Rhodes, 1993) to as much as

seven years (Murtagh, Lopes and Lyons, 2011), although it is recognised that this varies according to the individual (Doering and Rhodes, 1989). Wise and Millward (2005) identified that the individual's timing and readiness to change careers were critical to their success. Success appeared to be based on core values and a subjective criterion, indicating the importance of understanding the individual's values, a finding that resonates with the work of Muja and Applebaum (2012).

The decision to change career has been considered as both rational and reasoned (Neapolitan, 1980; Carson and Carson, 1997), and other-than-rational (Murtagh, Lopes and Lyons, 2011), reflecting the highly subjective nature of the decision and the contextual influences. Deeming and Chelin (2001) found that the decision varied from being an active choice in some instances to a more 'drifting' action in others. Ibarra (2005) considers the process of career change to be 'redefining possible selves' through a process of exploration, experimentation and action.

Research into the physical process has taken a more traditional theoretical approach; that is, no recent withdrawal models are to be found in the literature. In the last 20 years, a number of general proposals and models have been presented based on empirical data and theoretical propositions, but most assume a traditional, hierarchical organisational career, which is not reflective of the current careers environment.

During the process of changing careers, a number of physical and psychological (Murtagh, Lopes, Lyons, 2011) steps are passed through, although not necessarily in a sequential order, as an individual makes both a decision and a transition, which entails an emotional, cognitive and behavioural change (Perosa and Perosa, 1987; 1997). Nicholson (1984) proposed one of the first staged process models of adjustment to work-role transitions that individuals are said to typically follow: it begins with preparation, and leads to encounter, adjustment and stabilisation in relation to both personal and role development.

It is widely acknowledged that there is usually a trigger (Amundson, 1995; Ibarra, 2005), a key moment (Teixiera and Gomes, 2000), an event (Sullivan et al., 2003), a form of disruption (Carson and Carson, 1997) or a shock (Lee and Mitchell, 1994; Slay et al., 2004; Forrier, Sels and Stynen, 2009) that sets off a series of other steps at the start of the career change process. Such triggers are usually distinct and can be relatively minor (Amundson, 1995), but may lead to further considerations. Teixiera and Gomes (2000) found that career change began with an awareness of feelings of dissatisfaction, whilst Collin (1990, p.209) identified how 'the start of the present experience of change appeared to have been a significant subjective experience that began a process in which they modified the way they conceived of themselves and their world' – this relates to their self-concept or identity (Super, 1957; Ibarra, 2005). Contrary to these perspectives, Perosa and Perosa (1987) discussed how not all career changers began at this phase, and Forrier, Sels and Stynen (2009, p.750) acknowledged that 'not every transition is initiated by a shock', whilst Ibarra (2005) observed that the trigger is a catalyst that occurred late in the process, allowing individuals the opportunity to make sense of their desires.

Following the trigger, it is generally acknowledged that there is a realisation of the need to change, although this can take many forms (Young and Rodgers, 1997; Teixiera and Gomes (2000). Once the need to change has been identified, it has been found that a period of reflection and questioning usually ensues, which is a critical point as insights are gained and skills and experience examined prior to action being taken (Teixiera and Gomes, 2000; Deeming and Chelin, 2001). Although plans and priorities are redefined or re-established, there may be a need for individuals to undertake exploration activities in which they seek alternative careers before evaluating the change – these appear to include research, examining interests and talking to others (Teixiera and Gomes, 2000; Deeming and Chelin, 2001; Ibarra, 2005). In some instances, this process of gaining knowledge was conducted with reference to others or benchmarking, which is said to help them determine how to adapt (Collin, 1986).

At some point during this process, there is both an evaluative and decision-making element. Murtagh, Lopes and Lyons (2011) proposed a framework for other-than-rational career decision-making based on their interview findings on eight female voluntary career changers. They identified that plan-less actions and positive emotions influenced the process of career change, in as much that steps or activities taken led ultimately to a change decision that was not planned. Instead, a self-regulation process was at play, building certainty and perceived continuity in the process as well as framing the time and managing the emotions of the change. They concluded that 'career decision-making is nondeterministic, iterative and contextual and specifies reciprocally influencing cognitive, affective and behavioural sub-processes that jointly constitute the process of career decision-making' (Murtagh, Lopes and Lyons, 2011, p.260), their findings and resultant action-affect-cognition framework for decision-making remain untested. Muja and Applebaum (2012) concluded similarly that an individual's decisions may not be entirely rational because success is based on that individual's perception of reality. Having determined the need to change and researched new careers, some individuals are required to take action such as looking for training or gaining qualifications (Collin, 1986) before finally enacting the change.

Whilst several general models of career change have been presented in the literature, one has endured the longest, and this is discussed below.

2.5.2.1 Rhodes and Doering's Career Change Model

In 1983, Rhodes and Doering presented an integrated model of career change, which showed the withdrawal process individuals move through when changing careers, as well as the factors leading to the decision to change careers, as illustrated in Figure 5. Their model, centring on the concept of job satisfaction and thoughts of changing careers, was based on turnover theory, expectancy theory and person-work environment fit, encompassing both internal and external factors relating to the individual, the organisation and the environment. This model has been identified by Blau (2007, p.138) as being 'the only general psychological model of voluntary career change found in the literature' despite

the existence of other career change models. One explanation maybe that, whilst other models exist, they tend not to focus on a framework for the motivation to change careers (i.e. the determinants shown in blue) as well as the withdrawal process (shown in orange) that an individual goes through as they effect a career change.

In this model, the withdrawal process consists of six steps, beginning with thoughts of changing career, intention to search, actual search, intention to change careers, preparation for change and actual change. As well as the direct route shown with job or career dissatisfaction being the antecedent to 'thoughts of changing careers', Rhodes and Doering identified that the individual could move through what they termed an 'evaluation sequence' by moving from 'actual search' back to a 'perceived availability of alternatives'. A third route exists, in which 'other factors' directly lead to 'thoughts of changing careers'.
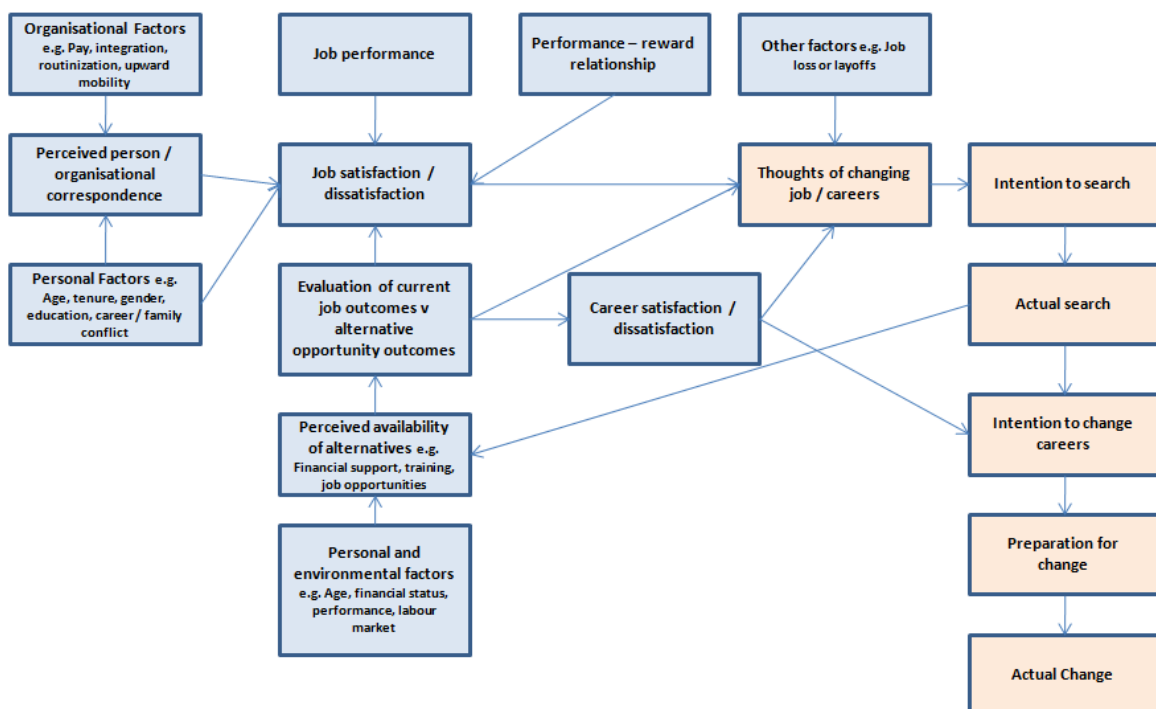
Figure 5: Integrated Model of Career Change (Rhodes and Doering, 1983)

Since the presentation of the Integrated Model of Career Change in 1983, it has never been tested in its entirety, perhaps because it is so complex (Carless and

Arnup, 2011). In total, only five studies were found that tested components of this model. Of these, the three earliest studies involved the original researchers, Rhodes and Doering, who always tested it with a mixed sample of changers, those with intent to change and actual job changers: Cabral, Rhodes and Doering (1985) found support for the similarities between the turnover decision process and the career change decision process on which this model is based. Doering and Rhodes (1989) identified that the process of career change differed by individual. Rhodes and Doering (1993) found that the model performed best at explaining the withdrawal process in which job satisfaction, career satisfaction and available alternatives were significantly related to thoughts of changing careers. Two further studies undertaken in the last decade (Blau, 2007; Carless and Arnup, 2011) tested the model with actual career changers and established that the immediate antecedents of career change are thoughts about leaving and actual job search behaviour, and that intention to leave one's occupation was a significant antecedent of occupational turnover, verifying the steps as set out in the withdrawal process model. Additionally, McGinley et al. (2014) set out to develop a substantive theory to explain career change based on Rhodes and Doering's model, with a view to creating a more comprehensive theoretical model. Based on 12 interviews, they developed an integrated model for the hospitality industry as well as a general flowchart of the career change process (Figure 6). Their general model presented a combination of factors involved in the career change process: push factors, perceptions of the future, anchor factors and availability of alternatives, but at a high level. Some of their interviewees had only been in the role of a hotel manager for three months, which is a short tenure on which to consider their making a career change. Neither their integrated nor general process model actually resembled or further referenced Rhodes and Doering's model.
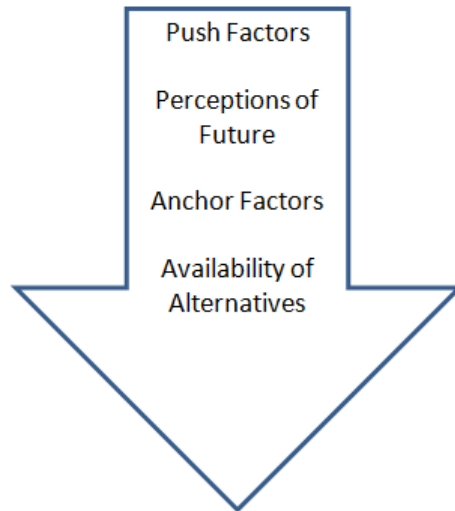
Figure 6: General flowchart of the career change process (McGinley et al., 2014, p.96)

There are a number of limitations of Rhodes and Doering's (1983) model. Whilst some details are provided in their explanation of the model, there were no working definitions for 'thoughts of changing career', 'intention to search' and 'intention to change careers', which leaves them open to interpretation when examining the detailed steps and making comparisons. At first glance, the actual decision-making step appears not to be included in their model. However, in their 1993 study, they explained that intention to change careers 'represents the conscious decision component of actual career change' (1993, p.77), which is not obvious.

In the model, the individual's journey through the withdrawal process is not reflected at an in-depth level: it is highly generalised and appears to fail to take into account the subjective and precise nature of the process at an individual level. It also suggests that once one intends to change career, it is a short linear process to the actual change. This is an inherent risk when depicting such a complex and highly individualistic process as a single summative process. Of particular note in relation to this point was a discussion raised by Blau and Lunz (1998, p.267), who commented that 'intent to change occupation (career) is a process and that intermediate steps leading up to this intention, such as

thoughts of changing occupations and search intentions, need to be separately considered', whereas others felt that they could be combined (Mobley et al., 1978).

Within Rhodes and Doering's (1983) model, the evaluation process is not part of the withdrawal process, despite an individual making a critical career decision which one would assume is an evaluative process. On this point, very little evidence could be found in the literature regarding the evaluative process in relation to career change. Many of the career change models proposed in the literature focus on the determinants of career change and appear to incorporate evaluation implicitly. One explanation for the positioning of the evaluation process outside of the withdrawal process may be found in the origins of these models, which are born out of turnover models. In such models, it is assumed that there are expectations about the present job and the alternative job that feed into the expected utility of the present or other job, which in turn lead to thoughts of changing.

2.5.2.2 Psychological Career Change Process Models

In parallel with the physical process, it is widely accepted that there is a psychological or emotional process underlying the change. Much of the research into this psychological aspect has stemmed from the career counselling field, in which career change has been examined from a psychological change perspective rather than physical steps and activities. In reality, it is hard to separate these two processes as they occur simultaneously.

The psychological process is said to commence with a sense of discomfort (Collin, 1986) or immobilisation (Perosa and Perosa, 1987; 1997), causing a disequilibrium which prompts a need to restore balance. Collin (1986) found that this discomfort led to a sense of fear as the future was uncertain and individuals' sense of self was impaired, which Perosa and Perosa (1987; 1997) identified as denial or self-doubt. Others, such as Young and Rodgers (1997) and Barclay et al. (2011), observed this slightly differently. Young and Rodgers (1997) identified two initial phases that were almost unconscious, in which the

individual's personality (organising principles) came to the fore together with the recognition for greater congruence (which they termed emergence). This was followed by a period of 'submergence' or questioning in relation to 'who am I?', which relates to the concept of knowing-why within the intelligent career framework. This period was followed by 'disruption', in which the participants had a growing awareness of their feelings, leading to a conscious point in which they recognised that things had to change. Similarly, Barclay et al., (2011) proposed a period of pre-contemplation, in which an individual is unaware of their loss of interest/dissatisfaction, prior to a period of contemplation, in which this awareness grows and they consider making a change. Muja and Applebaum (2012) suggested that a level of consciousness is needed to reflect on the past and to gather information about motives for the future.

At this point, the start of the change journey occurred in which the individuals were seen to assess the environment and responded according to their perception and predisposition to the environment (Collin, 1986), which led to a period of 'time out' for some individuals, who were seen to be considering their values and future career direction. Perosa and Perosa (1987; 1997) saw this as a period of letting go. This preparation or exploration time was important for searching for and trying out new self-images (Barclay et al., 2011) or testing alternatives (Perosa and Perosa, 1987; 1997). Teixiera and Gomes (2000) found that the period of questioning led to priorities being redefined or re-established before a phase of action in which plans were being enacted (Barclay et al., 2011). A period of alignment occurs when those in the change process experience the processes of dis-identification and re-identification with a more congruent career (Young and Rodgers, 1997) or searching for meaning (Perosa and Perosa, 1987; 1997). This is followed by a period of adjustment (Wise and Millward, 2005), consolidation (Barclay et al., 2011) or internalisation (Perosa and Perosa, 1987; 1997) when the individual is in the new role.

Hind (2005), taking an approach from, Existential Psychology, suggested that the process of change requires individuals to acknowledge, explore and experience different emotions. She likened each of these to a room, which

serves a different purpose in the process of change. She saw moving through these four rooms (1. contentment or satisfaction; 2. denial or self-censorship; 3. confusion or conflict; and 4. renewal or inspiration) as a way of an individual managing their career. Whilst this model is untested, it supports Teixiera and Gomes' view (2000, p.94) that a career change is not an 'error of choice, but makes up a part of the experience through which the subjects can know more about themselves'.

Ibarra (2002) proposes that there is an identity change process that needs to be undertaken as part of a career change. Her view of the process of career change departs from others, in that she explains that the process involves taking action, testing out various options, experimenting in order to explore alternatives and breaking into new networks, as well as making sense of the change. This is a very different perspective from those that consider it to be a thought-out process before action is taken. Ibarra sees action as the first step to be taken.

As identified above, a number of different frameworks, models and theories concerning career change have been developed over the years, although many of these tend to take a high-level perspective and describe the process in more general terms. Many of the physical models are derived from studies of job change or employee turnover as the theoretical bases on which the original studies of career change were founded upon. More recently, the psychological or decision-making processes of career change have been examined. Given that the psychological process of change involves choices seemingly linked to core values with subjective success criteria, taking a contemporary theoretical lens may be more relevant and prove fruitful for furthering the knowledge of career change. This research aims to understand in depth the process by which individuals enact a career change by examining the detailed physical steps involved in the end-to-end process as well as considering the psychological aspects involved using a contemporary lens.

2.6 Summary

At the start of this chapter, the changing nature of the careers landscape has been discussed. Additionally, the shortcomings of the traditional career theories have been presented together with a rationale for taking a contemporary theoretical view. This study will examine career change using as a lens the intelligent career framework, which Wise and Millward (2005) suggested may prove fruitful for furthering the knowledge of career change.

As shown above, studies on actual voluntary career changers are scarce, but what we know from them is that there are a multitude of factors motivating the individual to change careers and these factors widely vary from the personal to the environmental. To date, much of the research on career change has focused on the individual characteristics and personal factors that appear to be driving career change, with little consideration for the wider contextual or organisational factors that influence individuals and their decision to change careers (Carless and Arnup, 2011). As discussed, there is a need for further examination of the factors as well as the process of voluntary career change. There appears to be a general consensus that more research is needed into the subjective experiences of career changers own perspectives, with calls for more qualitative studies (Young and Rodgers, 1997; Blau, 2007) to gather rich and detailed data from career changers to modify and refine the range of factors that motivate, influence and trigger a career change (Sullivan et al., 2003; Ng et al., 2007; Ng and Feldman, 2007; Carless and Bernath, 2007; Sullivan and Baruch, 2009; Otto, Dette-Hagenmeyer and Dalbert, 2010; Hess, Jepsen and Dries, 2012). There are calls for further research to understand the contextual and organisational factors that influence an individual's decision to change careers (Teixiera and Gomes, 2000; Carless and Bernath, 2007; Carless and Arnup, 2011), as well as the unique factors that contribute to the decision to change careers (Ng et al., 2007) and the combinations in which such factors occur as this is an area that is still not understood fully and one that this study seeks to explore.

It is known that the process of career change is complex, dynamic and takes place over a number of years. Despite a number of proposed models and frameworks, and a broad, well-established literature, the experience and process of voluntary career change remain inadequately explained. As a result, there is a need for more investigation into the process of career change to gain a deeper understanding of how individuals move through its different stages (Rhodes and Doering, 1989; Higgins, 2001; Andrews, Manthorpe and Watson, 2004; Shen, Cox and McBride, 2004). This study attempts to explain this by examining the step-by-step process and seeking to understand how it contributes to the decision to change careers by developing a comprehensive withdrawal process model.

It has been argued above that, even with the broad literature that exists on careers, the factors involved in the decision to change careers and the experiences and process of actual voluntary career change are not completely understood. Despite increasing interest in career change over the last 45 years, many researchers have continued to focus on the intent to change careers rather than actual career change for those in their mid to late careers, despite evidence pointing to most career change occurring in the early career stage.

All of this suggests that there are continuing gaps in the literature about career change that present a genuine opportunity to conduct further research in this field. As such, this study seeks to address some of these gaps and answer the calls for future research to consider the subjective perspectives of actual career changers via a qualitative approach. Bearing all of this in mind, this study seeks to address the following two research questions:

- **What factors contribute to the decision to change careers?**
- **How is a career change enacted?**

This will be done by means of exploring career change through the contemporary theoretical lens of the intelligent career framework.

In conclusion, this research contributes to the literature in four ways. First, it responds to calls for more research by examining career change through the

lens of a contemporary career theory. Second, it collects empirical data in relation to actual voluntary early-mid career stage career changers, addressing the dearth of studies examining actual career changers in an early-mid career stage. Third, by collecting empirical data concerning what factors and their role are involved in a career change, it deepens the understanding of the organisational factors involved in the decision to change careers. Fourth, based on the qualitative insights of the process of career change, it determines the actual physical steps and psychological aspects involved in the withdrawal process. The next chapter will describe the methodology chosen to explore these identified research questions.

3 METHODOLOGY

In Chapter Two, the research gap and specific research question for this study were identified. In this chapter, the methodology, which comprises both the philosophical assumptions and the methods to be used in order to address the research questions, are discussed. In section 3.1, an overview of the various philosophical assumptions used in research are set out before the argument is provided for the use of an interpretivist research paradigm for this research, based on a relativism ontology and social constructionism epistemology. In section 3.2, the research design is discussed ahead of sections 3.3 and 3.4, in which the data collection methods and the analysis process are detailed. In section 3.5, some possible limitations of the chosen methodology are set out.

3.1 Philosophical Approach

As Cresswell (2013, p.15) notes: 'Whether we are aware of it or not, we always bring certain beliefs and philosophical assumptions to our research'. The challenge for the researcher therefore is to be explicit about those assumptions and to design a research study with a strategy, methods of data collection and analysis that are congruent with those assumptions.

'Research strategies are located within theoretical and philosophical perspectives or research paradigms' (Blaikie, 2007, p.28). These differ based on two assumptions: the nature of social reality that is being investigated (ontological assumptions) and the way in which knowledge of this reality can be obtained (epistemological assumptions) (Blaikie, 2007). Different ontological and epistemological assumptions look at and understand the reality of the concept being studied in diverse ways. It is not easy to discuss ontological and epistemological assumptions independently as they are inextricably linked (Blaikie, 2007). In addition, it is clear that there are a variety of definitions and terms that are used interchangeably within the philosophical domain, which often leads to confusion surrounding their meaning (Easterby-Smith, Thorpe and Jackson, 2008; Blaikie, 2007; Hatch and Cunliffe, 2006).

3.1.1 Ontological and Epistemological Assumptions

Ontology is concerned with 'the nature of social reality' (Blaikie, 2007, p.12), i.e. whether what is being studied is real or not (Duberley, Johnson and Cassell, 2012). Epistemology is concerned with the 'knowledge about knowledge' (Duberley, Johnson and Cassell, 2012, p.16), which, as Blaikie (2007) explained, is concerned with how knowledge about what is real can be obtained.

3.1.1.1 Ontological Assumptions

Blaikie (2007) considered ontological assumptions to be the ways in which one can answer the question, 'what is the nature of social reality?', in terms of what exists, how it looks, how it is made up and how it interacts. There are numerous ontological assumptions classified in the literature that essentially span a continuum; however, it is usual to find that only the extremes (at either end) defined and compared. Blaikie identified that theories about the nature of social reality (ontology) have often been reduced to two opposing views, idealist and realist, both of which have a long philosophical history. In the realist view, 'phenomena are assumed to have an existence independent of the activities of the human observer'. In the idealist view, 'the external world is just appearances and has no independent existence apart from our thoughts' (Blaikie, 2007, p.13). In a similar vein, Hatch and Cunliffe discussed subjectivists, who believe 'that something exists only when you experience and give it meaning', and the objectivists, who believe 'reality exists independently of those who live in it' (Hatch and Cunliffe, 2006, p.12). These objective approaches are often known as positivistic and the subjective approaches are known as interpretive.

Positivism assumes that there is one external reality that is both fixed and directly measurable. In other words, there is one truth; however, in making this assumption, such positivist approaches ignore the subjective perspective (Duberley, Johnson and Cassell, 2012). Easterby-Smith, Thorpe and Jackson (2008) identified that in positivist research, the researcher is usually independent, and the research is concerned with establishing hypotheses,

demonstrating causality and proving statistical relationships between constructs (variables) that are fully defined. Recent studies on career change, such as those by Blau (2007), Carless and Arnup (2011) and Verbruggen (2012), have taken a positivistic stance and considered variables affecting the motivations of those individuals who undertook a career change. As such, they have failed to take into account the subjective nature of a career change, the individual's definition of career change, and the importance of the context in which their career change decision was taken and how the process was enacted. The use of quantitative studies using survey methods does not adequately allow for understanding the individuals' definitions of the constructs and the highly complex nature of the career change to be studied. Therefore, a positivistic approach that is both objective and scientific in its approach is not appropriate for this research study.

On the other hand, in interpretive studies, the researcher is part of the research, i.e. on the inside, and the research is concerned with gathering rich data to understand the research phenomenon and to draw conclusions based on theoretical abstraction (Easterby-Smith, Thorpe and Jackson, 2008). Unlike positivism, interpretivism suggests that there are many truths and focuses on the various ways in which people make sense of the world around them; it recognises that reality is constantly changing based on the lens through which it is experienced (Rubin and Rubin, 2012). This perspective assumes that there is no external reality in existence, and that individuals invent structure to help them understand what is occurring. As Blaikie (2007, p.124) points out, 'according to interpretivism, the study of social phenomena requires an understanding of the social world that people have constructed and which they reproduce through their continuing actions'. This type of approach requires the researcher to be highly reflexive. Given that this research study is concerned with career change in the engineering profession, there is an implicit assumption that there is a reality both organisationally and professionally in that career change does exist; it has been previously studied quantitatively and as

such a pure and extreme form of interpretivism may also not be appropriate for this study of career change.

Easterby-Smith, Thorpe and Jackson (2008, p.62) identified three ontological perspectives in the social science arena: representationalism, relativism and nominalism. Figure 7 below shows the differences between these three ontologies. In both the natural and social sciences, the relativist position 'assumes that different observers have different viewpoints and what counts as truth can vary from place to place and time to time'. They also discussed a variant of the relativist position, critical realism, which is based on a realist ontology that accepts that an objective reality exists but applies an interpretative perspective, i.e. it can be interpreted in many ways by different individuals, thus appearing to balance the two extremes. Critical realism recognises the influences of social conditions as well as concepts as human constructions (Easterby-Smith, Thorpe and Jackson, 2008).

Ontology of social science	Representationalism	Relativism	Nominalism
Truth	Requires verification of predictions	Is determined through consensus between different viewpoints	Depends on who establishes it
Facts	Are concrete, but cannot be accessed directly	Depends on the viewpoint of the observer	Are all human creations

Figure 7: Ontologies in Social Science (Easterby-Smith, Thorpe and Jackson, 2008, p.62)

By considering the research on the topic of career change that has been conducted to date, it is clear that the studies have focused on developing propositions based on theories, undertaking quantitative studies to explain career change antecedents and determinants, with only a handful of qualitative

studies using interviews to undercover the meanings and rationale for career changes (Wise and Millward, 2005; Mainiero and Sullivan, 2005; Feldman, 2002; Teixiera and Gomes, 2000). These studies suggest that research on career change spans the entire continuum of ontological assumptions, as some researchers have assumed reality is both concrete and external and can be observed by looking at the phenomena being investigated (Easterby-Smith, Thorpe and Jackson, 2008), whilst others have considered that the truth and facts depend on who is establishing it and the labels they assign.

Based on the above discussion and considering the clear distinctions set out by Easterby-Smith, Thorpe and Jackson (2008), the ontological assumption for this research study, which is examining career change, is one of relativism. This presupposes that different individuals can experience the world in which they enact their careers differently, and that at different times and places, an individual can experience their own career differently. As the external environment and context in which individuals enact their career changes so too do the individuals who are constantly learning and making decisions base their relationship with their environment in all possible senses. This research is primarily concerned with voluntary career change made by individuals in their early-mid career. It assumes that careers exist and, as such, can be changed, and that that individuals experience changes based on their attitudes as they enact their careers. Having identified the ontological assumption of relativism underpinning this research study, thoughts now turn to the epistemological assumptions.

3.1.1.2 Epistemological Assumptions

Easterby-Smith, Thorpe and Jackson (2008) discussed three pure epistemologies: positivism, relativism and social constructionism. In both positivist and relativist positions, the researcher is independent of reality and is concerned with identifying reality. In the constructionist position, the researcher cannot be separated from reality as they too are making sense of it. Reality is not pre-determined but is being created by individuals to make sense of what is going on around them. Similarly, Hatch and Cunliffe (2006) discuss the

differences in views by considering positivism, interpretivism and postmodernism epistemologies. Positivism is based on values of reason, truth and validity, which one discovers by scientific measurement. Interpretivism assumes that knowledge can only be created and understood from the point of view of the individuals who live and work it, by making sense of what is happening around us, leading to a wide variety of realities in existence. In the postmodernism epistemology, 'knowledge cannot be an accurate account of truth because meanings cannot be fixed; there is no independent reality; there are no facts, only interpretations' (Hatch and Cunliffe, 2006, p.4). This study is concerned with the reality of the individual and uncovering the underlying drivers and the influencing and facilitating factors involved in the decision to change careers and the process by which they enact that career change. It recognises that their careers are experienced within the social context of the engineering profession and the organisation. As such, meanings are brought into being through social exchange (Hatch and Cunliffe, 2006; King and Horrocks, 2010). It was identified in Chapter Two that understanding the subjective experiences, challenges and issues faced when making a career change remains an area where there is a 'dearth of empirical, qualitative studies that seek to understand how individuals experience changing careers' (Bailyn, 1989; Ornstein and Isabella, 1993). This research seeks to explore multiple perspectives and realities of the same phenomenon (career change). Knowledge will be constructed and understood from the individual's perspective whilst recognising that a variety of realities apply to this research study.

Many of the studies to date on career change appear to be on the boundaries of what Easterby-Smith, Thorpe and Jackson (2008) call positivism and relativism, in that they start from a position of testing a hypothesis or developing propositions to be tested, and they are experimental in design, using surveys as instruments to measure the concepts under study. In many studies, the researchers are determining correlations (relationships) and causality. All of these above-mentioned methodological considerations span the boundary between positivism and relativism as opposed to social constructionism, in

which the knowledge is relative to the individual and only understood by examining their views subjectively. Taking a social constructionism approach establishes a socially-constructed truth based on the interpretations of the multiple views that change over time (Hatch and Cunliffe, 2006).

Based on the above discussion and considering the clear distinctions set out by Easterby-Smith, Thorpe and Jackson (2008), the epistemological assumption for this research examining career change is one of <u>social constructionism</u>. This presupposes that knowledge about the phenomenon (career change) can only be understood from the point of view of those who are undertaking a career change. As this research is primarily concerned with voluntary career change, it is imperative that the individual and subjective drivers of the individuals are examined. The value of such an approach was identified by Cohen, Duberley and Mallon (2004, p.419), who stated 'a social constructionist perspective accesses the parts that other approaches cannot reach providing insights into dimensions of career that are often eclipsed through positivistic studies'.

3.2 Research Strategy

The ontological and epistemological assumptions assumed in this research (as specified above) lead to an 'abductive' research strategy. An abductive research strategy is concerned with 'constructing theories ... derived from social actors' language, meanings and accounts' (Blaikie, 2000, p.90), which, in this research study, pertains to career change in the engineering profession. The aim of this study is to understand why engineers change careers by examining what factors are involved in the decision to change careers as well as how a career change is enacted through the lens of the intelligent career framework. The starting point was therefore to uncover the individuals' own meanings and definitions of a career change before exploring the factors involved in their decision to change careers as well as the process by which they enacted their career change in order understand the different motivations for and approaches to career change. An abductive strategy is particularly pertinent for examining the factors involved, as it is concerned with the 'meanings and interpretations,

the motives and intentions, that people use in their everyday lives, and which direct their behaviour' (Blaikie, 2000, p.90).

3.2.1 A Qualitative Approach

Both the ontological and epistemological assumptions require a research approach that allows the participants' social and subjective meanings of the factors and process of career change to be exposed in order to discover why they do what they do, i.e. uncovering the tacit and mutual knowledge and intentions of their actions through reflection on their behaviours (Blaikie, 2000). The literature review, as outlined in Chapter Two, highlighted a research gap relating to qualitative approaches in the sense that career change research to date has typically been quantitative in nature, and this does not allow for the rich, detailed individual accounts of the career change to be expressed and fully understood nor the causes to be clearly identified (Rhodes and Doering 1983; Aryee, 1993; Smart and Petersen, 1997; Hess, Jepsen, and Dries, 2012). Given this, and that deciding to make a career change is a personal decision influenced by many factors, it was more appropriate to explore in depth the career change phenomenon through a qualitative design, in which 'the aim is to see the world from the point of view of the informant, become immersed in the detail and get close to the phenomena of interest' (Johnson and Harris, 2002, p.110), as well as being able to 'more adequately capture the analytical richness of the career concept' (Cohen, Duberley and Mallon, 2004, p.409). Such a qualitative approach entailed collecting data in the form of words or observations and basing the analysis on interpretation, thus allowing for the complexity of the situation to be explored and understood.

Methods are the techniques or procedures used to collect and analyse data (King and Horrocks, 2011). This research is somewhat exploratory in the sense that there is sparse empirical research that looks into the subjective experiences of career changers (Higgins, 2001). Clear research gaps were identified and discussed in Chapter Two, and these require examination of the unique factors involved in the decision and process of career change whilst generating an understanding of the wider organisational influences. The

proposed research method therefore needs to be able to generate rich subjective data from the individuals and, as such, a qualitative approach is the best approach. In this way, the individuals' own personal perceptions and the factors prompting their career change decision can be accessed. Such a qualitative approach is congruent with a relativism ontological and social constructionism epistemological assumption, in which multiple versions of reality exist.

3.3 Research Design

The philosophical position, including the ontological and epistemological assumptions, has an impact on the manner in which research is conducted. King and Horrocks (2011) contend that ontology, epistemology, methodology and methods cannot be viewed in isolation, i.e. they are all connected and as such need to be congruent. As with all research, it is vital that the design is undertaken in a robust manner, producing valid insights through which the quality of the research can be judged (Easterby-Smith, Thorpe and Jackson, 2008). Therefore, there are some further considerations to be made concerning the research method.

3.3.1 Rationale for Semi-structured Interviews

Having determined that a qualitative approach will be taken, the next decision concerns what research method is to be used. A number of qualitative methods exist, such as interviews, surveys, focus groups, observation, ethnography and action research. However, not all are appropriate. When consideration was given to the unit of analysis (the individual) and the purpose of the research (i.e. understanding the factors and process involved in career change), the chosen method needed to be capable of revealing breadth and depth of insights. Taking into account the social constructionism epistemology (which is about understanding the phenomena of career change from an individual's perspective) and the exploratory nature of this research, i.e. that there was a real need to understand what was actually occurring, then this type of study lends itself to interviews.

Interviews were identified as the best choice of data collection method, as they enable individual discussions to occur, which encourages reflection, deeper insights and explanations to emerge that allow for an understanding of the individual's own experiences. Secondly, interviews 'are deemed reliable gateways into what goes on in organisations' (Alvesson and Ashcraft, 2012, p.240) and will expose the variety of factors involved in the career change process, thus permitting rich data to be gathered in a broader and more holistic way than possible through a survey or focus group. An obvious advantage of using interviews was that most individuals were familiar and comfortable participating in an interview, and the interviews were relatively easy to set up and conduct on an individual basis.

There are a variety of types of interviews available (structured, open, semi-structured). Having considered the advantages and disadvantages of the different interview options, the decision was reached that semi-structured interviews were the best form and the most obvious choice for this research study for a number of reasons. Using a semi-structured interview ensured that a consistent structure and approach was taken across all of the interviews in relation to gathering the information in order to address the research questions. Semi-structured interviews offered a degree of flexibility that enabled the researcher to open the discussion up through probing to uncover the underlying factors whilst still giving the interviewees ample opportunity to reflect on and explore their personal experiences in relation to their career change decision. In addition, they allowed deeper inquiry in relation to the specific issues raised during the interviews (King and Horrocks, 2011).

This data collection method reflected the underlying ontology and epistemology as the use of interviews produced rich data that enabled access to the subjective perceptions of the individuals in relation to the factors involved in their career change decision as well as discovering the process they followed to enact their career change. This data collection method is therefore also consistent with the ontology and epistemology set out for this research study.

3.4 Context of the Study

In line with the research problem outlined in section 1.2, the wider context for the study is the engineering profession. However, in order to operationalise this into a manageable research study, a number of organisational, temporal and participant factors were considered. The focus of this study was on understanding the factors that are involved in an individual's career change decision. Hence, the unit of analysis for this study is the individual. Whilst the individual is the primary concern, it is recognised that an individual's careers cannot be studied in isolation since, for the most part, careers are enacted within a wider ecosystem, as seen in section 2.1.1, and within an organisational context, which also needs to be considered.

3.4.1 Organisational Context

As acknowledged in Chapter Two, there is an identifiable knowledge gap relating to the organisational factors and how they affect career change. In order to control these organisational factors, the research was conducted in a single organisation. There were two key advantages to this decision: the organisational background and organisational career path/structures are the same for all participants and can be explained, and access to participants was easier. Conversely, there were some disadvantages that had to be considered in so much as there may be reduced applicability to other types of engineering organisations as well as a limited sample population. However, on reflection, the advantages of conducting this research in a single organisation outweighed the disadvantages. The criteria for selecting an organisation are detailed in Figure 8.

Based on these criteria, an organisation in the oil and gas sector was identified as being suitable, hereafter known as Globoil.[1] A Vice President (VP) within the HR function was approached, and based on the initial research proposal, verbal approval to conduct the research in Globoil was granted.

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[1]This is a pseudonym to protect the anonymity of the organisation and the participants.

Criteria	Rationale
Employing high numbers of British engineers	To ensure sufficient 'participants' and opportunities for internal employment in engineering
Based or having offices located in the UK	To control for different legislative, economic, political, cultural, social, technological and labour market conditions
Industry conditions	- The industry should be dependent upon and employs large numbers of professional engineers - The industry should be stable or be continuing to grow despite the wider economic conditions (global recession) to ensure that there are opportunities available for those wishing to remain in the engineering profession - The industry should be known to experience career retention problems with regards to engineers - The industry should be accessible for the purposes of the research
Large scale (global)	To ensure career opportunities for engineers within the wider organisation
Private Sector	To control the wider contextual factors related to public sector

Figure 8: Organisational criteria

3.4.1.1 Globoil

Globoil is a global energy company within the oil and gas industry, which employs around 90,000 employees in more than 80 countries and territories. It is engaged in the end-to-end process, from exploration to sales, offering technical (e.g. engineering), commercial (e.g. sales and marketing) and functional (e.g. finance) career opportunities. Globoil has its origins in the UK and has a large UK presence, employing engineers in high numbers. British engineers represent 10.5% of the organisation's engineering population. Like many organisations in this industry, engineering in Globoil is heavily male dominated, with females accounting for only 17.5% of the engineers.

Globoil recruits individuals both directly from university (graduates) and as qualified professionals (experienced hires). Those entering as graduates

commence a graduate development programme which, depending on the discipline in which they join, involves them undertaking two roles in three years, although historically this has been three roles in five years. The graduate development programme is highly structured as individuals follow a structured education and practical development programme. The roles the graduate hires undertake are managed and established roles as part of a wider developmental ladder. Experienced hires are hired on the basis of their technical skills that they bring to the organisation and will have prior experience in the engineering field (typically a minimum of five years).

The organisation operates assignments in which individuals are selected for, or apply for, roles in which the expectation is that they will remain in that role for four years typically, after which their window for applying for another role is metaphorically open. Internally, opportunities can be pursued through two resourcing processes, a managed process, in which individuals are placed into roles based on their skills or experiences or an open process, whereby the individual applies for a role and undertakes an internal selection process, which typically involves an application and an interview. Within Globoil, there are two engineering career paths, technical management (generalist) and technical specialist. These paths exist independently of the wider commercial and functional opportunities available within the organisation. Approximately 60% to 70% of the roles in the organisation are technical as opposed to being commercial (sales, marketing etc.) or functional (HR, Finance, IT).

It is a common occurrence for technical individuals (i.e. engineers) to change careers internally and move into commercial (e.g. new business development) or functional roles (e.g. finance). As Globoil employs large numbers of technical and non-technical professionals and operates an open resourcing policy, it allows individuals to move freely between roles and functions, thus facilitating a career change within the organisation relatively easily. Consequently, if an engineer was not satisfied with their career or profession but were very satisfied with Globoil as an organisation, they would have opportunities to change careers within Globoil without the need to resign and move to both a new role

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and a new organisation. Anecdotally, the VP interviewed suggested that this typically occurs when engineers have between eight to fifteen years of experience.

By using Globoil's HR systems, it was possible to identify and access participants who had left the engineering profession and made a career change whilst remaining in Globoil in commercial or functional roles. In the section that follows, the sampling strategy will be discussed.

3.4.2 Sampling Strategy

In addition to the organisational criteria, it was essential to identify the sample population for this study. The intent at the outset of the study was to adopt a single sampling strategy. Following the pilot study, it was necessary to amend the sampling strategy, and this will be explained in due course. There are many different types of engineers working in Globoil and the career opportunities open to them vary depending on their education background and engineering discipline. Therefore, a purposive sampling approach was taken to ensure access to career changers who have a broad general engineering background. The criteria for selecting participants can be seen in Figure 9 overleaf together with the rationale.

Within this study, the participants may have entered Globoil as graduates, immediately after graduation or as an experienced hire. Whilst the implications of these different entry points are important to acknowledge, in the context of the sample, it is not the length of service with the organisation that is important but the length of professional engineering experience they have.

The interviewees must	Rationale
be university educated engineers	This is related to the research problem, and is concerned with professional engineers for whom holding a relevant university degree was a minimum requisite
be British	To control for early cultural, educational and social aspects
be under the age of 35	As determined by career stage (early-mid stage i.e. circa 8-15 years' work experience) and anecdotal Globoil evidence relating to when engineers change careers
have a background in aerospace, civil, mechanical, electrical, chemical or process engineering	• Engineers with these backgrounds could be termed generalist as they have a transferable skills set and could easily change roles within the profession as opposed to specialists who would struggle to move within the profession without additional training/knowledge being developed • Specialists are also more likely to be restricted to their industry sector • The rationale behind choosing to interview generalists was to restrict the population to one that has choices both internally in engineering and externally in a different profession
≈ 20% female	To reflect the percentage of female engineers in the Globoil

Figure 9: Participant criteria

3.5 Research Study

This research study was undertaken in three stages, an exploratory, a pilot and the main research study, each of which had a different purpose, as can be seen in <u>Figure 10</u>.

Exploratory Study
- To identify the themes and factors relevant to the research questions to inform the development of the interview protocol
- Conducted February 2012

Pilot Study
- To test the interview protocol, ensure the clarity and relevance of both the questions and language and identify any issues prior to the main study including confirming the time estimation for the interview
- To determine whether sufficient and valuable data could be generated from the interview.
- Conducted June / July 2012

Main Study
- Semi-structured interviews were used to obtain detailed information in relation to the individual's careers in order to address the research question
- Conducted April-December 2013

Figure 10: Research study overview

3.5.1 Exploratory Study

An exploratory study was undertaken with the sole purpose of identifying the themes and factors relevant to the research questions, which in turn would inform the development of the interview protocol for use in the pilot and main studies.

This exploratory study involved seven engineers (two female, five male) aged between 25 and 34 years working in Globoil. See Figure 11 below for further details. A purposive sampling approach was taken based on the participant criteria set out in Figure 9 above. The population was identified using internal HR databases and reporting tools, enabling a Vice President (VP) Talent to generate a list of professional British engineers under the age of 35. The current role of the individual was identified as well as their skill-pool (an internal term used to identify one's primary discipline or speciality). In instances where there was a difference between these two (i.e. role and skill-pool), it was deemed that a career change may have occurred or was taking place as the individual was

currently not in or performing an engineering role. Such individuals were approached via an email from the VP Talent, asking for volunteers to participate in this study. Once volunteers came forward, further details of the study were provided. Of the seven participants, one was known to the researcher. Two individuals were in the process of making a career change and the other five were engineers who had taken critical career decisions.

Interview	Gender	Age	Degree	Years' Experience
1	M	25-29	Chemical Engineering	4.5
2	M	30-34	PhD in Chemistry	5
3	M	30-34	Chemical Engineering	10
4	M	30-34	Chemical Engineering	5.5
5	F	30-34	Physics/Engineering	1.5
6	F	30-34	Chemistry	9.5
7	M	25-29	Chemical Engineering	3.5

Figure 11: Overview of the exploratory study participants

An exploratory interview protocol (Appendix 1) was developed based on broad themes identified from the literature as well as brainstorming and formulating open questions that would allow the participants to speak explicitly about the areas of interest relevant to the research questions. Prior to commencing the exploratory study, two engineers known personally to the researcher reviewed this protocol and provided feedback. This feedback led to minor amendments being made before use, for example, clarifying what a semi-structured interview is, changing the order of the questions so that it flowed and including a question such as 'who did you consult when making the decisions to change careers?'

Interviews were conducted either in person or by telephone during working hours in February 2012. They lasted approximately 60 minutes (range 37–98

minutes), during which a number of questions pertaining to each individual's career, expectations and critical decisions to date were asked. The interviews were recorded, transcribed and analysed. The analysis at this stage was inductive, with the themes emerging from the data rather than being pre-identified.

3.5.1.1 Factors involved

A number of themes emerged, which contributed to the development of the interview protocol for the pilot and main studies (Appendix 2). It was clear that there were a number of important factors and different types of drivers at play (see Figure 12 below). These drivers related both to their career in general and to other critical career decisions they had made to date.

Driving factors are those that are sufficiently important to make the individual decide to change role or career. These included situational drivers related to knowing-why in respect of important factors, such as family/partner, work/life balance and reward, and knowing-where in relation to location, all of which were central to most if not all of the participants' rationale for changing careers or disciplines in the past. In addition, a number of professional drivers also related to knowing-why were exhibited through such factors as their ambition and desire for continued learning and development, as well as promotion. Furthermore, some very personal knowing-why drivers were also at play, relating to making a meaningful contribution, being challenged at work and having an interest in their role and the nature of the work. When these drivers were examined, it was clear that both a mix of 'push and pull factors' existed.

A number of facilitating factors appeared to have played a role in their critical career decisions, as shown in Figure 13. These facilitating factors made the process of change easier or smoother than it otherwise might have been. In one sense, they could be described as enabling factors.

Driver/Factor	Knowing	Raised by	Explanation	Quote to exemplify
Meaningful Contribution, or Purpose	Why	6	Having an impact, making a difference to society. Having a purpose through work	I really wanted to make a difference, kind of make an impact or create some kind of legacy or some kind of product that can be used worldwide and you can sort of say, yes I made this, I made a difference and actually it's a very useful difference to the world and commercially it's making money. (IV4)
Being challenged	Why	5	Feeling challenged intellectually by their work	It means personal challenge. My challenge is how good can I be and how can I challenge myself? That's it. (IV2)
Exposure and experience	Why	5	Ability to develop through new experiences or gain more breadth	I kind of got to a point in my own mind where I was thinking well you know what, it seems to me that policy at the moment is not really set up within Globoil to actually give me the next experience that I really want. And that was really the main motivation for saying, well, if Globoil is not giving me the experience that I really want, maybe I should think about entertaining what else might be out there. (IV7)
Learning and development	Why	5	Constantly learning and developing oneself	Where I also have an opportunity to learn, to be in that operational environment and understand what actually is important. (IV5)
Location	Where	4	A desire to be in a specific location or not as the case may be	I'm still UK based country and I've been told I have to ship myself back to the UK in the next five years. There's nothing left for engineers in Globoil in the UK. There's Aberdeen, but right now where I am with my family and what have you, I'd quit Globoil before I'd even set foot in Aberdeen. (IV3)
Ambition and aspirations	Why	4	Managing own career to realise own ambitions and aspirations	I was just like, no one's listening. No one is listening to the fact. I know I've not said what I want to do, but I've said that I don't want to go on site for four years. It doesn't suit me personally and it doesn't suit me in the way I want to manage my career. (IV6)
Tangible work	Why	3	The practical nature of work, seeing a tangible outcome	Most engineers they work on something that's very tangible and you work on something and then you can see it and it either works or it doesn't. I very much like being able to have that kind of reward for hard work in terms of being able to see what you've done. (IV7)

Family, partner or spouse	Why	2	Influence of partner/spouse on role and/or location	Yeah, well, my girlfriend was a big factor. I had to think of a location that she also wanted to go to. (IV1)
Career Progression	Why	2	Seen as progression from one role to the next, includes being promoted	This job was kind of a logical step to take based on my experience from before, and the project or the phases I've worked in (IV1)
Interesting role	Why	2	Participating in work that is interesting	I hope that I can continue to learn, that I'm recognised for the work that I do, that I have challenging and interesting assignments and that I work with interesting and talented people who're enthusiastic about what they do, but I expect that there will have to be, I will have to do some amount of steering and effort to make that happen. (IV5)
Ability to travel	Where	2	Having a role which enables travel or working overseas	But also I wanted to get around the world a little bit and see some more different places and live in a few different places and just see what else was out there.(IV7)
Personal Circumstances and Work Life Balance	Why	2	Able to do things socially and personally and not being restricted by work	When you suddenly realise that you're missing them all, or at least that was the kind of eureka moment for me, I suddenly thought you know what I've kind of missed everything that's been going on in my social sphere, in the last six months. There haven't been many significant events that I've actually made it to, and it suddenly threw it all into perspective and I thought is this what I want for potentially the rest of my career. (IV7)
Reward (salary)	Why	1	Ability to earn money	Also for financial benefit of course. That's pretty close towards the bottom on my wish list. (IV4)

Figure 12: Drivers/factors at play

Factor	Knowing	Explanation	Quote to exemplify
Opportunity	When	Having or making opportunities. Luck, good fortune or chance played a role in finding a role	That was the point I kind of realised that actually just asking and showing some initiative to be given an opportunity was something that I could do that would have a pretty drastic effect on the opportunities that I would get given (IV7).
A 'bridging' or 'interface' role	How	Gaining experience and skills in a different arena, which scans the technical roles as well as commercial	It wasn't a step into a career job where you know I remain there for a long time. It's definitely a stepping stone kind of mindset which is probably a little bit unsavoury for some people (IV4).
Skills, knowledge and experience	What	Skills, experience and knowledge gained enabling change	I think for what I can hope to achieve and the change that I would like to make, engineering is the tool that will enable me to do that (IV3).
Career self-management	What	Individuals started to manage and take ownership for their career. E.g. defining their own career goals and reaffirming career ambitions	It got to a point where I thought, hang on a minute, I don't want to do what they want me to do, and that's not how I see my career going ... It's become something I realise that I want to manage myself and I want to put the effort in into every role that I'm doing to make sure that it's moving in the direction of the next role (IV6).
Natural timing	When	Using natural timings such as internal job search periods to look for other roles	My window was open and I started looking for a non-technical, a non-engineering role in open resource and I started speaking to people and found one in a strategy team and was quite sort of hopeful about joining (IV 6).
Open-mindedness	What	Being flexible and open-minded to opportunities which arise	Just an open mindset. Seeing opportunities, seeing where I could help, keeping my mind open to change (IV 2).
Headhunted	Who	Being contacted about a role	I kind of got hurried along in that process a little bit by the fact that a head-hunter called me (IV 7).
Supporters	Who	Individuals who supported them by providing advice, feedback or acting as a role model	I talked to several mentors and all of them told me that either they had done a similar thing once, or that someone had done a similar thing to them once and, you know, everyone had survived (IV 5).

Figure 13: Facilitating factors

3.5.1.2 The steps involved in the process of career change

For most of the critical career decisions discussed, 'something' occurred which made the individual stop and think differently about their career. This highlighted the existence of a trigger or turning point. As one individual explained when reflecting on the previous year:

> '*I haven't spent more than four continuous weeks at home.....in the last seven months......that was the kind of eureka moment for me, I suddenly thought you know what I've kind of missed everything that's been going on in my social sphere, in the last six months.*' (IV7)

Not only did this trigger relate to the process of career change, but it also gave important insights into the drivers.

For others, there was a heightened level of awareness, the ability to see 'things' with greater clarity or realism. The exposure to and awareness of reality was critical to the change, as this person explains:

> '*Once I started understanding what a career in engineering meant, I think my expectations of how my career would go, I think I realised early that detailed engineering was not the way for me to go...*' (IV6)

There was also evidence that introspection took place:

> '*I did a lot of soul-searching on that, what is really important to me and then in that soul-searching, on that journey, I discovered that, yeah, it would be glamorous and I could achieve things. ...but it comes at an expense and that's not one I'm willing to take.*' (IV3)

As a result of this exploratory study in which a number of themes emerged, the decision was taken to bring attention to these in the main study through the interview questions asked.

3.6 Development of the Interview Protocol

Having conducted the exploratory study, the themes identified, together with the feedback gathered from the seven participants and the researcher's own learnings, were used to develop the main interview protocol that would be used in a pilot study prior to the main study.

Before starting, it was important to remember that the purpose of the interview was to gather a rich data set based on the individuals' perspectives, thoughts, feelings, reflections and insights into their own careers and decisions to change occupations.

The research questions and the emergent themes from the exploratory study were used as a starting point. Each theme was thoroughly reviewed and a series of questions developed that would elicit information relevant to that theme. This process generated a long list of questions that were then reviewed and refined over a number of developmental iterations to ensure that all of the questions were clear, focused and relevant to the research questions, while remaining sufficiently broad to enable a variety of perspectives to emerge.

The opening question (Q1) was designed to be broad and generic: 'Tell me about your career to date'. This was a relatively easy question for the interviewees to discuss and it enabled them to feel comfortable as they were talking about their own career. It provided their career history in chronological order from the age of 18, which was useful background information to allow the researcher to make sense of some of their later responses. Probes relating to this question explored attraction and expectations of a career in engineering, whether or not they had been met and how they now felt about a career in engineering. These all provided useful information in relation to what is important to the individuals and their personal drivers. A specific question (Q2) was asked about the critical career decision or change that they had undertaken and the follow-up questions relating to 'why' and 'how' they made them to tap into the drivers and processes. This was then probed in more depth by a later question (Q9), which asked specifically about their career change decision.

A question (Q3) relating to a critical incident or trigger was incorporated into the interview protocol based on the exploratory study to determine what promoted the change in addition to questions that explored the process of both the decision to change and the change itself. Moreover, a specific question (Q4) about supporters and influencers was included to identify who had influenced or supported the individual and in what ways they had done so. This materialised from the wide range of individuals referenced during the exploratory study and the different ways in which they supported the individual. As career self-management emerged as a facilitating factor in the exploratory study, a question (Q5) was included that asked: 'how are you managing your own career?' Additionally, it was decided to probe into what their career meant for them (Q6) to determine how central it was in their life and what was important to them in terms of their career.

Given that some individuals in the exploratory interviews were struggling to answer questions on the key concept of career change, it was decided to ask them to define what this term meant to them (Q7) in order to uncover not only their own subjective meaning of this term, but also to see what they considered to be and not to be a career change and what changes in it. This was followed by an explicit question (Q8), in which they were asked if they considered themselves having made a career change or not.

A final 'catch-all' question (Q10) was asked to capture anything relevant that they had not covered and wished to add about their own career or careers in general, before thanking them for their participation and requesting feedback, thereby closing the interview.

The key learning from the exploratory study was the need for sufficient probes and follow-up questions (e.g. why, in what ways, how did you feel, etc.) in order to obtain the required rich data. This led to the specific addition of questions 1diii, 2a, 6a and 9e, which all related to themes arising from the exploratory interviews being explored in more personal depth. The finished interview

protocol was again reviewed by two engineers and the questions further refined (i.e. wording amended) based on their feedback.

The final interview protocol consisted of three parts. Part one covered an introduction to the researcher – the research, the timing, the process of data collection and analysis, and gaining the participants' informed consent. Part two consisted of collecting biographical data relating to their employment history, time in engineering, entry point, etc. Part three was subdivided into several sections and consisted of a series of open-ended questions (ten main questions and several follow-up ones) designed to allow the participants to share their career stories and to explore their perspectives on career change. The aim was not to ask all of the questions in part three in the specified order. The intent was to allow a naturally flowing conversation to occur and the protocol to be used as a guide by the researcher to ask specific questions at the relevant moment. In essence, there was consistency in the content of the interviews, but the questions were not necessarily in the same order.

In addition to generating the questions, an information sheet (see Appendix 3) was created. This information sheet provided the participants with information in relation to their informed consent and 'rights' during the study, how the data would be used and who would have access to it. Throughout the development process, due consideration was given to practical issues, such as the length of the interview and ethical issues, e.g. confidentiality, which will be discussed further in section 3.9.2.2.

3.7 Fieldwork

The fieldwork for this research study occurred in two phases. Phase one was a pilot study and phase two was the main study. Both of these phases are detailed in the sections below.

3.7.1 Phase One Pilot Study

3.7.1.1 Pilot Study Purpose

In June and July 2012, a pilot study was undertaken with the purpose of testing the interview protocol to identify any issues prior to the main study, ensuring the clarity and relevance of both questions and language, confirming the time estimated for the interview, and determining whether sufficient and valuable data could be generated to answer the research questions.

3.7.1.2 Pilot Study Participants

The ten participants for the pilot study were identified from the initial volunteers who responded to the VP's request in January 2012 and, at the time, agreed to participate in the pilot study later in the year. They were in contact with the researcher through regular email updates. The participant details are shown in Figure 14. One participant was known to the researcher.

Interview	Gender	Age	Degree	Experience (years)
1	F	25-29	Engineering Science	6
2	M	20-24	Mechanical Engineering	1
3	M	25-29	Chemical Engineering	9 months
4	M	30-34	Mechanical Engineering	11
5	M	25-29	Mechanical Engineering	4
6	M	25-29	Mechanical Engineering	4
7	M	30-34	Engineering	7
8	M	20-24	Chemical Engineering	10 months
9	F	30-34	Engineering	9
10	M	30-34	Mechanical Engineering	8

Figure 14: Overview of pilot participants

3.7.1.3 Pilot Study Data Collection

Telephone interviews were conducted during the working day when all of the participants were at their usual place of work but were in a private meeting room. These lasted approximately 70 minutes (range 55–86 minutes). Telephone interviews were conducted primarily due to distance between the participants (Scotland and Northwest England) and the researcher (The Netherlands) and the inability to co-ordinate the diaries of the participants to enable the interviews to be conducted face to face on one day in a single location. Prior email correspondence had ensured that all of the participants were aware of the rationale for using telephone interviews, and all agreed to participate in this manner.

The interviews were recorded and transcribed by a professional transcription company with the participants' consent. During the interviews, minimal notes were taken except to capture areas that needed further probing or referencing back to later in the interview. Throughout the interview, a reflexive process occurred, in that the researcher took an opportunity for sense-making by asking additional probing questions to understand further or ensure clarity of meaning, such as, 'you said, at a certain stage in your life, can you explain that a little bit more?' In addition, the participants' responses were summarised and paraphrased back to them to confirm the researcher's understanding of what they were saying. This constant technique and mirroring of the participants' voices allowed sense to be made by both parties in the interview as well as allowing the researcher to gain access to the subjective experiences that are necessary in a constructionist methodology. This process was acknowledged by some participants as being really useful, as exemplified by this quote:

> '*All in all, I thought you were a fantastic listener, and were clearly very skilled at listening to my verbose responses and picking out the salient details.*' (IV2)

After the interviews, an email was sent to all participants thanking them for their participation and requesting feedback regarding the questions asked or further suggestions on how to improve the interview process.

3.7.1.4 Pilot Study Data Analysis

The data was analysed inductively, whereby the data was systematically analysed to identify emerging themes and interpretations. This approach ensured that the analysis remained 'faithful to the respondents' and 'preserves the ambiguity and contradiction' (Easterby-Smith, Thorpe and Jackson, 2008, p.180) as well as drawing out the key features without loss of richness, thus allowing the data to speak for itself and providing evidence for the conclusions drawn. The approach taken was recommended by Bazeley (2011, p.74), and is shown diagrammatically in Figure 15 overleaf.

Steps 1–8 in the process involved the collation and categorisation of the data, which was superficial and descriptive. In order to take the analysis to a deeper more abstract level, steps 9–12 were conducted. Bazeley (2011) discusses how these phases of analysis lift one off the page. In total, each transcript was read at least four times and the interviews listened to three times. Whilst analysing the data, it was important to keep the research questions in mind. This meant examining the data for the various factors, i.e. looking at what was going on, what were the strategies individuals had adopted, what were the things they had done, what were the factors, and what were the 'interactions' going on in the background that had influenced them in some way.
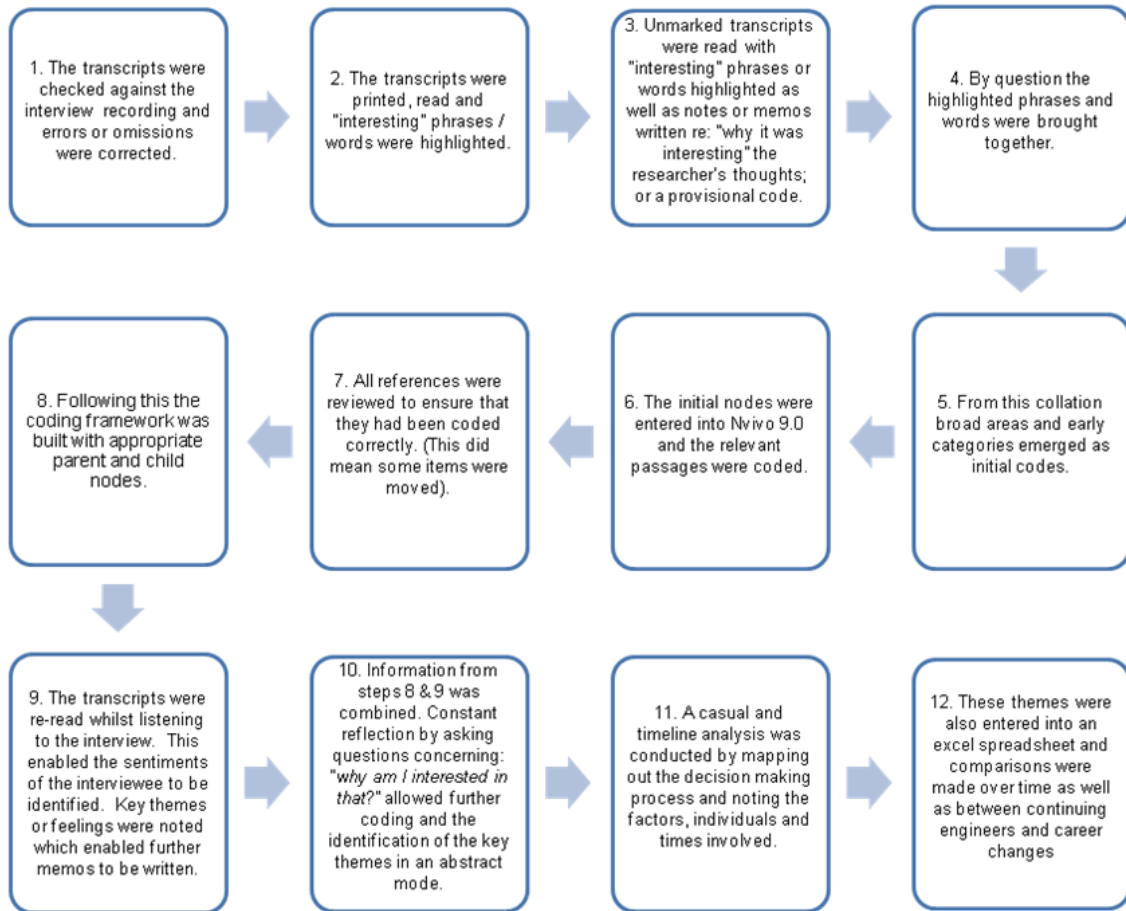
Figure 15: The data analysis steps

3.7.1.5 Pilot Study Outcomes

The pilot study, as illustrated in section 3.7.1.1, was essentially designed to test the interview protocol and determine whether sufficient and rich data could be gathered to address the research questions. In order to assess the success of the pilot, feedback was gathered from each pilot participant and considered alongside the researcher's own reflections. Each of the functions of the pilot are discussed in Figure 16 below.

Purpose	Outcome
1. Test the interview protocol and identify any issues prior to the main study	The protocol was used as designed during each interview. No issues were identified; it enabled the participants to reflect and talk about their career, career decisions and the factors which were important. Asking the participants to talk through their career to date proved critical to gaining deeper insights into the individuals' perspectives regarding their career change decision-making process.
2. Ensure the clarity and relevance of both questions and language	The participant feedback suggested that whilst some of the questions were simple, others were challenging to answer on the spot as some 'terminology' used was something they had not heard of previously. As a result, for the main study, a more comprehensive covering note was issued which set out the areas to be covered. In addition, some minor amendments were made to the interview protocol to improve the clarity, encourage more reflection and probe deeper.
3. Confirm the time estimated for the interview	The time taken for the interviews was misjudged. Whilst it was possible to conduct the interview in the time allowed (60 minutes), the total time taken was 75–80 minutes, including the introduction and 'rapport building'. As a result, for the main study, the time reserved and communicated to the participants was increased to 90 minutes.
4. Determine whether sufficient and valuable data could be generated to answer the research questions	From ten interviews, over 350 pages of transcript containing in excess of 100,000 words were generated. The information gathered was reflective, personal and relevant to the research questions. However, it is only by examining the themes that emerged in relation to the research questions that a conclusion can be reached as to whether sufficient and valuable data were generated. A brief overview of the findings is presented in section 3.7.1.6 below.

Figure 16: Pilot study outcomes

Additional feedback and reflection resulted in some further minor amendments being made to the interview protocol. In addition to the time being increased from 60 to 90 minutes, the biographical data pertaining to age, gender and marital status were collected at the start of the interview rather than by email. Some additional probes (Q2e) were added, for example, '*How do you feel about that decision now? Why?*' Question four was amended to provide greater clarity, for example, adding '*at key decision points*' to the end of the original question. An additional question (Q7b) was added, which asked, '*Do you know any engineers who have made a career change? Why did they change? What influence has that had on you?*' to uncover if others making a career change had been an external influence affecting their decision to change careers.

3.7.1.6 Pilot Study: the Findings

As indicated above, it was only by examining the themes that emerged in relation to the research question that a conclusion could be reached about whether sufficient and valuable data was generated. The findings in relation to the research questions are discussed below.

A number of factors underpinned all of the career decisions and conversations. Situational factors, relating to knowing-why included family and work life balance, as well as knowing-where location, were central to most participants' rationale for changing discipline or career. In addition other knowing-why or knowing-when were seen as factors in the decision to make a change, such as a number of professional (e.g. image) and contextual (e.g. restructures) factors. When examining these drivers, it was clear that a mix of 'push and pull factors' are involved.

> '*I think that was driven by personal reasons rather than a career decision. ... I suppose at the time, I didn't really think about my career.*' (IV7)

Whilst not analysed in any depth, it was evident that depending upon the age, experience and 'marital status' of the individual, their temporal perspective and the drivers for change were different, i.e. their focus (short or long term) was

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heavily influenced by their non-work commitments.

A number of facilitating factors (i.e. those factors that enabled the change to occur) were identified, both in terms of the people (knowing-whom) and the process of career change. Having individuals supporting the decision was critical. These were predominantly professional contacts (colleagues, managers, mentors, etc.), although many talked about personal contacts, such as family, friends and partners.

> *'I spoke around to the guys in the department, who were all pretty open, and they were all really positive about making the right move for me and it was recommended. I spoke to my dad as well and he thought it was probably a good move.'* (IV2)

Furthermore the interviews established that there was a process that was followed during the career change decision. The process is best shown diagrammatically, as seen in Figure 17.
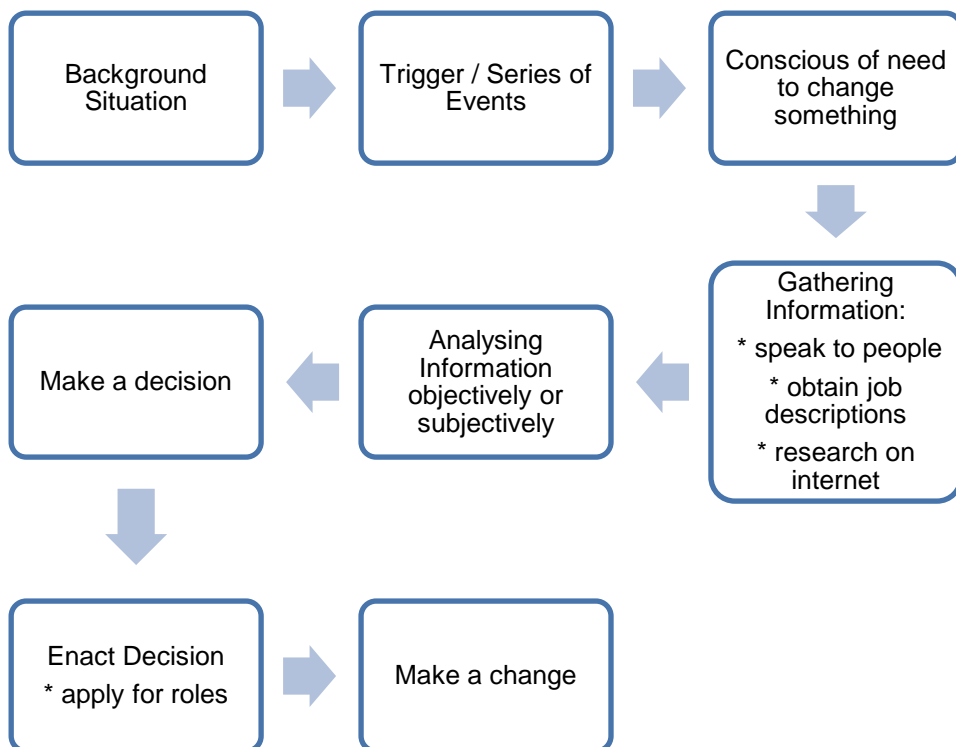
Figure 17: Decision-making process

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3.7.1.7 Pilot Study Conclusions

The aim of this pilot study, in addition to testing the interview protocol, was to be able to conclude that sufficient and valuable data could be generated. In summary, the findings from the pilot study demonstrated that a multitude of personal, professional and contextual factors relating to knowing-why, knowing-when, knowing-where and knowing-what were involved in the critical career decisions taken. Facilitating factors play an important role, in terms of knowing-whom, knowing-when and knowing-how. The process for changing careers involved the person being taken on a decision-making journey with a number of phases of varying timelines, which involved both objective and subjective decisions based on information available, perception and gut feelings. These individuals were supported and influenced by professional and personal contacts (knowing-whom) in various ways.

Findings from the pilot study suggest that the personal data provided through the interviews and subsequent analyses are both sufficiently rich and deep to answer the research questions. The pilot study proved valuable: the participants were able to reflect and talk about their career, career decisions and the factors that were important to them, and rich, relevant data were obtained. Feedback led to the refinement of the interview protocol, as set out above in section 3.6, as well as further consideration being given to the method of interviewing employed, i.e. all telephone interviews in the pilot study vis-à-vis a proposed combination of telephone and face-to-face interviews in the main research study. Having tested the interview protocol, the next step in the research journey was to undertake the main study, for which the details are set out below.

3.7.2 Phase Two Main Study

The main study consisted of semi-structured interviews, which were used to obtain detailed information in relation to the individual's career. As discussed above, the interview protocol was developed based on the exploratory study

and piloted extensively. Some further minor amendments were made before the final interview protocol was used in this main study.

3.7.2.1 Main Study Participant Criteria

As a result of conducting the pilot study, a minor change was made to the participant criteria. These are discussed below, together with the rationale and justification for this change.

In the original participant criteria, as set out in <u>Figure 9</u> above, only individuals under the age of 35 years were interviewed. Age was used as a proxy for identifying those in an early-mid career stage. This age criterion was determined by a crude calculation of age at graduation (being on average 22 years old in the UK for a Masters graduate and 25 years old for a PhD graduate) and circa eight years of professional work experience. This approximate age was confirmed by the VP, who suggested that engineers typically change careers between the ages of 30 and 35 years.

This criterion was changed for the main study: a two-stage filter was applied. The first filter was that participants had to be 40 years or under for the reason set out. The participants from the pilot study who had changed careers or was in the process of changing careers started to do so typically around the seven to nine-year mark, i.e. aged between 29 and 34 years old. Furthermore, evidence from the pilot study suggested that changing career can take between six to eight years; hence it would be prudent to interview individuals with up to fifteen years' experience. Finally, in the literature, 40 years old is the magical age quoted, i.e. to be 'still an engineer at 40 is a failure' (Bailyn, 1982, p.73).

The second 'filter' was that all participants had at least five years' professional experience. The reason for this second filter was that, given the context of the organisation, graduate hires have their early careers managed for them through a graduate development programme that extends over their first five years in the organisation. As such, these individuals are essentially not in a position until around five years after entry to self-manage their careers. Additionally based on the pilot study, it was clear that those participants with less than five years'

professional experience were not yet in a situation where they were self-managing their career or able to make changes to their career path.

The advantage of using two filters was that the population was more tightly bounded than if using age or experience alone. It ensured that all participants were in a position of managing their own careers (i.e. out of the organisation's graduate development scheme). The disadvantage of this approach was that it limited the sample population as some early career changes may have occurred outside this five year mark. This amended criterion was discussed with a HR Executive VP in the organisation, and he confirmed that, typically, engineers change careers when they have between 8 and 10 years' experience, so using the criterion set out above allowed for the identification of career changers and led to the conclusion that this research was practically achievable in the organisation.

3.7.2.2 Main Study Participants

A purposive sampling approach has been taken. The intention at the outset was to conduct approximately 20 interviews with career changers. The number of required interviews was based on the estimated number of in-depth interviews needed to investigate the areas of interest in sufficient depth to address validity and reliability questions. Whilst most qualitative studies involve small numbers of participants, as Johnson and Harris (2002) point out, there are no rules about the numbers. The key is to find the 'saturation' point, at which no new categories or properties are found (i.e. additional data merely adds to that already discovered) (Partington 2002). Saunders (2012) displayed a table in which the minimum size (range) for interviews ranged from 5 to 36 participants depending on the type of research. Therefore, it was hoped that by initially interviewing a minimum of 20 career changers, a saturation point would be reached; however, this could only be confirmed in the actual data collection and analysis stages of the study.

As with the initial exploratory study, a Vice President (VP) Talent generated a list of British engineers (by primary skill-pool) aged 40 and under using human

resources (HR) databases and reporting tools. Participants were recruited via an email (see Appendix 4), which was sent to the 'population' from the VP Talent requesting volunteers for a PhD study to directly contact the researcher by email. Due to a low initial response rate, a further email was sent out to members of a number of employee networks in the UK requesting volunteers who met the criteria to contact the researcher.

Despite these two approaches, an insufficient number of British career changers were identified. From the employee network contact, a number of individuals who had studied or worked in the UK stepped forward as volunteers. So, having considered the implications of including non-British participants versus the low number of volunteers, it was determined that it was more beneficial to include these non-British volunteers even though they failed to conform to the participant criteria determined at the outset of the study. All of the interested volunteers were sent a further email with more information about the study and a participant consent form. Once they had confirmed their participation, an interview was scheduled. In total, 22 individuals aged between 25 and 40, comprising six females (27%) and 16 males (73%), took part in the main study. Figure 18 overleaf provides an overview of these participants.

Pseudonym	Gender	highest qual	Charter Status	Age at Interview	Marital status at Interview	Degree Discipline	Entry Point
Edward	Male	MBA	Pursuing	30 - 34	Single	Chemical Engineering	Graduate
Harry	Male		Chartered	35 - 39	Married	Chemical Engineering	Experienced
Beatrice	Female	MBA	N/A	35 - 39	Single	Mechanical Engineering	Experienced
Liam	Male		Chartered	35 - 39	Married	Mechanical Engineering	Graduate
Claire	Female		Pursuing	25 - 29	Single	Electronics and Information Eengineering	Graduate
Nathan	Male	MBA	Pursuing	30 - 34	Single	Engineering with Naval Architecture	Experienced
Steven	Male	MBA	Chartered	35 - 39	Married	Chemical Eengineering	Experienced
Callum	Male		Pursuing	30 - 34	Single	Mechanical Engineering	Experienced
Dean	Male		Pursuing	25 - 29	Single	Mechanical Engineering	Graduate
Hannah	Female		Chartered	35 - 39	Single	Mechanical Engineering	Graduate
Isabelle	Female		N/A	35 - 39	Single	Chemical Engineering	Graduate
Janis	female	MBA	N/A	30 - 34	Single	Civil and Environmental Engineering	Experienced
Finn	Male		N/A	35 - 39	Married	Chemical Engineering	Experienced
Gordon	Male	MBA	Chartered	30 - 34	Married	Mechanical Engineering	Experienced
Henry	Male		Chartered	35 - 39	Married	Chemical Engineering	Graduate
Isaac	Male	MBA	N/A	35 - 39	Married	Chemical Engineering	Experienced
Joshua	Male		N/A	30 - 34	Married	Aerospace Engineering	Graduate
Karl	Male		N/A	25 - 29	Married	Chemical Engineering	Graduate
Luke	Male	MBA	N/A	35 - 39	Married	Petroleum Engineering	Graduate
Kate	Female		N/A	35 - 39	Married	Chemical Engineering	Graduate
Peter	Male		N/A	40	Married	Process Engineering	Graduate
Stuart	Male	MBA	N/A	35-39	Married	Mining & Petroleum Engineering	Graduate

Figure 18: Main study participants

3.7.2.3 Main Study Data Collection

As in the pilot study, semi-structured interviews were conducted in order to gain a rich data set at which to address the two research questions.

In total, 22 interviews were conducted between April and December 2013: six face-to-face and 16 by telephone. The interviews were conducted both during working hours and in the evenings at the request of the individual. The updated interview protocol (see Appendix 5) was used in the face-to-face and telephone interviews, ensuring consistency in respect of the structure, questions and probing techniques.

The interviews lasted on average 78 minutes (range 58 to 98 minutes) and were digitally recorded and transcribed by a professional transcription company, with the individual's prior written consent. During the interviews, additional probing questions were asked to understand more or ensure clarity of meaning. The participants' responses were summarised and paraphrased at times to confirm

the researchers' understanding. Some notes were taken as an aide memoire, capturing those areas that needed further probing. Following the interviews, a contact summary form (Miles and Huberman, 1994) was completed to capture key aspects (Appendix 6 contains an example), which were referred to in the data analysis stage of the research. To ensure the accuracy of the transcripts, they were returned to the participant for review with the request to correct any inaccuracies in relation to their career history.

In terms of reaching saturation point, this was deemed to have occurred after the 11th interview, <u>Figure 19</u> below shows the number of new themes identified per interview. As can be seen for the last 11 interviews, the data gained were just adding to that already been obtained.

Interviewee	Number of new themes raised
Edward	9
Harry	2
Beatrice	3
Liam	4
Claire	0
Nathan	3
Steven	0
Callum	0
Dean	0
Hannah	0
Isabelle	1
Janis	0
Finn	0
Gordon	0
Henry	0
Isaac	0
Joshua	0
Karl	0
Luke	0
Kate	0
Peter	0
Stuart	0

Figure 19: New themes emerging from the data

3.7.2.4 Main Study Data Analysis

The same basic approach to analysis was taken in the main study as in the pilot study. The initial analysis up to step 5 was inductive, whereby the data was systematically analysed to identify emerging themes and interpretations. However, rather than adopting a pure inductive approach, as used in the pilot, an abductive approach was taken. Following the initial coding of the data, the initial codes that emerged (as in step 5 above) were entered in Nvivo and categorised into initial nodes guided by the theoretical lens that was being used in this research: the intelligent careers framework (step six above). The literature was reviewed fully and the 'factors' that had emerged from prior studies that relate to each of the knowings were scrutinised, with an overview being produced to allow for the categorisation of the factors emerging from this study to be coded to the relevant knowings. This approach allowed for the interplay between the emerging themes and the theoretical lens to be established by moving iteratively between the data and the theory and back again to the data. Bazeley (2013, p.336) explained that this approach ensures 'the theory is recontextualised'. All of the steps taken are shown diagrammatically in Figure 20.

Once coding was completed, 16 transcripts were shared with the three independent coders, together with the coding framework (see Appendix 7). These individuals independently reviewed and coded the 16 interview transcripts, thereby ensuring consistency and reliability in the coding process undertaken by the researcher. Where differences were identified, these were discussed and an agreement reached on the final code. In addition, seven of the fully-coded interview transcripts and the overview of the career change process were shared with the respective participant to ensure an additional confirmatory stage of the factors and process identified. Five participants responded, confirming that the identified factors were accurate. Once this stage was complete, a number of additional analysis steps were undertaken, as set out in Figure 21 below. The purpose of this additional analysis was to 'describe,

compare and relate' (Bazeley, 2013, p.14) the data before extracting and explaining the findings.
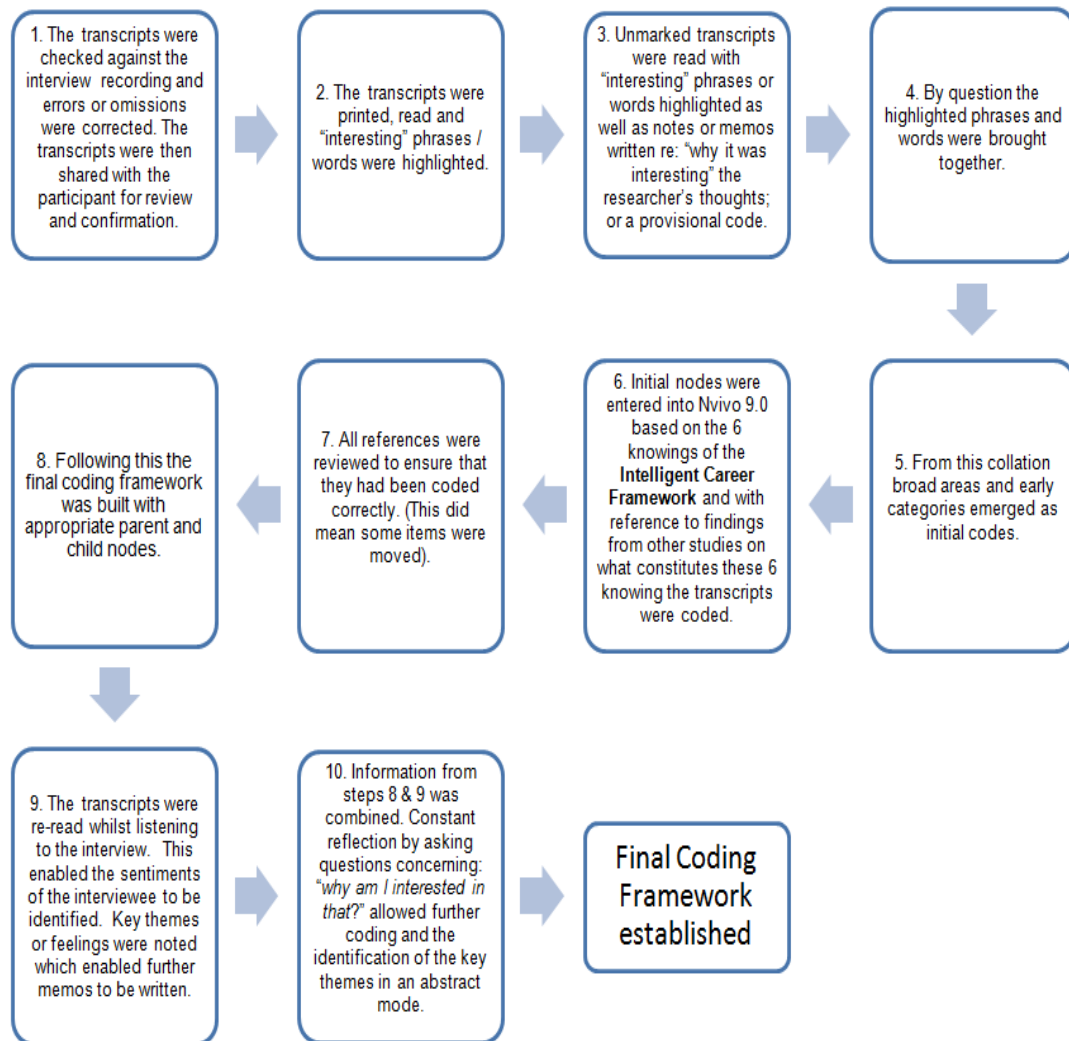
Figure 20: Main study initial data analysis approach

During the entire data analysis process, the research questions were kept to the forefront of the researcher's mind. A number of themes emerged, and these can be seen in the following chapters in which the findings of this research are presented. The presentation of the findings aims to represent the process of data analysis that was conducted.
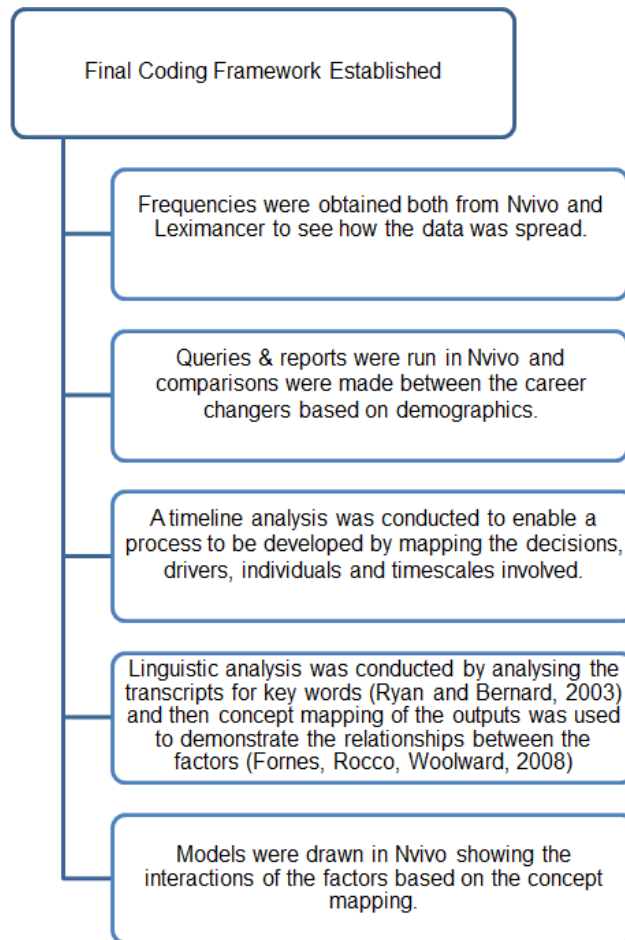
Figure 21: Additional analysis to describe, compare and relate factors

3.8 Other Considerations

As with all research studies there are a number of considerations to be taken into account. In this section, the limitations of this study, together with issues relating to validity and reliability and ethical considerations, are discussed.

3.8.1 Limitations

Every method employed has its limitations: the important thing is to be aware of them and address them where possible. Like other methods, interviews rely on the use of self-report data. The role of researcher was therefore paramount in putting the interviewee at ease and creating a safe, open environment in which the participants felt relaxed and comfortable in order to share their career stories. A key concern is that of social desirability: saying what one believes is

the socially acceptable thing to say, so it was important that the researcher did not judge what the participant was saying, rather merely exploring it with them to ensure that this concern was mitigated. Some social scientists are concerned about participants' perceptual distortions of themselves and their environments, biases and defence mechanisms used to cope with negative careers events, as well as the failures and distortions of memory (Feldman, 2002), such that there is a risk of a limitation caused 'by the inability of all of the persons to accurately recall past activities' (Sommers and Eck, 1977, p.8). By careful design and probing, the researcher through the questioning walked the participants through their decision to understand the factors at play and the process they enacted in a sequence of steps to avoid such distortions or recall failures.

3.8.2 Validity and Reliability

In qualitative studies, the criteria by which 'validity and reliability' are assessed in quantitative research do not apply. In qualitative studies, the key elements may be subjectivity, interpretation and emancipation. Therefore, different quality criteria need to be considered. There are a number of different ways of assessing quality, and these depend on the view taken (methodological, epistemological or claimed practice to name a few) (Symon and Cassell, 2012), and, as King and Horrocks (2011) affirm, there is no general agreement about the criteria to use. Hence, it was important in the context of this study to be aware of these issues at the outset and design the research so that the quality was attended to throughout the entire research process.

Symon and Cassell (2012) referenced Guba and Lincoln (1989), who used the naturalistic terms 'credibility', 'transferability', 'dependability' and 'confirmability' in place of the more positivistic terms of validity, generalisability, reliability and objectivity. Therefore, in the context of this research study, it was important to:

- provide sufficient details so that the reader could decide what other cases might be informed by these findings, thus demonstrating credibility;

- demonstrate a good fit between the constructed realities of the respondents and the reconstructions attributed to them in order to ensure the transferability;

- demonstrate dependability by discussing the changes that had occurred during the research process as a form of audit or evaluation, reflecting the need to be responsive to the needs of the participants;

- demonstrate where the data came from and how it had been used by providing a full and clear account of the data collection and analysis methods employed to ensure confirmability (Symon and Cassell, 2012).

As mentioned previously, the researcher plays a role in the research, and in order to ensure the quality of the research, there is a need to recognise this role and try to reduce the ways in which it affected the data collection and analysis methods.

Within this study, the following practices were adopted to ensure the quality of this research: 1) designing a robust study, in which the methods are appropriate for the nature of reality and what constitutes knowledge (i.e. the ontological and epistemological assumptions); 2) a purposive sampling process, in which to identify those individuals who indeed have made a career change; 3) careful transcription of the recorded interview to produce complete and accurate transcripts – this involved checking all transcripts against the recording and sharing the transcripts with the participant to review before coding commenced; 4) involving 'independent' coders in the analysis process, whereby copies of 16 transcripts and the coding framework were provided to three independent coders who were asked to code the interviews. Following on from this, a conversation was had in which any discrepancies were discussed. This approach enabled greater clarity regarding the codes assigned and the coding framework; and 5) the use of thick description and audit trails to allow the reader to judge the interpretations being made (King and Horrocks, 2011). Within this report, full and detailed accounts of the phenomena under study and

the context of this study have been provided throughout. The inclusion of such thick descriptions allows the reader to assess the quality of the research.

3.8.3 Ethical Considerations

Ethical considerations were taken into account early in the study before any fieldwork, either exploratory or otherwise, was undertaken. It was recognised that ethical issues transcend the entire research process and, hence, they were given due consideration (Kvale and Brinkmann, 2009). The proposed research approach received approval from the University's Ethics Committee prior to the commencement of the fieldwork. A number of ethical considerations were taken into account.

3.8.3.1 Informed Consent

Obtaining the participants' informed consent was critical. The purpose of this was to ensure that they not only understood the purpose and nature of the research and how the data would be used, but that they were aware of their right to withdraw at any time. This informed consent was gained by sharing an overview of the research in an email as well as providing them with a written information sheet, which set out their 'rights' as it were. The participants were asked to signed this information sheet and return it to the researcher prior to the interview. In addition, at the start of the interview, their verbal consent was also obtained.

3.8.3.2 Confidentiality

As part of the informed consent, the process for ensuring confidentiality was set out to the participants. This included assuring them that full confidentiality would be maintained by the use of pseudonyms in the thesis and with no real names appearing on the transcripts. Once the interview commenced, the researcher did not use the participants name, and where they themselves mentioned it (which several did), it was removed from the transcripts before analysis commenced. In addition, only the researcher and transcriber had access to the saved recordings which will be destroyed upon completion of the PhD.

3.8.3.3 The Role of the Researcher

Within the context of this study, the role of the researcher brings with it ethical considerations over and above confidentiality. With any research, there is a need to gain understanding, trust and openness. In this research study, the researcher was employed in HR within the organisation in which the study took place, and this in itself could have prevented openness and trust developing. A risk that can be associated with this was that the spatial and relational boundaries in the research setting could become blurred. On the whole, this was addressed through the participant selection, in which each participant volunteered to participate in the research following receipt of an email from a third party. The majority of the participants were unknown to the researcher.

3.9 Summary

This chapter commenced by setting out the philosophical approach being taken in this research study, as well as the research strategy, design and justification for semi-structured interviews. The organisational context and sampling strategy were defined before the initial exploratory study, which lead to the development of the interview protocol as discussed. The fieldwork (pilot and main study) was presented, making reference to its purpose, the participants, the data collection and the analysis methods. Justification was provided for the changes in the sampling strategy and the interview protocol. Finally, methodological considerations relating to validity, reliability and ethics were considered. The following chapters present the findings from the main research study: Chapter Four considers the findings in relation to what a career change is, Chapter Five discusses the reasons for a career change and Chapter Six discusses the career change process.

4 CAREER CHANGE

This chapter is divided into three sections and addresses the conceptualisation of a career change. Section 4.1 discusses what a career change is and determines exactly what the participants understand by exploring their understanding and subjective perspective in the fullest sense. This is important given that the definition being used in this study relates predominantly to a physical rather than psychological career change as discussed in section 2.2.2.2. Section 4.2 looks at what fundamentally changes when making a career change. Finally, section 4.3 presents a summary of the findings of this chapter.

4.1 What is a Career Change?

This section discusses what the 22 participants consider as a career change. No prior definition of career change was provided during the interview. Instead, the participants were asked: 'How would you define a career change?' 'What would you consider and not consider to be a career change?' Their responses were probed further to fully understand what exactly changes when one makes a career change. In this way, their perceptions of what is and is not a career change were established, just as Adamson, Doherty and Viney proposed to build a meaningful definition: 'we might begin with the lay understanding' (1998, p.258). Based on the analysis undertaken, it appeared that the participants' perceptions of career change related to their view of their own career: for some, their career was sector specific; for others, it was organisationally determined or professionally driven.

There were diverse responses with regards to defining a career change, with some participants struggling to answer the question, having not actively considered it before. Based on the frequency of the responses cited by the participants, a career change can be seen as a change in one or more of six aspects: profession/function, company, path/direction, engineering discipline, sector or business area within Globoil. For some individuals, a career change involved a change in one or more of these aspects simultaneously. These six aspects are discussed below.

4.1.1 Profession or Function

The most popular definition of a career change, cited by 19 individuals, involved a change in profession (e.g. engineering to law) or a change in function (e.g. from engineering to finance), in other words moving out of engineering and into something different. This definition is the one most in line with the definition being used in this research study.

> *Usually you use for a benchmark the traditional benchmarks - you are an engineer, you are in marketing, you are in an area – so when you move out of an area for something that feels to some extent significantly different on the job content, you call that a career change.* (Beatrice)

4.1.2 Company

Five individuals described a career change as involving changing companies. They saw a career change being less about changing profession or direction. For these individuals, their career was inextricably linked to Globoil, and as long as they maintained membership in Globoil regardless of their role, they did not consider it as changing careers. Five of the six participants who defined a career change in this manner joined Globoil as a graduate entrant.

> *A career change would be to leave the company and then join, either start something myself or join a different organisation.* (Peter)

Peter, despite having changed careers according to the research definition, did not see it as a career change. He started as a graduate engineer, worked in engineering for 10 years, moved into HR for four years, undertook a technical role for a further three years before moving back into HR, where he has been for the last two years and where he sees his future to be.

4.1.3 Path, Direction or End Goal

Four individuals defined a career change as a change in the direction or path one takes to realise their career aspirations. Whilst this involved changing

profession/function, as in section 4.1.1, these individuals did not describe it in that manner.

> *Well a career change is a change in direction. So it's not just a job change, because of course a job is something temporarily that can last one, two, three years ... Career change is a change in direction. So what really gives you the switch, like a traffic light, going straight, right or left.* (Janis)

4.1.4 Engineering Discipline

Three individuals saw a career change as changing one's engineering discipline, for example moving from well engineering to project engineering.

> *And it is interesting you ask the question because I never trained, obviously, as a well engineer or anything like that in E&P, but that is a related discipline but that could have been, if I had done something really mad like that, that could have been a career change because whilst it could have been within the same profession, if you move between engineering disciplines that would be very different.* (Isabelle)

4.1.5 Sector

Two individuals defined a career change as changing industry or sector, for example, leaving the oil and gas industry. Whilst their view of a career was not tied to a company or profession, they did very much see it as tied to the industrial sector. This appeared to be related to the knowledge and skills they had built up over time working in this industrial sector, as well as their own career ambitions within the sector.

> *For me, personally, it would be moving outside of probably the company first, but then also the sector. And so I wouldn't see it as big a career change if I've stayed within the sector but left the company.* (Edward)

4.1.6 Business within Globoil

Two individuals considered changing their line of business (e.g. moving from retail to business to business [B2B]) or business area (e.g. moving from upstream to downstream) as a career change given that the nature of the business, goals and strategic focus would be fundamentally different.

> *When you change your business within Globoil, so for example moving from retail to commercial, it's quite a different orientation to the career, so you move from a B2C marketing organisation focused on selling fuels in petrol stations to more a B2B, that kind of thing.* (Janis)

4.2 What Changes?

In order to deepen the understanding of what a career change is, the participants were asked follow-up questions, with the aim of uncovering what fundamentally changes when one makes a career change, i.e. what do they see lying beneath the surface of a career change. This was done to fully understand their individual definition and perspective of a career change and to determine how significant they considered their own career change. Their responses are categorised using the intelligent career framework, and it was identified that their knowing-how; knowing-whom and knowing-why fundamentally changed as a result of a career change. These are presented below in order of frequency, as identified by the participants. Some participants mentioned a number of things that fundamentally change as a result of making a career change.

4.2.1 Knowing-how

4.2.1.1 Skills

Thirteen individuals discussed how the skills (i.e. the know-how one needs to be successful) changed having made a career change.

> *Because the skills you have built up are not regularly fitting with your new career, so you need to really build up your skills again from scratch. That's maybe something that's the biggest difference.* (Kate)

Whilst there was a general recognition that some skills were transferable, there were many other skills that were new and needed to be learnt.

> *A whole new set of skills. You can use a very small percentage of what you knew before. There is always something that is transferable, but it's only transferable ones that you can use. The actual real solid base that you have, you can't use that anymore and you're really thrown outside of your comfort zone.* (Claire)

4.2.1.2 Knowledge/training

Eleven individuals saw that the knowledge and core training undertaken during their early working years was different, in essence, suggesting that the knowledge they had built up over time had become somewhat redundant or irrelevant in the new area they had moved into.

> *I think, for me, it's about a … so the way I'd sort of characterise it would be about it being a step change in what you do and a fundamental move away from your core training from a university perspective and what you trained yourself to be doing.* (Isaac)

4.2.1.3 The nature of work

Five individuals identified that the nature, content, activities and approach of work change when making a career change. Whilst not explicitly stated, it implies a need to develop or gain new skills and knowledge, as outlined in section 4.2.1.1 and section 4.2.1.2 above.

> *I think it's the type of work. ... And so it's just the way of working day-to-day. ... Probably the environments can be different.* (Edward)

4.2.1.4 Experience

Four individuals identified that their experience changed when making a career change.

> *It was a completely different discipline that has all the experience and knowledge in those sort of nearly four years. ... on a day-to-day basis the*

fundamentals of your job, the skill set required, the language that you use, the projects that you work on, they are just not related. They are not even cousins, and I think that, they are not even distant cousins, and that is the difference. (Isabelle)

4.2.2 Knowing-whom

Two individuals made reference to the relationships that they had with their peers and professional network, i.e. their knowing-whom changed. When making a career change, individuals often found themselves in a new area without their support network and with new peers. There was recognition that others' perception of the individual changes as they change careers. These relationships were deemed important to ensure continued opportunities and progression.

> *I think the perception of other people as well, and actually perception of my own capabilities. ... I could never go into an engineering career at my job level and get respect from the people around me as an experienced engineer just because I haven't had the background that they've had.* (Janis)

4.2.3 Knowing-why

Only one individual, Edward, suggested that his career aspirations and goals changed.

> *So what I could do long-term in those, so it's a bit of a re-baseline of my long-term goals. ... So, for me as a career change, longer-term, it's definitely the longer-term goals.* (Edward)

4.3 Summary

This chapter has sought to provide the participants' perspectives of career change by examining their own definitions of what a career change is and what changes when a career change is made.

For the majority of participants, a career change involved changing profession or function, that is, moving into a new occupational area. For some, it meant changing the company, sector or long-term direction. This is important to keep in mind, as it sets the context for many of the career changes made and the findings outlined in the next two chapters. When looking closely at their actual career change data, it can be seen that 17 individuals (11 males and 6 females) solely changed profession/function within Globoil. Three males changed company, sector and profession/function and the other two males changed company and profession/function when making their career change. This suggests that the individual's definition and meaning of a career change is based on their own personal experiences, reflecting their own career change.

In considering the definition of what a career change is, many participants examined their own career in more detail than they had perhaps previously done. In doing so, some found it difficult to define a career change, or realised that their reality was different to their own perceptions. What appears to have emerged is that how the individuals see their own career evolving influenced their perspectives on what constitutes a career change and what changes when one makes a career change.

Three aspects of the intelligent career framework were deemed to fundamentally change when one makes a career change: knowing-how (skills, knowledge and experience), knowing-whom (relationships which support an individual's career) and knowing-why (the aspirations or goals). These changes in knowings do not occur in isolation: many individuals discussed more than one knowing aspect altering as a result of making a career change. From the discussion of what fundamentally changes, it was evident that a career change leads to a considerable change in what was familiar and comfortable for the career changer regardless of their rationale for making the change. Their differing opinions of a career change demonstrate how complex it is in reality. Interestingly, one temporal aspect was mentioned, in that whilst a career change decision is made in the present, and may reflect upon the past, the impact and outcome of the career change will be felt in future.

Of the 22 individuals in this study, all but one career changer interviewed considered themselves to have made a career change in the psychological sense, and all 22 had made a physical career change across an occupational boundary. Four individuals indicated that they would make another career change in the future, a further four said they possibly would, three said they would not, and the remaining 11 did not know if they would make a career change in the future. In the next two chapters, the findings in relation to the two research questions are presented.

5 REASONS FOR CAREER CHANGE

5.1 Introduction

This chapter reports the findings from the interviews in respect of the first research question (what factors contribute to the decision to change careers?) by exploring the motivation and rationale of 22 professionally trained and qualified engineers who changed careers. These findings are predominantly based on the participants' responses to the questions, '*Why did you leave engineering? What was your motivation or driver? and what factors influenced your decision-making?*' The participants expressed a wide range of factors which they considered in their decision to change careers. Upon closer examination, these factors could be readily grouped into three themes: first, factors that were seen to drive the career change decision; second, factors that influenced the decision; and third, factors that facilitated the career change.

Each of these themes and their respective constituent factors are discussed below. In section 5.2, a detailed analysis of the drivers that emerged from the interviews are set out before considering in section 5.3 those factors that influenced the decision to change careers. Section 5.4 discusses those factors facilitating a career change and section 5.5 considers how these factors are connected or combined.

The findings are presented by means of the theoretical lens of the intelligent career framework: knowing-why, knowing-whom, knowing-how, knowing-what, knowing-where and knowing-when (Jones and DeFillippi, 1996). As discussed in Chapter Two, this framework specifies the career capital that individuals develop or expend through changing work experiences.

5.2 Driving Factors

Nine categories were identified as a driving the decision to change careers, as shown in Figure 22. Some driving factors were considered to be primary or dominant factors, providing sufficient reason or motivation alone to make a career change, whereas other factors were secondary drivers and only affected

the decision to change careers rather than instigated a career change. These factors were classified as being either positive (e.g. a desire for) and acted as a 'pull' factor, drawing them towards the new profession or negative (e.g. a lack of), and exerted a 'push' away from the engineering profession (Fu, 2011). The number of driving factors raised varied from one to seven according to the individual.

Knowing aspect	Driving Factor	No. of individuals raising it	Pull/Push
Knowing-why	Advancement/ progression	20	Both pull and push
	Interest/enjoyment	19	Both pull and push
	Learning/growth	15	Both pull and push
	Remuneration	6	Push
	Family/partner	6	Both pull and push
	Work/life balance	6	Both pull and push
	Recognition	5	Both pull and push
	Challenge	4	Both pull and push
Knowing-where	Location	8	Both pull and push

Figure 22: Factors that drive the career change decision

5.2.1 Knowing-why

All 22 career changers provided clear evidence of knowing-why competencies driving their career change decision, i.e. those related to an individual's motivation, values, personal meaning and identification (Jones and DeFillippi, 1996).

Eight of the nine categories of driving factors that were identified related to knowing-why. In order of frequency raised, these were: advancement/progression, interest/enjoyment, learning/growth, remuneration, family/partner, work/life balance, recognition and challenge. Of these factors, three were raised by at least 15 individuals, with the remaining factors being raised by between four and seven individuals. These factors are examined below, starting with advancement/progression, the most frequently discussed factor.

5.2.1.1 Advancement/Progression

The concept of advancement/progression, which incorporates a number of elements, as in Appendix Seven, proved to be the most fundamental driving factor in the decision to change careers. Sixteen individuals cited advancement/progression as a primary driving factor and four individuals raised it as a secondary driving factor. Advancement/progression related to an individual's desire to progress within their career in relation to the individual's career aspirations and inherent level of career success. Given that these participants were in an early-mid career stage, striving for objective career success was an important factor for many of them. Advancement/progression was discussed in a manner that demonstrated intrinsic motivational forces at play that were not only subjective but also future orientated. Whilst for some, it was about an immediate return following the change, for most, it was about their future: achieving their ambitions, realising their potential, determining what the future available opportunities were and what positions they aspired to obtaining. Advancement/progression was predominantly seen as a positive factor, pulling individuals to the new occupational area, although there were some negative aspects that were seen to be pushing individuals away from engineering, and these related to lack of progression and future opportunities.

For many, advancement/progression was about their career progression, which was defined in a number of different ways: a step towards a managerial, leadership or future-aspired role, promotion in terms of job grade – identified by

one interviewee as 'climbing the ladder' – as well as movement to a position with increased level of responsibility or accountability. Some individuals suggested that perceived progression and promotion were more readily available outside the technical arena, and they were looking to move to an area in which future progression would be possible and one in which they would have more responsibility and accountability than in the engineering profession.

> *It meant that there were good opportunities for future progression within that particular business. Because one of the other things was if I was moving into a business, and I was very keen on a particular location, it would make sense to try and find a role where, if I wanted to continue to stay in that location, there was progression available.* (Hannah)

For 10 individuals, their ambitions, dreams, aspirations and goals were a primary driving factor, whilst for two individuals, they were seen as a more minor driving factor. For six of these 10 individuals, it was about having a clear direction towards an identified end goal, looking to the future and determining how to get there, what route and steps to take and then enacting them. Some, like Callum, mentioned metaphorically 'ticking off' activities and positions along the way as a measure of being on track.

> *I've certainly seen it as ticking the box almost, although that sounds the wrong way to put it, but ticking off another marker and another set of skills which will be useful and which I can draw upon in the future. ....No I think I've had that long term management or leadership area in my mind for a long, long time, so it's just another one of the steps which I need to take on that journey, I think.* (Callum)

For four individuals, undertaking the career change was something that they had always wanted to do, like a dream they harboured and something that they recalled being in the back of their mind for a period of time. For some like Harry, it was about ensuring that they fulfilled their potential, and the change was a means of aligning themselves to a discipline that would enable them to achieve this.

Maybe there was an element of my not feeling that I would fulfil my potential in that environment. (Harry)

Others like Beatrice were careful in their choice of next role. They wanted to ensure future opportunities were available to them in a different part of the business. The perceived availability of future career opportunities influenced the path they chose.

CP felt like it has enough choices and opportunities and it's a growing area that also Globoil is trying to strengthen. (Beatrice)

Where raised in a negative context, it was because of the lack of perceived future opportunities in the engineering profession. Isabelle likened the start of her change to 'A Christmas Carol', in which she saw the Christmas of the future and did not like what she saw.

I think that it was a just perfect storm of thinking that is Christmas of the future if I stay ... and not liking the look of it, being no opportunities or perceiving there were no opportunities or very, very limited ones. (Isabelle)

Ten individuals believed that their personal aptitudes were influential in their career change decision, five of which identified that their skills or strengths lay in the area they moved into rather than in engineering.

I guess my skillset was more towards the people side than it was the technical detail (Steven)

Finn, who made the change from engineering to commercial and then back to engineering, was able to identify as a result of experiencing both that not only was his interest but also his strengths were in engineering.

I'm going back to technology because that is where I think really my strong point is, and I'm going to develop that further and just commit myself to that, which I never really had done before. (Finn)

Six individuals were driven by a desire to have an impact and make a difference to society. Doing meaningful work that had a purpose was seen to be subjective and intrinsically driven as well as being future orientated. Two individuals wanted to make a valued contribution to Globoil. Henry, in particular, referenced the aims, direction and growth of the commercial side of the company and how he could be more relevant to the company in a commercial role than in engineering.

> *It was relevant for the company. I could see that by joining commercial I would have done something that was more relevant for the company than what I was doing back then.* (Henry)

Two individuals wanted to have a greater impact at work than they were able to have in the engineering arena. For Edward, in particular, having an impact featured consistently throughout the interview. It was important for him to have an impact at work: he derived satisfaction from his personal impact at work. Hence, the driver for Edward in making the career change to commercial from technical was striving to have a greater impact.

> *The macro level of thing is really just generally wanting to have that impact, and something like I could deliver at the working level and part of it you're wanting. ... And that comes back to my ambition that I see generally, having a wider impact by being in oil and gas.* (Edward)

For Dean, having an impact was a goal he had pursued throughout his career but at a much larger scale. He demonstrated a lot of passion and determination to realise his ambition, which was to have an impact on the engineering industry as a whole.

> *I wanted to make a difference. I wanted to be in a position where my decisions actually affected the industry, made it better, let it thrive more, stuff like that. I came to realise that being an engineer doesn't let you do this. ... The key driver and motivation for my change was a desire to*

ultimately bring the engineering industry in the UK back to what I think it should be, and what it was before. (Dean)

For two other individuals, it was being able to make a difference to society, seeing purpose and value in what they were doing in their career and in the context of the energy industry whilst ensuring that their chosen career area was in line with their own values.

5.2.1.2 Interest/Enjoyment

Interest/enjoyment as a theme encapsulated a number of features, namely being interested in the work, enjoying what one was doing, the nature of work and having or gaining energy from work. In total, ten individuals raised this concept as a primary driver, and a further nine individuals raised it as a secondary driver. It has both positive and negative aspects to it, as evidenced from the interviews. Whereas advancement/progression was future orientated, interest/enjoyment was grounded in the past and present. It was less about what might be and more about what was or is. Although discussed in many ways, as set out below, the majority of individuals saw it as critical to their decision to change careers. This is a subjective and intrinsic motivator, which encompassed an aspect of job satisfaction that in turn appeared to influence the individual's overall level of career satisfaction.

For some, interest related to aspects of the work, discipline, career and the industry that they were (or were not) interested in. Six individuals made the change as a result of their level of interest in the work they were involved in. As Kate's quote demonstrates, she came to realise that the subject matter was no longer interesting to her. She eventually made the move into HR.

> *The subject was still always technical stuff and I just realised that I'm not interested to even talk all the time just about the technical stuff, so I want something else. ... I realised I wanted to do something with people.* (Kate)

For two individuals, pursuing interesting opportunities that arose in the commercial arena allowed them to broaden their experience. Whilst their intent was to move back to engineering, their interest grew in the new field and they remained within it, having made a career change.

> *At the time my thinking was very much, yes, it may be commercial, but really the thing that I think is quite interesting is the project management route, where you have got some commercial elements, but it's really all about getting the engineering right.* (Nathan)

Similarly, three individuals saw new and interesting opportunities in the industry to pursue: Isaac, as a result of completing an MBA, found economics to be fascinating as well as something he was good at, and despite looking at other industries, his primary interest lay within the oil and gas industry, whereas for Luke (quoted below), his day-to-day technical work enabled him to get involved in some wider commercial activities that allowed him to see other interesting angles to a career in the energy industry, which were further developed by completing an MBA prior to changing careers.

> *I did a bit of technical work to support New Business Development activities. I think that was one of the first moments that I saw within the energy industry some other interesting angles towards the projects we work on. The second part of my posting in Qatar I started with my executive MBA at London business school, which was actually a formalisation of an interest I already had in stuff beyond technical which I enjoyed a lot.* (Luke)

Two individuals made a change because they were interested in understanding how the organisation worked, which they were not able to access from engineering. They did not dislike the technical environment, but like Henry, had a curiosity and interest in how business decisions were taken. Henry was interested in how the component parts combined and resulted in a business decision, and this was a key element of his decision to change careers.

The other thing is that I like broad, I don't like just focussing on one single aspect, and what I noticed that when coming to a business decision, the technical engineering part was just a small part of it. I was curious to indeed explore more of all the other aspects that were leading to a business decision and I found the engineering job would not allow me to know those aspects. (Henry)

Whilst interest was a positive factor drawing individuals to the new area, enjoyment, raised by four individuals, was set in a negative context, i.e. a lack of enjoyment in engineering.

I think a part of it was just the enjoyment, or the lack thereof. I didn't get as much fulfilment from the technical work that I did … as I would have thought. So, I think in a nutshell I didn't find working there too stimulating and I didn't want to subject myself to potentially another 3 or 4 years of the same when I had the opportunity to do something totally different and see if I would enjoy it more, that was what it was. (Karl)

For one individual, it was about ensuring that he was taking roles that he enjoyed and could derive energy from.

I am now looking more at things that I get energy from and enjoy doing; that keeps me motivated. ... I guess people are quite important to me; I have to feel like I am part of a team, I don't like being in complete isolation. I take energy from those around me as well, and I like helping others, I like seeing progress in others. So I have enjoyed seeing other people progress and helping them to do that, or helping them out of a problem situation or a stressful time. (Harry)

Three individuals made reference to being re-energised or gaining energy as a result of making a career change, which suggested that their energy was somewhat lacking prior to changing careers. Kate was one such individual, who discussed her lack of energy in the technical role but recognised once she changed careers that she was energised by her HR role.

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That was a big change because for the first time in my career I really did a role that I liked. I really felt like, okay, this is something I really get energised by. The technical roles, it maybe sounds strange but I never worked lots of extra hours, maybe once in every two months an evening or something if really needed. I actually sometimes was even bored, I felt like I could do more but I just didn't feel energised to pick up more stuff. (Kate)

The nature of the work was related to the day-to-day tasks and activities the individuals undertook, and this played a role in the decision to change careers for four individuals who found that the work they were doing was not to their liking. Some were not enjoying the content of the work, others found it monotonous and some found that it was too constraining: they did not have the freedom to do activities outside of a tightly defined scope and saw commercial as more diverse.

It's having a much bigger field to play on, or play with rather, and being less constrained in terms of what you are able to do and what you are not able to do. (Nathan)

5.2.1.3 Learning/Growth

Fifteen individuals identified learning/growth as a driving factor in their career change decision. Learning/growth was concerned with having greater access to future learning and development opportunities, which related to the acquisition of knowledge, skills or competencies through study or experience.

I think it was an internal realisation that these are skills which I needed to develop and I wanted to develop to enable me to progress into that long term role of more strategic or leadership area. (Callum)

For Callum, personal development was something he had pursued consistently throughout this career, and seeing that it was effectively stalling, decided to explore options. Unfortunately he came to the conclusion with his line manager

that there was nothing for him in his existing company, so he changed companies and started to make the transition to more commercial activities.

> *It was purely for personal development. I was feeling a little bit stagnant in the role I was in. There wasn't a lot more I could learn having been there for 12/13 years. I didn't feel there was that much opportunity to grow, it was purely moving to managing of other contractors, etc., which would have been fine but I just thought, 'There's got to be more to life than just going to the same place all the time'.* (Callum)

Some individuals saw that growth came from greater exposure and breadth. As a positive aspect, seven individuals had the desire to gain more exposure to the business and to broaden their skills, experience and outlook.

> *I also found that there was very little exposure to really the areas that Globoil makes their money in. It was a lot of theoretical basis and a lot more hands-on and I wanted to be closer to, I wanted to be closer to where, to understand the business of how Globoil makes her money and contribute to that.* (Joshua)

This was deemed a positive aspect in the main. If raised as a negative aspect, it was when continued development was lacking in the engineering discipline and they saw themselves stagnating and no longer growing. Some saw making a career change as a means of 'taking control' of their own development and career. For Gordon, the lack of relevant training meant that he chose to develop himself in his own time to ensure he had the necessary skills to be successful, which led to him completing a MBA and then joining Globoil in a commercial position.

> *I felt that the development didn't fully materialise. I had a lot of training but I felt I was stuck in the middle, I wasn't developing as an engineer in terms of how the training takes you to a competency where you feel you can basically design and build installs yourself. On the other side I wasn't*

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developing on the commercial side also, so I felt very stuck in the middle of managing people and not really developing either way. (Gordon)

Three individuals referenced the narrowness of their engineering discipline and the sense of being 'pigeon-holed' or 'boxed in', which drove them to look for something wider in scope. Liam was both disappointed and frustrated by being put in a box and felt that Globoil almost forced him to decide which career path he was going to follow.

I think Globoil, to a degree by its very large nature, tends to box individuals in to a degree and constrain exactly what they want you to work on as an engineer. ... I was faced with the decision of being put in a box as a good engineer and probably staying in that box for much of the rest of my career, or moving to a different box that had a much wider view of the business but probably didn't get to do much engineering. And I decided I couldn't live with the former whereas I could live with the latter. (Liam)

Similarly others were fearful of specialising and wanted to keep their options open by being a generalist rather than a deep technical expert. This aspect links closely to the possible future opportunities and progression that would be more limited in engineering and, as such, they wanted to grow laterally.

I was always conscious that once you get so ingrained or heavily involved in one particular area for too long then it can be very difficult to gain any more experience, you get pigeon-holed into that kind of area. (Callum)

5.2.1.4 Remuneration

Remuneration, i.e. the pay and benefits the individuals receive as a result of working, was raised by six individuals, of which five regarded it as a primary driver. All six individuals saw that engineers were not rewarded in monetary terms as well as those in other areas of the business, in the sense that it was the inequity of pay that was the issue. In particular, three individuals made a

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direct comparison between pay and the level of accountability held by an engineer compared to others in the business and felt that it was inequitable.

> *I somehow had the feeling that technology wasn't really as rewarding as I had hoped. I saw that the guys who made the most money were all business people, so I thought, well, I'm going to try my hand at business. ... with the aim to, yes, earn a higher salary and make more money.* (Finn)

Finn's quote is interesting as he made a double career change: he left engineering after five years and moved into the commercial areas but returned to engineering six years later, having failed to be successful in commercial. This demonstrates how Finn's motivation changed over time in that now he has a young family and money is not as important as he once thought it was.

Those who mentioned remuneration as a driver did so in the context of their life, needing to put a roof over their heads or food on the table, making it a hygiene factor rather than a purely motivational factor. Five of the individuals who raised remuneration as an issue were male and three were single, which may explain why this is an important factor in their decision to change careers. Conversely, some individuals openly mentioned that they had sufficient money and that it was not a factor in their decision because the pay was good in the industry.

5.2.1.5 Family/Partner

Six individuals suggested that family/partner were part of the reason for their decision to change careers. It was a primary driver for two individuals and secondary for the remaining four individuals. Whilst it appears to have a negative aspect to it, family/partner was future orientated and very much a pull factor in that it was about making a change to mitigate future negative consequences. Family/partner was intertwined with location and, in some instances, was hard to separate.

Where it was a push factor, it concerned two males having an overseas relationship that they wanted to preserve. Their driver for changing careers was

their desire to be with their partner that would enable them to move and live/work in the same location as their partner. For Isaac, quoted below, his partner was the key driver in his decision to change careers.

> *After four years of working as an engineer and after four years of what was effectively a long distance relationship, it got to the point where it became a decision of, 'Do I continue working for the company or do I sacrifice that and put my personal life first? Is my personal life more than a career with that particular company?'* (Isaac)

Where family influenced the decision to change careers, there were a number of different reasons cited. For Liam, the locations that engineers were expected to work in were not family-friendly, and so ensuring that he was in a location that worked for his family weighed heavily in his career change decision.

> *I looked at what geographic locations I might expect to have access to in both sorts of roles, and equally where might I be asked to work as a well engineer, because this was early 2000s, where there was still a little of a culture of being 'told' to go and work somewhere fairly un-family friendly. So there was a little bit of the family element in there.* (Liam)

For others, it was about being in a role which enabled their partner also to pursue a career, which meant balancing the dual career scenario. For Steven, who met his wife through work, making a career change enabled him to differentiate his career from his wife's, which meant they would not be competing against each other for opportunities, increasing their chances of being able to move to a new location and both find work.

> *One is obviously differentiating my own career from my wife's because I think we can't both be going the same way all the way through, which we have to date but we're getting to the levels where it gets a bit hard.* (Steven)

5.2.1.6 Work/Life Balance

Work/life balance was raised by six individuals. For one individual, it was the primary driving factor, for the other five, it was a secondary factor in changing careers. For Isaac, his decision was predominantly driven by achieving balance and being located in an office close to his girlfriend, which allowed him to control his time more effectively from both a personal and professional life perspective.

> *For me, the main rationale was the balance, and I think it came down simply to the balance between a work life and a personal life.* (Isaac)

As a secondary driver, work/life balance related to being more in control of their working hours, their time away from work, their lifestyle and the effects of work on their health, i.e. stress.

> *When I joined Globoil, if I'm honest, I was very much career, 70 hours a week, absolutely workaholic, not the best life/work balance type of stuff. ... As I mentioned, I went through a very difficult year on the personal side and that makes you on the personal side rebalance certain things.... so if you organise yourself you can do other things, some complementing and remembering what my hobbies were parallel to having a job.* (Beatrice)

For Kate, a period of stress-related illness, caused by a combination of personal and professional factors, resulted in her making a career change. Her absence was the critical turning point as during it, she finally realised that she needed to make a change, and balance proved to be a key influencing factor.

> *I really went through a very stressful period and then I said at the moment, I just couldn't do it anymore. So I had been out for like three weeks or something with stress, it was too much. ... everything came together and then the period, this day you have some time to think outside of the structure, and then I realised that I really need to do something about this.* (Kate)

5.2.1.7 Recognition

Recognition was raised by five individuals as a secondary driver, with a negative aspect pushing them away from engineering. Recognition as a concept was seen not to be sufficient alone to primarily drive the individual's decision to change careers, but was an important secondary driving factor involved in the decision to change careers.

For two individuals, it was a lack of recognition received for work that they had done or effort expended that affected their decision to change careers to an area where they felt more recognition would be given. For Harry, recognition went hand in hand with remuneration and a sense of achievement.

> *I wasn't being recognised or rewarded for the skills that I brought. ... I was not particularly satisfied with ... the recognition that I was getting for it. ... I found that very hard to accept; it wasn't about what you were delivering or the skills that you were adding, it was about the politics that you attached to stuff to gain recognition for yourself. I struggled with that, and felt that I was not being recognised for what I was actually delivering.* (Harry)

For three individuals, recognition like remuneration was seen to be inequitable for an engineer as opposed to a commercial employee. For one individual, the feeling of inequity was very influential, whereas, for the other two individuals, it was a very real difference in approach to recognition that they experienced prior to and following the career change.

> *I find very hard in a technical environment to demonstrate the excellence of your performance. ... I remember very vividly when I was doing my projects; I was doing them with good results. For example, projects delivered way below budget. I had a schedule and with good technical quality, and all I was getting was a pat on my shoulder. When I started in my commercial job I started closing deals for millions, of course I got big recognition in terms of promotion and money, and visibility. So I saw the two really didn't stack up with each other. I saw a huge difference in*

terms of recognition and how really you're able to stand out of the pack of people in a commercial job compared to technical job. (Henry)

Stuart, who was being given tasks and activities wider than his engineering counterparts, found he was being recognised more for these than for his actual technical work. This recognition influenced his thinking when it came to leaving engineering.

> *And I also found that what I was good at and what people appreciated me for was much more the integrative factor between, let's say, different functions, and more the strategic type work than the actual day-to-day work ... design a new well and supervise the drilling of new wells, etc.* (Stuart)

5.2.1.8 Challenge

Four individuals raised challenge, one as a primary driver and three as a secondary driver. Challenge when experienced as a negative aspect, a push factor, was when the individuals who raised it felt a lack of challenge. Conversely others saw it as a pull factor, in which two individuals verbalised a desire to be stretched by a new challenge and grow as a result. Challenge was also related to a lack of satisfaction, in that if they were truly satisfied and stretched in their role, they would not have been looking for something else.

Isaac wanted to prove himself with a new challenge, and through his MBA studies, found an area of interest and decided that it was something that would provide a challenge for him.

> *I thought, well, there's another challenge on the horizon there and it's not an engineering challenge, and it's something I've never done before and I really quite like it and I'd like to give it a go.* (Isaac)

5.2.2 Knowing-where

Knowing-where relates to the geographic, spatial or cultural boundaries (Jones and DeFillippi, 1996). Many individuals discussed how knowing-where in terms of location was important to their decision to change careers.

5.2.2.1 Location

This was raised by eight individuals. For two individuals, it was a primary driver, and for the remaining six individuals, it was a secondary factor. Location was about a future orientation, where they wanted to be physically in the future.

For Hannah, the overriding driver was about finding a role in a location that she wanted to live in.

> *So at that point I decided that it was more important for me to choose a job based on location ... I didn't leave engineering because I didn't like it; I left it because I couldn't get a job in the location I wanted. So I suppose you could say that I didn't want to be an engineer more than live in a place I didn't want to live, because I could have got a job in Aberdeen but I didn't want to go to Aberdeen.* (Hannah)

As mentioned in section 5.2.1.5, family/partner and location are inextricably linked. Others expressed reasons related to being in a particular location, i.e. where their partner was located or would be located, or identifying a convenient location for both individuals.

> *At that time I had a relationship back in The Netherlands where I was living in the UK, it turned into a long distance relationship and I commuted a lot between the two countries ... at one stage, which led me to leave the UK, I basically went back to The Netherlands to try to, well I guess, plainly save that relationship. ... so the conscious choice was to move back to The Netherlands but as an outcome, I did not pursue the career in well engineering any further.* (Stuart)

5.2.3 Dissatisfaction/Frustration

Additionally, dissatisfaction and frustration was also cited as a negative aspect (push factors) in the decision to change careers. Whilst dissatisfaction/frustration emerged as a key driving factor in the decision to change career, it has not been classified as a separate driver in this study due to the fact that it was raised in the context of another identified factor, for example, advancement/progression, recognition or remuneration. In total, 19 individuals raised dissatisfaction/frustration in the context of another driving factor that affected their decision to change careers.

For eight individuals, the dissatisfaction felt was mainly at the job level and, as such, related to job satisfaction in the context of the nature of work that was dissatisfying or the context of the training provided. Some, like Gordon, felt unsupported and unable to deliver what was required of him. As a result, his frustration led him to start questioning things and asking himself what the future looked like, as well as weighing up the different options that led to him undertaking a MBA after which he changed careers. While Stuart felt frustrated.

> *Stepping back, my last project engineering job was in Libya and that was completely frustrating and dissatisfying. So that, in effect, led me to actually consider broadening myself into a commercial role because I didn't think projects were for me at that time.* (Stuart)

For Peter, dissatisfaction and frustration were caused by a lack of clear progression or visible opportunities for promotion, and no-one could give him a clear view on what the future looked like or what his chances of success would be. His dissatisfaction was directed at those individuals making the decisions within his technical discipline and the uncertainty of not knowing whether he would be able to progress within that specific field of engineering.

> *The emotional side was dissatisfaction with the way that the pool that I was in was being run in Amsterdam with no clear perspective for me.* (Peter)

5.2.4 Demographic Differences

When considered from a demographic perspective, some differences can be observed in terms of who is raising which factors. Figure 23 shows these differences by frequency.

As can be seen contrary to expectations, based on the sample composition, more singles raised location, family/partner and recognition than expected. More females raised recognition and work/life balance. More 25 to 29 year olds raised location, family/partner and recognition. More 29 to 33 year olds raised remuneration and more 33-year-olds raised challenge and work/life balance. More experienced hires raised remuneration and challenge. Additionally more individuals who raised remuneration made an inter-organisational change as a career change. More individuals in their early career raised recognition and more individuals in their mid-career raised learning/growth, challenge and work/life balance. From a nationality perspective, those who were non-British raised location, recognition, challenge and work/life balance. More British individuals raised remuneration. Finally, more expats raised location, family/partner, challenge and work/life balance, whilst fewer expats raised recognition. What appears to have the biggest influence on who raises what factors is the expatriate status and early-career stage.

In this section above, a number of primary and secondary drivers both positive and negative in nature have been discussed. All but one related to the knowing-why aspect of the intelligent career framework. These factors were predominantly personal or situational in perspective and closely associated to the micro-system, as per Collin's (1990) systems model of a career. Those in an early career stage and with an expat status appeared to influence the factors mentioned beyond advancement/progression and interest/enjoyment, which were raised by most individuals. The next section considers factors that were identified not as driving the decision to change careers but influencing it.

		Sample Total	Advancement / Progression	Interest / enjoyment	Learning / Growth	Remuneration	Family/Partner	Work/Life Balance	Recognition	Challenge	Location
Marital Status	Married	11	10	11	8	3	2	3	1	2	3
	Single	11	10	8	7	3	4	3	4	2	5
Gender	Female	6	5	5	5	1	2	3	2	1	3
	Male	16	15	14	10	5	4	3	3	3	5
Age at Change	25 - 29	8	7	6	4	2	5	1	3	1	5
	29-33	8	8	7	6	3	0	2	2	1	3
	Over 33	6	5	6	5	1	1	3	0	2	0
Entry Point	Graduate	13	12	10	8	2	3	3	3	1	5
	Experienced	9	8	9	7	4	3	3	2	3	3
Type of Change	Intraorganisational	18	17	16	13	4	5	5	4	3	6
	Interorganisational	4	3	3	2	2	1	1	1	1	2
Career Stage at Change	Early: 8 years or less experienced	13	12	10	7	4	3	1	5	1	4
	Mid: 8 years plus experience	9	8	9	8	2	3	5	0	3	4
Nationality	British	8	8	5	4	3	2	0	1	0	2
	Non-British	14	12	14	11	3	4	6	4	4	6
Expat Status	Expat	7	6	7	6	2	4	3	1	3	5
	Local	15	14	12	9	4	2	3	4	1	3

Figure 23: Driving factors according to demographics

5.3 Influencing Factors

Whilst examining the factors involved in the career change decision, six factors were identified that influenced the decision to change careers. These influencing factors were not seen to drive the decision to change careers for any individual but were present in the deliberations of 21 individuals. They were influential and impacted on the individual's evaluation of the situation so much so that when they were aggregated with other factors, they influenced the individual's decision to change careers. The number of influencing factors raised varied from zero to four by individual and are set out in Figure 24 and classified by knowing.

Unlike the driving factors, many of these influencing factors were organisational in nature or closely related to the organisational context in which these careers are enacted. They can be seen to operate in the meso- and exo-systems, as depicted by Collin's (1990) systems model of a career. In this sense, they were external to the individual and not something that they could control, except for their response to the stimulus. Two factors related to both knowing-what and knowing-when aspects; and one factor to both knowing-how and knowing-whom. Most were observed as push factors.

Knowing Aspect	Influencing Factor	No. of Individuals raised by	Pull/Push
Knowing-whom	Role Model/Peer comparisons	12	Both pull and push
Knowing-how	Organisational Culture	10	Push
Knowing-what	Organisational Strategy	9	Push
	Industry/External Event	2	Push
Knowing-when	Why not?	6	Pull
	Age	6	Push

Figure 24: Factors that influence the decision to change careers

5.3.1 Knowing-whom

5.3.1.1 Role Model/Peer Comparison

Twelve individuals discussed how having a role model or making peer comparisons were influential in their decision to change careers.

Having a role model or knowing someone who had already made a similar change to the one they were thinking of was a strong influencing factor, a pull factor, for eight individuals in their decision to change careers.

> *Then at that point when I came to start thinking about it I went to him, and he knew exactly what I was going through because he's done it himself.* (Dean)

Five individuals, when looking at their friends and colleagues and in making comparisons, determined that they needed to make a change in order to progress or to be able to realise their own plans or ambitions. They could see others progressing, which caused them a degree of dissatisfaction.

> *I had started to see my friends starting to earn more money than me outside and they didn't necessarily have the same level of qualifications or experience. Or I didn't perceive my peers or outside of the company or engineering, or my friends, or my ex-university friends, I didn't see them particularly any better than me yet they were starting to progress and be promoted and earning more money.* (Isabelle)

5.3.2 Knowing-how

5.3.2.1 Organisational Culture

Organisational culture refers to customs and ways of working within Globoil. This concept was raised by ten individuals. This was seen entirely as a negative aspect, pushing individuals away from engineering and influencing them to make a career change.

For two individuals, this was about wanting to have an influence on decisions made and seeing that the culture of Globoil did not permit that whilst they were in engineering as they would not be given that level of authority. In some organisations, such decisions would be taken by engineers, but given the nature (matrix), size and culture of Globoil, this was not possible. In part, the organisation's culture is linked to the organisation's strategy and structure in which the culture dictated the ways of working.

I came to see that influence and leadership and commercial was a lot more important in a business or in a company than an engineering role. Maybe not more important, but the value of where people place value was more in those roles than in engineering roles, so that was one rationale. (Gordon)

For Harry, not liking the culture of the organisation he was working in, specifically in relation to the recognition that he was given, influenced his decision to change companies, which led to him beginning his journey to change careers through the role he took.

I didn't particularly enjoy the culture of that company either. ... it was about the politics that you attached to stuff to gain recognition for yourself. I struggled with that. ... So it was a system which I felt didn't work for me. (Harry)

For Liam, he did not want to work in a culture where individuals are told where they were going to be working geographically which impacted his family, as discussed in section 5.2.2.1.

There was still a little of a culture of being 'told' to go and work somewhere fairly un-family friendly. (Liam)

5.3.3 Knowing-what

Knowing-what, concerned with understanding the 'rules of the game' (Jones and DeFillippi, 1996, p.89) in relation to the organisational career system, was seen to be influencing the individual's decision to change career in relation to two aspects: organisational strategy and industry/external events.

5.3.3.1 Organisational Strategy

Organisational strategy relates to the strategic decisions that the organisation takes to ensure its future success. Nine individuals raised organisational strategy as an issue. It was seen as a negative aspect, pushing them away from engineering in most instances. For five individuals, their decision to change

careers was influenced by organisational decisions that they did not agree with. For two individuals, the organisation's strategy with respect to their chosen technical discipline was something that impacted on how they saw themselves, their work and their future. Both of these individuals found themselves working in a discipline that was not deemed to be central to the organisation's strategy. As Stuart notes:

> *I have to say I think that's where the seeds were sown, why I started to doubt whether the engineering route was the right way forward, and not necessarily because of the way I was treated but the way that engineering didn't really feature at that time as a core element of what was important to the company I worked for.* (Stuart)

Additionally, for Beatrice, the organisation's strategy as a result of external factors led to projects being postponed for economic reasons, which, in turn, affected the number of opportunities available to her.

> *It wasn't the right timing because two or three of the big projects stopped at that time, so it wasn't the time to get back to the skill pool, so I think that didn't help.* (Beatrice)

Only Henry saw the organisational strategy as a positive influence, in that he saw the growth strategy and future direction of the organisation. Consequently, he made sure that he was part of that business; in essence, he was spotting future growth opportunities and positioning himself so as to capitalise from them.

> *I could see there was, what the company was trying to achieve to grow the customer base, grow the revenues, and it was mainly led by commercial. Commercial, they were leading a change that was prevalent throughout that part of the company.* (Henry)

5.3.3.2 Industry/External Event

Two individuals made reference to wider industry or external events that influenced their decision to change careers. These individuals were looking at the macro- and exo-system (Collins, 1990).

Karl found himself in a situation in which he was working in a refinery that closed down, and the employees needed to look for a new role. Whilst there were opportunities for him to continue in engineering in a sister refinery, he chose to look outside of engineering due to the nature of the industry, which, he had determined through discussions with others, was dying.

> *I was still employed by the refinery until the end, but then the closure came about 18 months into my assignment ... the lack of enjoyment and also the fact the industry was a dying industry ... I think combined led me into making the move really, or led me to seriously pursue a career outside of technical space.* (Karl)

Conversely, whilst Liam was undertaking a broadening assignment, he found himself living in exciting times, with lots of activities occurring in the wider industry, which fuelled his interest in moving further into the commercial world.

> *I was very fortunate in the time in the market, it was a very exciting time to do that job.* (Liam)

5.3.4 Knowing-when

Knowing-when, concerned with decisions primarily about timing and pacing of one's career (Jones and DeFillippi, 1996), was evidenced by 'why not' and age both being identified as influencing factors.

5.3.4.1 Why Not

Why not can be best described as the lack of a reason for not making a change. It was the only influencing factor deemed solely to be a pull factor in that it was positive. Six individuals were influenced by the fact that if their career change did not work out, they could always move back to the technical arena and

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resume life as an engineer. In this respect, they had nothing to lose by making the move and, as Janis shared, '*nothing ventured, nothing gained'*. Overall, this factor was an attitude to change and was seen to be linked to a broadening assignment, a facilitating factor that enabled individuals to spend some time in the new area as a development opportunity whilst maintaining the ability to move back to engineering.

> *In my case I didn't want to go back to engineering so there was little to be lost, and I was under no pressure to make a swift decision.* (Stuart)

Finn exemplified this attitude. Having made the change from engineering to commercial and back again, he specifically indicated that at the point of changing the first time, he knew that if it did not work out, he could always return to engineering, which is what he did in effect.

> *If that does not lead anywhere then take the learning and go back working on your strong points, go back to technology. So that was always an option at the back of my mind when I left technology and then tried business.* (Finn)

5.3.4.2 Age

Age, as raised by six individuals, related to the person's chronological age and reflects how their age influenced their decision to change careers. For these individuals, there was a recognition that they were aging, and if they were going to make a change, it needed to be done sooner rather than later. There appeared to be a growing awareness amongst the individuals interviewed that age influenced their thought processes, as well as a suggestion that one's mid-thirties is a critical break point for such career change decisions, in the sense that it is okay to change careers when you are in your 30s but if you leave it beyond that, it will be difficult to accomplish.

> *I also was much more strict with myself in the sense that, okay, you're in your second half thirties now, if you change now that is fine, but it's the last time you change so you better think about this right now, and it better*

be good because if it isn't, you're stuck with it. It's not like you have a window of opportunity to continue changing your mind. (Finn)

As Kate explained, as individuals move into their 40s, they might need to accept that making a career change is not as easy or possible to do as it was earlier in life. On the surface, there was also an element of the ability to keep choices open for as long as possible and avoid specialisation in any one given area.

You never know how it works in five or ten years' time, especially if you're getting older and you might need to accept as well a little bit more that you are in a specific role and it might become less easy to change careers or to do things differently. (Kate)

5.3.5 Demographic Differences

When considered from a demographic perspective, some differences can be observed in terms of who was raising what factors. Figure 25 shows the frequency of each category that raised the influencing factors.

As can be seen below, contrary to expectations, based on the sample composition, more married individuals raised organisational culture, age and industry/external event. More singles raised the factor of why not. More males raised organisational culture and industry/external events. Females raised recognition and work/life balance. More 25 to 29 year olds raised why not and industry/external event, whilst more over 33 year olds raised age. Fewer 29 to 33 year olds and over 33 year olds raised role model/peer comparison and organisational strategy respectively. More experienced hires raised organisational culture, and more graduate hires raised industry/external events. Additionally, all of the individuals who raised industry/external event made an intra-organisational career change. More individuals in their early career raised role model/peer comparison and why not. From a nationality perspective, those who were non-British raised organisational strategy and why not, whilst more British individuals raised role model/peer comparisons and industry/external

event. Finally, more expats raised why not whilst fewer expats raised industry/external event.

		Sample Total	Role Model/Peer comparisons	Organisational Culture	Organisational Strategy	Industry/External Event	Why not?	Age
Marital Status	Married	11	7	8	4	2	2	4
	Single	11	5	2	5	0	4	2
Gender	Female	6	4	1	3	0	2	2
	Male	16	8	9	6	2	4	4
Age at Change	25 - 29	8	5	3	4	2	3	0
	29-33	8	3	4	4	0	2	2
	Over 33	6	4	3	1	0	1	4
Entry Point	Graduate	13	8	4	5	2	3	3
	Experienced	9	4	6	4	0	3	3
Type of Change	Intraorganisational	18	10	9	8	2	5	5
	Interorganisational	4	2	1	1	0	1	1
Career Stage at Change	Early: 8 years or less experienced	13	9	5	5	1	6	4
	Mid: 8 years plus experience	9	3	5	4	1	0	2
Nationality	British	8	6	3	1	1	0	2
	Non-British	14	6	7	8	1	6	4
Expat Status	Expat	7	4	3	3	0	3	2
	Local	15	8	7	6	2	3	4

Figure 25: Influencing factors by demographics

In the section above, the factors that were seen to influence the decision to change careers were discussed. As mentioned, there were six categories of factors at play relating to four aspects of the knowings. These factors were predominantly organisational in context associated with the exo-system (Collin, 1990) and were, in the main, seen as negative in aspect, pushing the individual away from the engineering profession. These factors were seen to be one that

had occurred in the past or existed currently, making their focus backwards looking. In section 5.4 below, the observed facilitating factors are presented and discussed.

5.4 Facilitating Factors

To facilitate is defined as 'to make easy or easier' (Soanes and Stevenson, 2003). Besides the driving and influencing factors, a number of other factors were identified that appeared to ease or smooth the process of changing career. In total, eight facilitating factors related to three knowings – knowing-when, knowing-whom and knowing-how – were identified by 21 individuals, and these are set out in Figure 26 below. The number of facilitating factors raised varied from zero to six by individual. The factors that facilitated a career change were all seen to be positive in aspect in the sense that they were pulling the individual away from engineering and into the new occupational area.

Knowing aspect	Facilitating factor	No. of Individuals raised by	Pull/Push
Knowing-when	Opportunity	13	Pull
	Right/natural time	10	Pull
	Organisational processes	8	Pull
	Organisational structure	5	Pull
Knowing-how	Broadening assignment	10	Pull
	Experience and skills	10	Pull
Knowing-whom	Being encouraged	8	Pull
	Approached to apply /sponsored	6	Pull

Figure 26: Factors facilitating the decision to change careers

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5.4.1 Knowing-when

Knowing-when provides the temporal element to a career change decision. In the context of the participant interviews, knowing-when was not only about the timing of the change but also understanding some of the external influences on the individual in relation to the temporal aspects of the change. As such, the following four factors raised in the interviews can be seen to facilitate the career change: an opportunity arising, being the right or natural time to make a change, the organisational processes at work and the changing organisational structure.

5.4.1.1 Opportunity

Opportunity is defined as 'a time or circumstance making something possible' (Soanes and Stevenson, 2003). In this study, the concept of opportunity relates not only to the above-mentioned definition but also to a role(s) being available to apply for as well as it being deemed the right opportunity as opposed to any opportunity. For the purposes of this research and based on the analysis undertaken, opportunity is considered as something that facilitates the process of a career change, in the sense that the opportunity arose at a particular point in time which coincided with the time at which the individual was looking to make a change.

Thirteen individuals raised opportunity as a facilitating factor when questioned about their career change decision, although as one individual commented, it has to be the right opportunity that is available rather than any opportunity, suggesting that there was an element of consideration of which opportunities to pursue and which ones to ignore.

The majority of individuals talked about their career change being possible because an opportunity existed that they applied for. Some of those opportunities were clearly defined and advertised across the whole organisation, whilst other opportunities had to be found by contacting individuals in the organisation and asking them specifically what opportunities existed in their department.

I did contact quite a lot of people that I have had respect on the project engineering community saying, look just be realistic on that, this is what I have, what are the opportunities or choices here? I did the same with the CP ... and that was very helpful to inform myself of where the opportunities are. (Beatrice)

Edward saw that gaining an additional qualification afforded him the opportunity to make a change and that he was most likely to be given opportunities in the commercial arena than the technical one:

Whereas I think the MBA gave me the opportunity to make that step change. It's a bit cliché saying that, but it is the reality of it. ... (Edward)

But for Isaac, completing a MBA gave him the opportunity to look around, experience new things and use that opportunity to help him decide where to go next in his career.

It was just a sort of an opportunity to broaden prospectus and see where I wanted to go, but also had an opportunity in the MBA to consider sort of commercial versus engineering careers and how I take that forward. I actually found that although I did sort of scope things out and broaden things to locate other industries, I kept coming back to the oil industry and I found that it was the industry that, for me, provided more opportunity, and it felt fundamentally a much more exciting industry to, to be in compared to other things that I looked at. (Isaac)

Two individuals discussed in particular having the opportunity to apply for other roles in the organisation. For example, Karl chose to take the opportunity to look outside of engineering due to a lack of enjoyment working in engineering and the nature of the industry.

I had the opportunity, like I mentioned, had the opportunity to look for another role. ... the lack of enjoyment and also the fact the industry was a dying industry, I think combined and coupled with the fact that Globoil

had all these other commercial, or techno-commercial opportunities for me to move into. (Karl)

For Henry, there was an opportunity to change discipline as his technical role required him to develop some of the necessary relationship and commercial skills, and this opened up future opportunities that he pursued.

I think it is clear that the opportunity for the change existed because I started to work more and more with commercial people who needed my technical support and what they noticed that, indeed, I could also display not just a good technical work but also some aspects of my approach and personality that were very commercial. (Henry)

For Nathan, covering a maternity absence provided the opportunity he needed to gain wider experience, whereas Callum talked about an opportunity existing because someone else was off sick. These opportunities are rare and unpredictable, but, as demonstrated, can have a profound influence on the individual and their career. In both instances, Nathan and Callum were offered permanent roles in the commercial business as a result of their 'caretaking' activities in other less technical roles.

An opportunity came up in the commercial shipping department after two years in projects, and I ended up moving across there into commercial shipping; first as a shipping commercial advisor, which was mainly managing contracts, and the second half of it I stood in as you will, the overall team leader of that group whilst the team leader was away on maternity leave. (Nathan)

Only Stuart discussed a truly opportunistic move. As can be seen from the quote below, his personal circumstances brought him back to the Netherlands and by chance he secured a role in economics.

Most importantly, because I moved somehow mid-jobs, I landed this economics job because there was a big reorganisation coming up and

they needed someone at The Hague. So that was by coincidence and not by design. (Stuart)

Many individuals, as shown above, made their luck by creating and taking opportunities that presented themselves. They recognised that there may be a positive outcome by pursuing such an opportunity outside of the engineering profession and took it knowingly.

5.4.1.2 Right/Natural Time

This concept is about the temporal aspect of the change and the timing of the change. Ten individuals raised the right/natural time as a facilitating factor, with the majority saying that at the time of the change, they were looking for a new role.

For Claire, the timing was driven by her partner moving on, stating that it was a natural time for her to look for a new role. For Luke, it was less defined and more subjective with respect to the fact that he said it felt right and natural.

> *It's like when you fill a bucket with water and at some point it's full and then it feels natural just to move. So when I was in Qatar, I was six, seven eight years in a technical job and I just felt, okay, now I'm sure I'm enough saturated, of course there is always more to learn, to maybe step to commercial. So, yeah, over six, seven years my bucket filled up and then it was a natural moment to move on.* (Luke)

Conversely, for some like Beatrice, it was suggested that the timing was not right for her to continue in her engineering discipline for a number of reasons, which were deemed to be drivers for her career change decision and have been captured and discussed in the sections above.

5.4.1.3 Organisational Processes

Organisational processes in this context are concerned with the processes, policies and procedures that have enabled individuals to make a career change. This concept was raised by eight individuals, two in the context of the

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organisations' approach to succession planning, in that it actively identifies talented individuals who could move into senior leadership roles and makes additional development opportunities available to them. As Stuart notes:

> *I had like an inter-bellum where I did various jobs. I was on several projects as a Globoil representative ... I have to say that well engineering or engineering had treated me very well in the sense that they pulled me into a lot of interesting stuff. In plain English I did well, I had good performance reviews, they gave me good opportunities; however, I did feel that the stuff that I was pulled towards were more like strategy projects, etc.* (Stuart)

Karl commented that Globoil allows individuals to move across occupational boundaries freely and without too much restriction. At the time of making his career change, he was actively looking at external organisations and found that they were less accommodating to him making a change: they would rather place him in a technical role, where his education and experience to date lay, than take a risk placing him in a commercial role.

> *The thing is, the benefit of working for a company like Globoil is that someone with a technical background can move into a commercial field, and Globoil doesn't mind that because they see the skill-pool has synergies.* (Karl)

For some, their 'window' was open, and so they were making the change in line with the organisational process of internal job (open) resourcing in which individuals typically change roles every four to seven years. As in this case, some used it as an opportunity to change careers as well.

> *And I happened to see a job on Open Resourcing and my window was opening.* (Isabelle)

5.4.1.4 Organisational Structure

This concept relates to the organisation's structure and the changes that occurred as a result of reorganisations or restructures. Globoil as a whole went

through a group-wide global reorganisation in 2009-2010, and that affected a number of these individuals as most employees were required to reapply for roles either their old ones or new ones. In addition, both before and after this group-wide reorganisation, many of the smaller businesses in different countries had undergone reorganisations that have affected some of the individuals interviewed. It is important to reiterate that these changes made in Globoil did not lead to any involuntary career changers: all of the individuals had the opportunity to apply for engineering roles within and outside of their discipline (specialisation) and many took this period of reorganisation as an opportunity to change careers and apply for advertised roles in the commercial businesses.

Five individuals raised changes in the organisational structure as a facilitating factor in their decision to change careers, as Liam typifies below.

> *I made the move from what you might call hard-core engineering jobs into that C&P role as a result of a corporate reorganisation, the formation of EP Europe in 2003, so that was to a degree, foisted upon me by that, although it was quite timely as it was something that I'd been interested in for a while.* (Liam)

5.4.2 Knowing-how

Knowing-how as a facilitating factor relates to the knowledge, skills and experiences that individuals possess, enabling them to apply for positions or pursue opportunities that lead to a career change. Additionally, broadening assignments were identified as a knowing-how factor that facilitated a career change.

5.4.2.1 Broadening Assignments

Broadening assignments are defined as temporary roles in which the individual steps out of their day-to-day role or profession and undertakes a role for between two to four years in a different department or function, with the aim of gaining breadth of experience and a different perspective. It is seen by the organisation as a development opportunity for talented individuals to allow them

to add to their knowledge and skills, which will be useful when they assume more senior roles within engineering. The intention is that at the end of the assignment, the individual will return to their original department with new-found knowledge and experience.

For ten individuals, what started out as a broadening assignment facilitated an actual career change. In this way, a broadening assignment was a kind of stepping stone to a new career. Many individuals like Nathan undertook such as assignment to gain more breadth of knowledge, with the intention at the outset to return to engineering but never did.

> *When I started to make the career change, I was much more along the lines of this is a broadening experience for you as an engineer, and you are expected to return to engineering.* (Nathan)

For some, a broadening assignment provided an opportunity to experience an area in which they had a pre-existing interest. Undertaking a broadening assignment was a conscious step out, actively sought to gain exposure and try out roles in a commercial sphere. In undertaking such an assignment, it allowed the individual the opportunity to see if they liked working in that arena whilst gaining experience and testing out if they had the aptitude for it.

> *I decided that I wanted a slightly broader view and looked for a broadening assignment into more commercial options. And it was an assignment I viewed could either be just that, a broadening assignment, or it could be a springboard into other areas.* (Liam)

Broadening assignments were seen as a risk-free way of making a career change, in the sense that if it did not work out or the individual did not like the new area, they can move back to engineering with no negative consequences. As such, it links closely with the facilitating factor, organisational processes and the influencing factors of why not and organisational strategy.

5.4.2.2 Experience and Skills

Ten individuals discussed how their prior engineering experience, knowledge,

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skills, background and education facilitated their career change. It enabled them to apply for certain roles that, without that background or qualification, would have been difficult.

In some instances, their accumulated organisational knowledge played an important role in their ability to change careers internally. For example, Kate, who moved into HR initially as a technical graduate recruiter, was able to use her technical knowledge and background.

> *There was an email from my manager saying they're searching for somebody with a technical background in recruitment, is that not something for you?* (Kate)

Four individuals discussed how their experience, knowledge, skills and background put them in a unique position competitively over others. In this manner, they were using their acquired career capital and accumulated knowledge and skills intelligently. Others were acutely aware of their competitiveness and wanted to ensure that they capitalised on it rather than squandered it, in the sense that it influenced them to remain in the sector and use their acquired knowledge and experience to facilitate a career change. Some like Henry identified that they could leverage their experience and skills from the engineering world and put them to good use in the commercial business as they were able to deal with customers effectively.

> *I clearly remember the key moment of truth, if you like, I call it like that, when I travelled with the person that then was going to be my boss in a commercial role and we did a framing workshop for an important customer and I ran that and the guy was extremely impressed by the way I was conveying the message, involving the audience and the counterpart there and delivering the results. Not just the technical results, but also the business aspect implication.* (Henry)

Similarly, Nathan, quoted below, realised that by being able to bring both the technical and commercial knowledge and experience into play, he was at an advantage over those individuals who had experience in only one area.

> *What I find is that if you are able to play on both fields, both the engineering, technical and commercial, it gives you a huge advantage. And you are, and my experience so far has been you can use that advantage better in the commercial field than you can in the technical.* (Nathan)

Six individuals felt that having undertaken additional qualifications such as a MBA was something that facilitated their career change as it gave them knowledge to use in the new career field.

> *I started with my executive MBA at London business school, which was actually a formalisation of an interest I already had in stuff beyond technical which I enjoyed a lot. When I graduated in mid-2011, I started this job in The Hague and it was my first formal commercial role. The step to commercial was also, it was a bit parallel with the decision to do an MBA. So the analytical process I went through to choose for MBA also had to do with making this big investment at this point in my career and thinking what I might want to do in the future.* (Luke)

For others like Isaac completing a MBA gave him time and space to explore and identify his next steps. Having then identified areas of interest, he was influenced by a professor to use this experience and knowledge of the oil and gas industry in a commercial arena.

> *I wasn't really sure what I would do at that stage. I think I was fairly open-minded. I didn't necessarily have a view as to whether I would stay in engineering or move into something more commercial. It wasn't really locked down in my mind, but I thought I needed a bit of time to think about it, and so I came back to Edinburgh with my girlfriend and I did an MBA in Edinburgh, just a one year, um, sort of full time MBA and had a*

bit of time to sort of scope out both sorts of future roles within the oil industry and out with the oil industry. (Isaac)

5.4.3 Knowing-whom

5.4.3.1 Being Encouraged

Eight individuals specifically discussed how they had been encouraged and supported by a professional or personal contact to change careers in a number of differing ways. In most instances, these supporters were sourced by the individual, whilst in a minority of cases, the supporter came forward and made themselves known to the individual. The support offered took many forms: many of those supporting or encouraging the individuals were personally involved in decisions to change careers, providing emotional support to the individual.

> *My wife's played also a pivotal role, in the sense that she believes that I'm very good at sales and communication and that I'd be good at pursuing a career in that area, so she's obviously said that, you've got a knack for it, so should try that.* (Joshua)

Some encouraged the career changers by suggesting things they should try out as well as encouraging them to take the risk.

> *He sort of encouraged me to… I was a little bit afraid to step out of the engineering career. He sort of told me, basically, you just have to do what you want and follow your instinct, and if you want to branch out and vary, go out and try it, and then maybe you don't like it, then you go back.* (Janis)

Others acted as a sounding board, in which the individuals were able to seek the thoughts and feedback of others in relation to their current situation as well as receiving much needed support and encouragement.

> *So sitting down chatting to people who have done it, and it wasn't only my father, various contacts at other companies, consultancies or engineering firms, or financial firms. They all say the same thing. So*

mostly gathering a lot of advice from people, with much more experience than myself really helped me make my decision. (Dean)

5.4.3.2 Approached to Apply/Sponsored

Six individuals discussed how through their relationships and networks with others in the organisation, they were approached by someone or made aware of a role by someone else, and in some instances, they were asked specifically to apply for the role.

> *First the hiring manager approached me through my line saying would I be interested in applying and joining, then the usual OR process.* (Nathan)

Stuart discussed how his mentor was actively sponsoring him within the organisation and, as a result, he was able to access opportunities that may otherwise not have been available to him, which facilitated his career change.

> *He was quite instrumental and he definitely opened some doors. I mean I got the job in finance after my MBA that I don't think I would have gotten without a bit of help, it was quite a stretch. ... It was the typical role of let's call it a bit of a champion, i.e. making some connects, opening the door, giving a few references.* (Stuart)

5.4.4 Demographic Differences

When considered from a demographic perspective, some differences can be observed in terms of who is raising what factors. Figure 27 shows the frequency of each demographic category that raised the respective facilitating factor.

		Sample Total	Opportunity	Right/Natural Time	Organisational Processes	Organisational Structure	Broadening Assignment	Experience and Skills	Being Encouraged	Approached/Sponsored
Marital Status	Married	11	5	4	4	2	5	2	5	2
	Single	11	8	6	4	3	5	8	3	4
Gender	Female	6	5	4	2	2	4	3	3	2
	Male	16	8	6	6	3	6	7	5	4
Age at Change	25 - 29	8	4	4	2	2	4	3	4	2
	29-33	8	5	4	4	1	3	5	2	2
	Over 33	6	4	2	2	2	3	2	2	2
Entry Point	Graduate	13	8	6	4	3	6	5	5	5
	Experienced	9	5	4	4	2	4	5	3	1
Type of Change	Intraorganisational	18	13	10	8	5	9	9	5	6
	Interorganisational	4	0	0	0	0	1	1	3	0
Career Stage at Change	Early: 8 years or less experienced	13	8	6	4	1	5	6	7	5
	Mid: 8 years plus experience	9	5	4	4	4	5	4		1
Nationality	British	8	4	5	3	2	5	1	2	0
	Non-British	14	9	5	5	3	5	9	6	6
Expat Status	Expat	7	2	4	2	2	3	5	2	2
	Local	15	11	6	6	3	7	5	6	4

Figure 27: Facilitating factors according to demographics

As can be seen, contrary to expectations based on the sample population, more married individuals raised being encouraged whilst more singles raised opportunity, approached/sponsored and experience and skills. More females raised right/natural time and broadening assignment. More 25 to 29 year olds raised being encouraged, whilst more 29 to 33 year olds raised organisational processes and experience and skills and more over-33s raised organisational structure. More graduate hires raised approached/sponsored. All of the individuals who raised opportunity, right/natural time, organisational processes, approached/sponsored and organisational structure made an intra-organisational career change, whereas more individuals who raised being encouraged made an inter-organisational career change. More individuals in their early career raised being encouraged and approached/sponsored. More

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non-British individuals raised being encouraged, approached/sponsored and experience and skills, whilst more British individuals raised right/natural time and broadening assignment. Finally, more expats raised experience and skills whilst more locals raised opportunity. As regards facilitating factors, both the entry route into the organisation and the nature of the career change appear to affect the factors raised. Of interest is the finding that organisational factors mostly facilitate internal career changes as those individuals who changed employer and occupation raised only personal aspects, such as being encouraged (knowing-whom) and their experience and skills (knowing-what), as well as trying it out as a broadening assignment (knowing-how).

In this section, the eight factors relating to three aspects of the knowings, knowing-when, knowing-how and knowing-whom, which were seen to facilitate the career change were discussed. These factors were all seen to be positive in aspect and pulling the individual towards the new occupational area. In terms of time perspective, they were occurring in the present with an immediate impact and appear to be operating at the micro-system level (Collin, 1990).

As alluded to throughout sections 5.2 to 5.4 these driving, influencing and facilitating factors do not exist in isolation. Many are linked to and coexist alongside other factors that together affect each other. Some even are connected together to form distinct clusters of factors that appear to feed into other factors or be an output of other factors. In section 5.5 below, these clusters of factors are presented and discussed as identified from the analysis of the interview transcripts. It should be noted that the aim is not to precisely determine the relationships between these different factors, but to suggest potential relationships for future exploration.

5.5 Clusters of Factors

All but one individual interviewed discussed at least seven factors that were driving, influencing or facilitating their career change decision. These factors appear to be linked as one factor was often influenced by another. In this section, possible links between and clusters of these differing factors will be

discussed. The mean number of factors raised by the individuals was ten and many of these factors were seen to cluster alongside other factors. Overall, the average number of driving factors at play in the decision to change careers was five (range one to eight), influencing factors was two (range zero to four), and facilitating factors was three (range zero to six).

5.5.1 Coexisting Factors

When cross-referencing the data, Figure 28 shows the frequency by which the individuals who have raised x also raised y. A green square shows those factors where everyone who discussed both the factor in the row and the respective column. In those squares shaded orange, more than three-quarters of the individuals raised both factors. The reverse is not true unless specified in the table. In those squares shaded red, no-one discussed both factors together.

Overall, 27 instances can been seen where all of the interviewees raised two factors consistently together (excluding satisfaction). For example, everyone who raised interest/enjoyment as a driver also raised learning/growth as a driver. Conversely, there were 33 instances where two factors were not raised together, implying that there is potentially no relationship between those two factors. Two examples are location as a driver and age as an influencing factor; and a broadening assignment as a facilitating factor and challenge as a driver.

This visual analysis provided a good starting position from which to examine what factors were raised together. Advancement/progression and interest/enjoyment were raised by almost every individual interviewed, which accounts for the prevalence of green and orange shading in the top two rows of Figure 28. Equally, industry/external event was only raised by two individuals, and this accounts for both the green and red shading in the appropriate column and row respectively. All of the individuals discussing both of the following factors suggest possible connections exist between the following sets.

These two driving factors:

- Remuneration and advancement/progression;
- Recognition and advancement/progression;
- Work/life balance and advancement/progression;
- Learning/growth and interest/enjoyment;
- Location and interest/enjoyment;
- Family/partner and interest/enjoyment;
- Challenge and interest/enjoyment;
- Work/life balance and interest/enjoyment;
- Challenge and learning/growth; and
- Work/life balance and learning/growth.

These driving and influencing factors:

- Organisational culture and advancement/progression;
- Organisational strategy and advancement/progression;
- Why not and advancement/progression;
- Industry/external event and advancement/progression;
- Organisational culture and interest/enjoyment;
- Organisational strategy and interest/enjoyment;
- Why not and interest/enjoyment; and
- Industry/external event and interest/enjoyment;

These two influencing factors:

- Industry/external event and organisational culture; and
- Industry/external event and organisational strategy.

Knowing	Factors	Driving Factors									Influencing Factors						Facilitating Factors							
		Advancement/progression	Interest/enjoyment	Learning/growth	Remuneration	Family/partner	Work / Life Balance	Recognition	Challenge	Location	Role Model/peer comparison	Organisational culture	Organisational strategy	Industry/external event	Why Not?	Age	Opportunity	Right/natural time	Organisational processes	Organisational structure	Broadening assignment	Experience and skills	Being encouraged	Approached/sponsored
Why	Advancement/progression		17	13	6	5	4	5	3	7	11	10	9	2	6	5	12	10	8	5	10	9	6	5
Why	Interest/enjoyment	17		15	4	6	6	4	4	8	9	10	9	2	6	5	11	8	7	5	9	9	7	6
Why	Learning/growth	13	15		3	5	6	2	4	7	7	8	6	1	4	4	8	8	6	3	8	8	5	5
Why	Remuneration	6	4	3		1	1	2	1	1	4	4	2	0	2	2	2	3	2	0	3	2	2	1
Why	Family/partner	5	6	5	1		1	2	1	5	3	3	3	1	3	1	2	4	2	2	4	3	2	2
Why	Work / Life Balance	4	6	6	1	1		0	3	3	2	2	3	0	0	2	4	1	2	2	2	4	2	2
Why	Recognition	5	4	2	2	2	0		0	2	2	2	4	0	3	1	4	2	1	1	2	3	3	2
Why	Challenge	3	4	4	1	1	3	0		2	2	2	2	0	1	2	1	1	0	1	0	4	2	0
Where	Location	7	8	7	1	5	3	2	2		4	3	5	1	3	0	3	4	2	3	5	5	3	2
Whom	Role Model/peer comparison	11	9	7	4	3	2	2	2	4		5	3	1	3	4	6	6	4	1	6	4	6	2
How	Organisational culture	10	10	8	4	3	2	2	2	3	5		5	2	4	3	5	6	6	1	5	4	4	2
What	Organisational strategy	9	9	6	2	3	3	4	2	5	3	5		2	3	2	6	3	3	4	3	6	3	2
What	Industry/external event	2	2	1	0	1	0	0	0	1	1	2	2		0	0	1	1	1	1	1	0	1	0
When	Why Not?	6	6	4	2	3	0	3	1	3	3	4	3	0		2	3	4	2	1	3	4	3	3
When	Age	5	5	4	2	1	2	1	2	0	4	3	2	0	2		3	3	2	1	1	3	3	1
When	Opportunity	12	11	8	2	2	4	4	1	3	6	5	6	1	3	3		6	7	4	6	7	4	5
When	Right/natural time	10	8	8	3	4	1	2	1	4	6	6	3	1	4	3	6		6	2	7	5	3	2
When	Organisational processes	8	7	6	2	2	2	1	0	2	4	6	3	1	2	2	7	6		1	5	4	2	2
When	Organisational structure	5	5	3	0	2	2	1	1	3	1	1	4	1	1	1	4	2	1		3	3	0	1
How	Broadening assignment	10	9	8	3	4	2	2	0	5	6	5	3	1	3	1	6	7	5	3		3	3	3
How	Experience and skills	9	9	8	2	3	4	3	4	5	4	4	6	0	4	3	7	5	4	3	3		3	3
Whom	Being encouraged	6	7	5	2	2	2	3	2	3	6	4	3	1	3	3	4	3	2	0	3	3		1
Whom	Approached/sponsored	5	6	5	1	2	2	2	0	2	2	2	2	0	3	1	5	2	2	1	3	3	1	

**Figure 28: Coexisting driving, influencing and facilitating factors**

These driving and facilitating factors:

- Challenge and experience/skills;
- Right/natural time and advancement/progression;
- Broadening assignment and advancement/progression;
- Organisational processes and advancement/progression;
- Organisational structure and advancement/progression;
- Being approached/sponsored and interest/enjoyment; and
- Organisational structure and interest/enjoyment.

In order to examine these possible connections further, the transcripts were analysed linguistically for words that typically denote a causal or conditional relationship (Ryan and Bernard, 2003). The findings from this detailed analysis are presented below.

5.5.2 Arrangement of Factors

Six clusters of factors were identified centring on the following factors: interest/enjoyment, family/partner and dissatisfaction as drivers, as well as opportunity, right/natural time and experience/skills as facilitating factors. In order to visualise these clusters, a series of diagrams were drawn, as shown in Figure 29 to Figure 34 below. These diagrams show possible relationships or interactions based on the factors that were discussed together in the interview transcripts. The open end of the arrow was the factor that appeared to be an input to the second factor depicted at the arrow head. In some instances, a two-way relationship appeared to exist. For all of the following figures, this key applies: drivers are shown in green, influencing factors are in blue and facilitating factors are in orange.
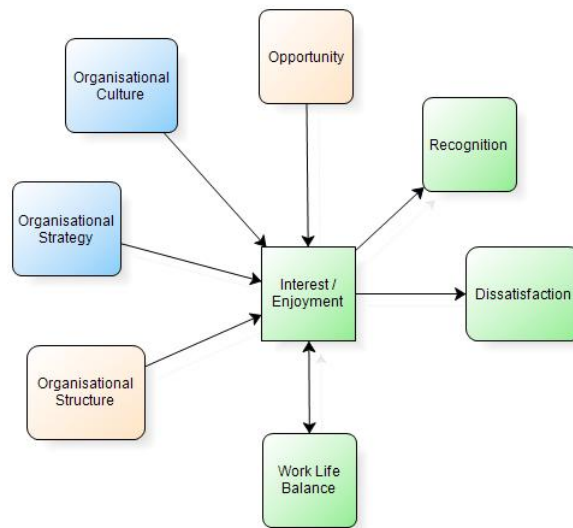
Figure 29: Interest/enjoyment centric cluster

Based on the interview transcripts, for the interest/enjoyment-centric cluster, five other factors fed into interest/enjoyment. Two facilitating factors (opportunity and organisational structure) were seen to feed into interest/enjoyment, along with two influencing factors (organisational strategy and organisational culture), as well as work/life balance as a driver. Three factors were seen as an output factor for interest/enjoyment: these were recognition, dissatisfaction and work/life balance.
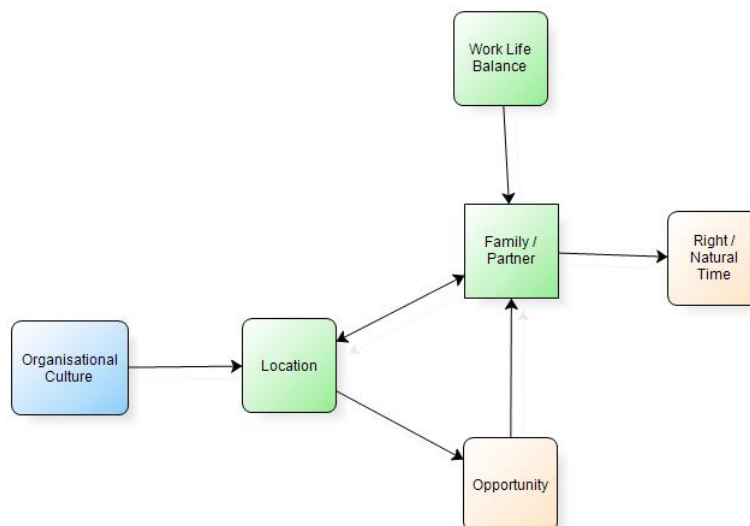
Figure 30: Family/partner centric cluster

Based on the interview transcripts, for the family/partner-centric cluster three other factors fed into it: one facilitating factor opportunity and two driving factors – work/life balance and location. Organisational culture was seen to feed into location (as a more distal factor) affecting family/partner. Two factors were seen as an output factor for family/partner: these were right/natural time (as a facilitating factor) and location as a driver. Location was seen as both an input and output to family/partner. For some individuals, location as a driver fed into family/partner as a driver, and for others, family/partner led to location as an output, as determined by the interview transcript analysis.
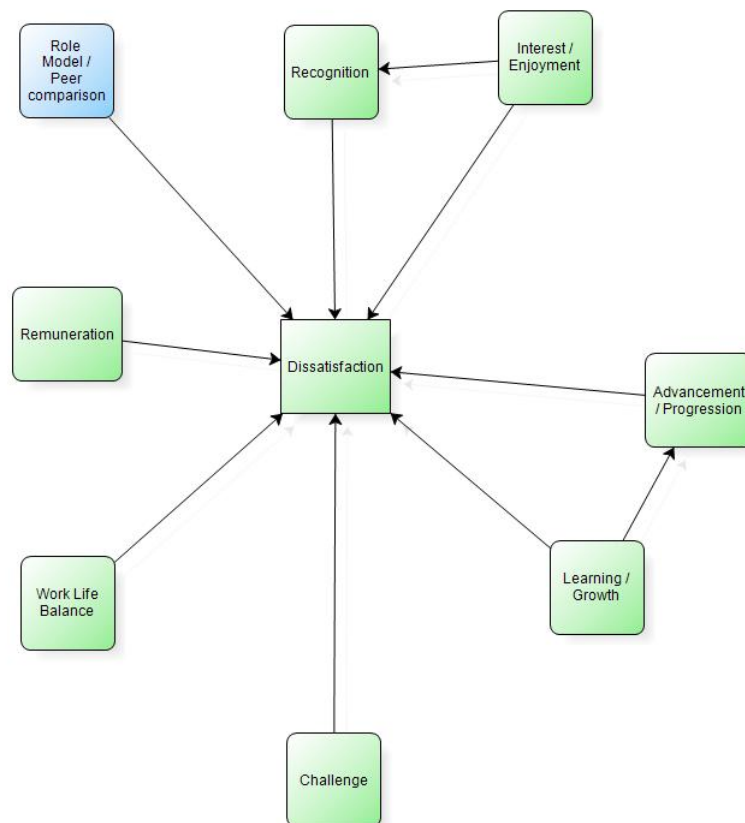
Figure 31: Dissatisfaction centric cluster

Based on the interview transcripts, for the dissatisfaction-centric cluster, eight other factors fed into it. There were seven driving factors: recognition, interest/enjoyment (which also feeds into recognition), remuneration, work/life balance, challenge, advancement/progression and learning/growth (which also

feeds into advancement/progression), as well as one influencing factor role model/peer comparison. There were no output factors for dissatisfaction, which suggests that it is possibly a proximal factor in the decision to change careers.
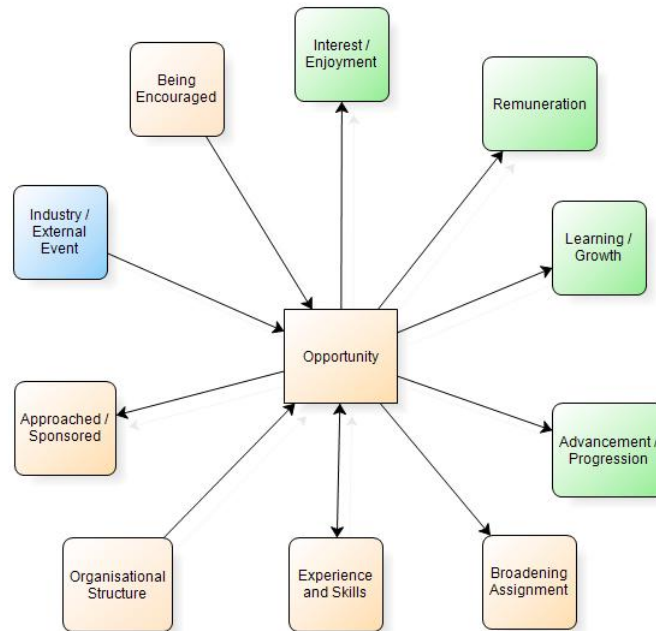
Figure 32: Opportunity centric cluster

Four factors fed into the opportunity centric cluster and another six other factors led out from it. Three facilitating factors – organisational structure, being encouraged and experience/skills – were seen to feed into opportunity as a facilitating factor, as well as industry/external event being an influencing factor. The opportunity that was presented also led to discussion of a reason for driving the career change. Advancement/progression, learning/growth and remuneration interest/enjoyment were seen as such driving factors. Additionally, a broadening assignment and being approached/sponsored as well as experience/skills as facilitating factors were seen as outputs of opportunity. One factor, experience/skills, was both seen as an input and an output to opportunity as a facilitating factor, in that one's experience/skills unlocked opportunities for them, and through taking those opportunities, they, in turn, gained experience/skills.

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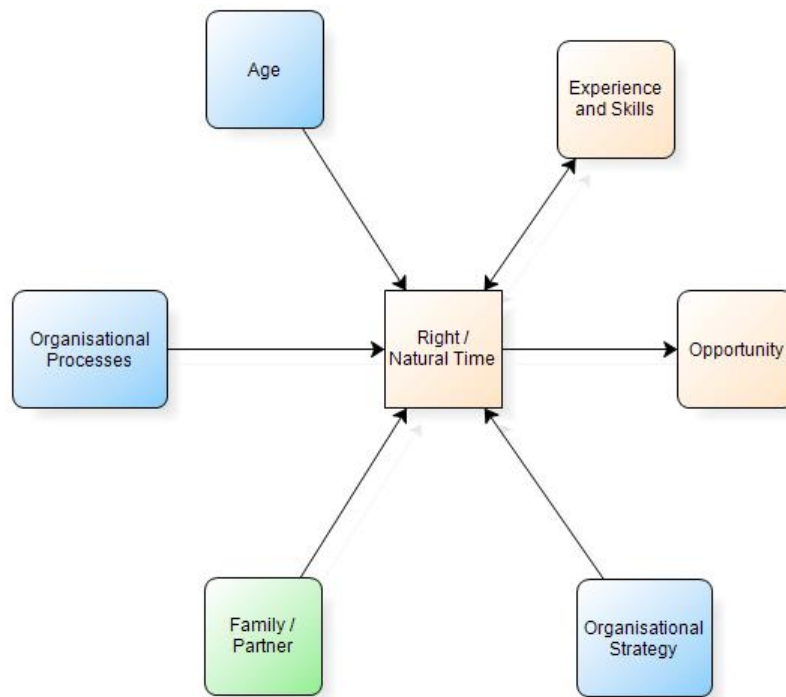
Figure 33: Right/natural time centric cluster

The right/natural time-centric cluster was made up of four factors which solely fed into it, another factor which solely led out from it and one factor which was seen as both an input and output. Three influencing factors of age, organisational processes and organisational structure together with the driver family/partner fed into right/natural time. Whereas opportunity, a facilitating factor, led out from it. Experience and skills as a facilitating factor was seen to both feed into and out of the right/natural time centric cluster; in that one's experience or skills could influence what was deemed to be the right/natural time to make a change or as an output were developed as a result of events which occurred at the right or natural time.
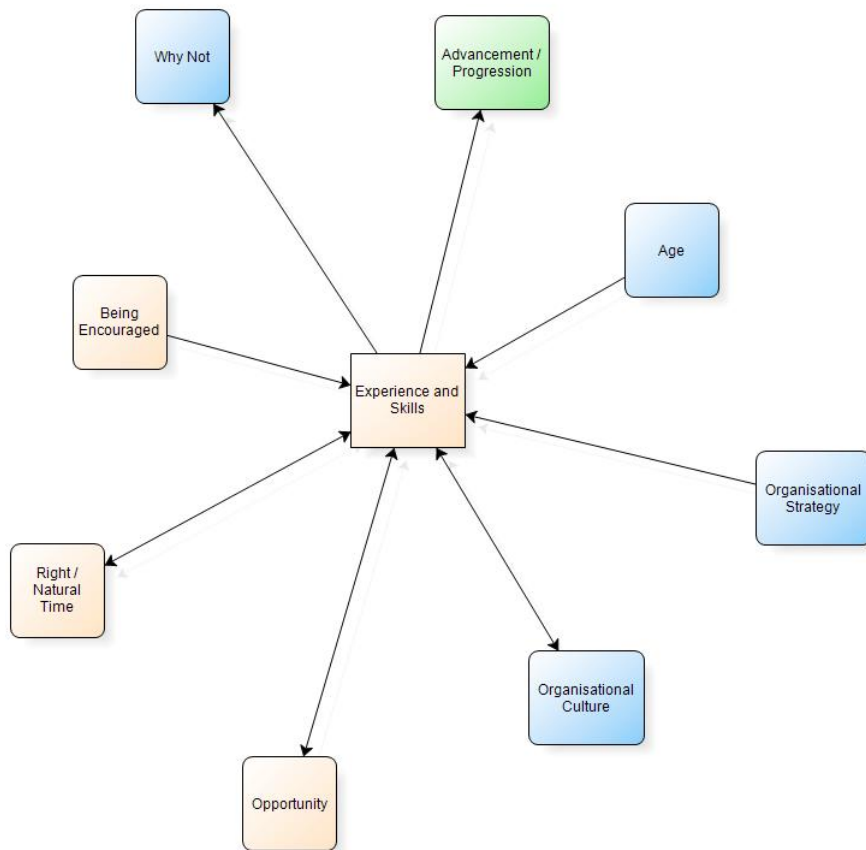
Figure 34: Experience/skills centric cluster

Based on the interview transcripts, the experience/skills-centric cluster had three factors feeding solely into it and had two as outputs, with an additional three factors which both fed into and were an output of experience/skills. Two influencing (age and organisational strategy) and one facilitating factor (being encouraged) were evident as inputs to experience and skills. Advancement/progression was seen to be an output. Organisational culture (influencing) and opportunity and right/natural time were seen to feed into and out of experience/skills.

These clusters can be combined to show a complex model of factors that interact in the decision to change careers, although it is important to stress that not every individual raised every factor shown in the model.
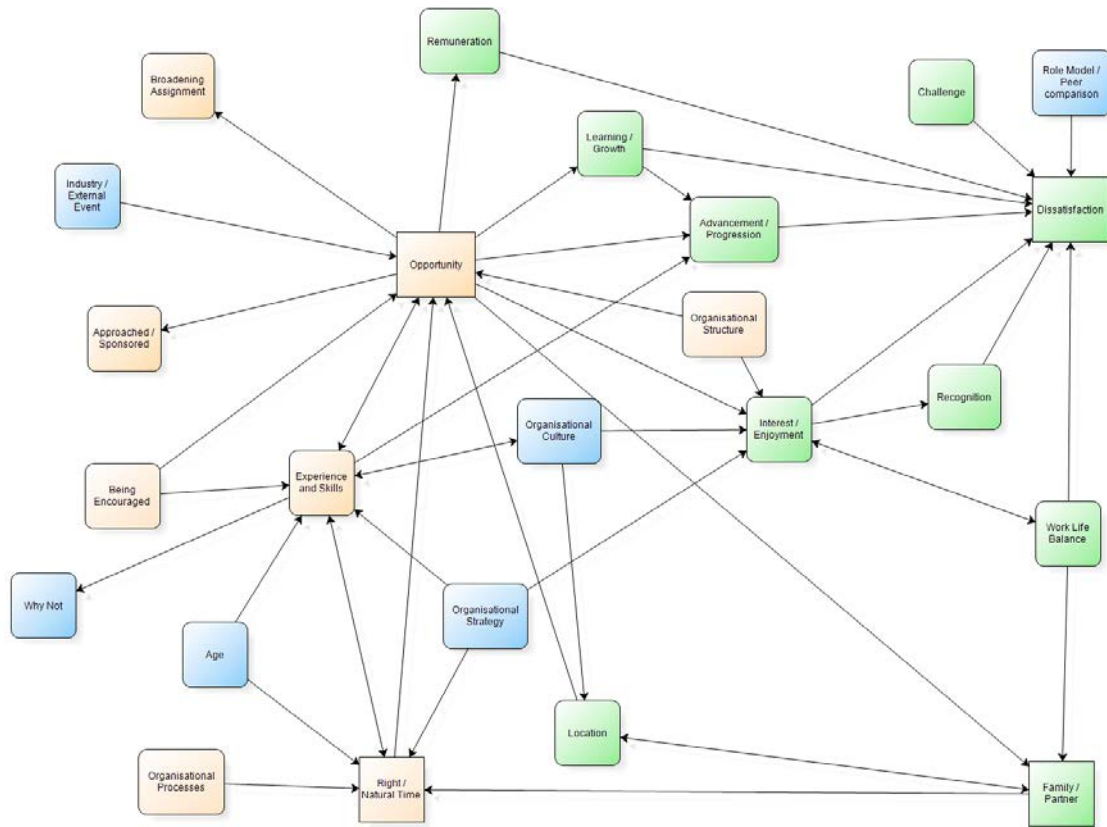
Figure 35: Combined model of factor interactions

5.5.3 Knowing Interactions

When combining the factors in Figure 29 to Figure 34 together, a combined model of interactions can be seen, as in Figure 35 above. When these factors are replaced with their respective knowing aspect, it was possible to see how the six knowings interact as part of the decision to change careers. Given that many factors were raised as a driver, an influencing or facilitating factor, it was possible to produce a simplified conceptual model (Figure 36) that shows the six knowings and how they interact. The knowing aspects driving the career change decision are shown in green, and those aspects that are seen to be both influencing and facilitating the decision to change careers are shown in red.
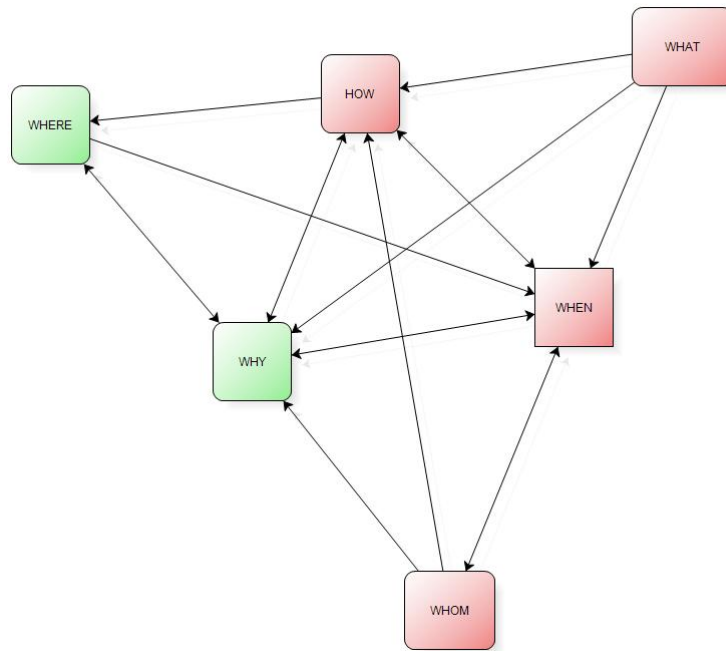
Figure 36: Knowing interactions

What is interesting in this simplified model of the knowing interactions is the presence of a central triangle made up of knowing-why; knowing-when and knowing-how, which were all seen to interact with all of the other five knowings. Additionally, an outer triangle can be seen in which knowing-where, knowing-whom and knowing-what are interacting with only three of the other knowing aspects. The factors relating to knowing-why and knowing-where were only observed as drivers in the career change process, whereas the other factors making up the other four knowing aspects were seen to both facilitate and influence the decision to change careers.

From Figure 36 above and based on the identification of the knowings relating to both self and industry knowledge, as set out in the literature (discussed in Chapter Two), it is possible to see that two aspects of self-knowledge are central to the decision to change careers – knowing-how and knowing-why – together with one industry knowledge aspect, that of knowing-when. This finding is not surprising; however, it is an acknowledgement of the important role that self-awareness plays in the decision to change careers, as well as the need to

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have industry knowledge in terms of the timing of when to make a career change.

The simplified model as set out in <u>Figure 36</u> closely corresponds to the occurrence by which each aspect of the knowings were raised in the interviews as factors involved in the decision to change careers. One exception to this is knowing-whom, which, as shown in <u>Figure 37</u> below, occurs in greater frequency than seen from the interactions model based on how the factors were raised and connected via the linguistic analysis of the transcripts.

Knowing aspect	Number of individuals who raised factors relating to the knowing aspect
Knowing-why	22
Knowing-how	20
Knowing-when	18
Knowing-whom	18
Knowing-what	9
Knowing-where	8

Figure 37: Number of individuals raising each knowing aspect

5.6 Exemplar Cases

In order to better explain some of these interactions, two cases have been selected on a random basis from 22 interviews and documented below as exemplars. These cases demonstrate the complexity and variety of factors that interacted to drive, influence and facilitate the individual's decision to change careers. These cases demonstrate not only how the factors differ by individual

but also how they affect other factors, i.e. influencing factors feeding into the drivers determining the career change decision.

5.6.1 Case 1: Liam

Liam expressed 11 different factors involved in his career change: four driving (advancement/progression, interest/enjoyment, location, family/partner) together with dissatisfaction, three influencing factors (organisational culture, organisational strategy and the industry/external event) and three facilitating factors (broadening assignment, organisational structure and right/natural time). For Liam, whilst the decision to change careers was very personally motivated, he was still seeking to obtain advancement/progression and interest/enjoyment as an outcome. There were a number of wider organisational factors at play that facilitated his change in respect of the organisational strategy and organisational structure, as well as a role that enabled him to undertake a broadening assignment. Liam's case demonstrates elements of the family/partner and interest/enjoyment clusters.

Liam, a married mechanical engineering graduate, joined Globoil in 1998 in well engineering. He undertook a number of roles over a period of around six years, at which point he decided he '*wanted a slightly broader view and looked for a broadening assignment into more commercial options*'. He joined the Contracting and Procurement (C&P) department, where his engineering knowledge was crucial. In that role, he found that he gained '*a lot more exposure to commercial discussions that previously I'd had no sight of at all*'. He undertook that role for about four years and really enjoyed it; he said he was very fortunate as it was '*a very exciting time to do that job*' and that he '*enjoyed it so much actually that I then moved away from engineering roles and have been in commercial roles of one type or another ever since*'. He explained that the critical decision came about '*a half, two-thirds of the way through this kind of pivotal assignment in contracting and procurement*'. He further explained that at the time, he was still seen by the well engineering skill-pool as a promising well engineer who had gone on a broadening assignment and who would come

back. However, he said: '*I'd reached the realisation, I think possibly partly even before I made that move into contracting and procurement, but certainly during the time I was there, that what I'd been missing in well engineering was a really decent, broad view of the business.*'

In his previous role, he was asked to design wells, but when he wanted to understand the bigger picture and how it fitted into the business strategy, the lack of explanation caused him frustration and dissatisfaction. He talked about the irony of the managers refusing to engage with him on the wider business, which in effect heightened his interest and made it more interesting (a kind of forbidden fruit). What he found in his assignment in contracting and procurement was that he got '*a much broader view of where the business was going and how that fitted in, and once I had that, frankly, it's very difficult to let go of it and I could never see myself going back to a very narrowly defined engineering role.*' At the end of that assignment, he decided to look for another commercial job and he took a decision '*to move into more hard-core commercial roles where you're slightly less connected to the technical and more connected to the corporate strategy*'.

When asked about his rationale for the change, he explained that he was immensely frustrated as an engineer because when he looked around, he '*didn't see much headroom or opportunity for progression within well engineering*' and he did not like the thought that he was '*probably going to end up being a well engineer for quite a long time to come, with the associated relatively narrow view of the world*'. He wanted to have the ability to have a wider view of the business and so '*in effect voted with my feet*'. He explained that it was difficult to pinpoint exactly when he made the decision to change career, but his move into C&P was the '*result of a corporate reorganisation, the formation of EP Europe in 2003, although it was quite timely as it was something that I'd been interested in for a while*'. At the time of the restructure, he applied for a number of different roles and secured the one in C&P. He discussed how, at the time, the organisational culture was one of sending engineers out to far-flung places that were neither desirable nor family friendly

and that played into his decision to change careers. Having undertaken the initial assignment, he found himself in a commercial role at an exciting time in the marketplace, and this influenced him to consider further more commercial roles.

Liam's dissatisfaction and lack of enjoyment coupled with his desire to progress and have a much broader view of the business (knowing-why) led him to capitalise on a chance to apply for roles outside of the engineering profession at a natural time due to an organisational restructure (knowing-when). He undertook a broadening assignment (knowing-how), which afforded him the chance to gain a broader view and gain new skills. Liam was not aligned with the organisational strategy (knowing-what) in respect of the vision for well engineering or the organisational culture (knowing-how), in which one was expected to move overseas to locations (knowing-where) that he did not consider suitable for his family (knowing-why). Liam recalled that it was an exciting time in the market (knowing-what), which helped cement his decision to undertake a change in his career and not return to engineering. At no point in the discussion did Liam make reference to any knowing-whom factors; instead, his decision to change careers was driven by four knowing-why, two knowing-what, two knowing-when, two knowing-how and one knowing-where aspects.

5.6.2 Case 2: Claire

Claire expressed 10 different factors: four driving (advancement/progression, interest/enjoyment, location, family/partner) as well as dissatisfaction, two influencing (role model/peer comparison and why not) and three facilitating factors (right/natural time, broadening assignment and being approached) involved in her career change. For Claire, the decision to change careers was personally motivated, being based on her ambitions, with the timing of the change influenced heavily by her personal circumstances, i.e. her relationship and partner's location. She capitalised on an approach that was made to her about a role as an environmental analyst, and adopted a thought process that

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was influenced by 'why not'. Her career change was facilitated by undertaking a broadening assignment at a natural point in time.

Claire, an electronics engineer by background, completed an engineering placement in the sustainability field with a UK-based, student-led organisation whilst at university. She explained that she initially chose production engineering because it was broad and not as technical as other areas. She explained that at the start, she did question '*What am I doing here*'. She found the role too narrow and was not able to see where the broader strategic decisions were being taken. She explained: '*I needed to get out of it to see that, to see where the decision-making is being done. How all the strategic thinking, where it comes from, how it's being driven, trying to take stuff top-down from the executive committee into the businesses*' and that she wanted to have a role that was '*a bit more hands-on*'.

Claire now works in a corporate role, and when questioned about the rationale for her move, she explained: '*Well, I promised myself three to five years and then I move*'. Claire's ambition from the start of her professional life was to work for a NGO in the field of sustainability. She did not feel that her degree was practical enough and so wanted to gain some real skills to use in that sector, feeling that gaining five years' engineering experience would be beneficial. She acknowledged: '*I do like the technical side of things, but I don't want to just be sizing a separator; personally, it's not something that interests me*'. Sadly, she found that '*when you've got five years of experience in production engineering, if you want to move straight into an NGO it's quite difficult*.' However, personally she still '*wanted to do a transition, towards the sustainability side*', so she explained how this corporate role is '*basically the foot in the door*', a stepping stone from which she can move into her desired area.

Her rationale for the move was driven partly by her ambition as she explained that it is very easy to end up '*following a career that isn't necessarily the one you want*'. Coincidentally, her partner '*had moved to the States, which made it quite difficult*', and he started to challenge and question her by saying: '*you

haven't talked about this in a while, do you still want to do this?' She mentioned that due to her partner's move to the US, it was a '*natural point for me to look for something else*', and so that all contributed to her decision to change careers.

She networked extensively within Globoil to identify potential roles and was finally approached about her current role. At the time, she felt that she needed to pursue it '*to test it and if I don't like it I can always come back, but I need to test it otherwise I'll regret it all my life, kind of thing because I've always wanted to do this*'. In terms of the role she is now in, she sees it as a '*win/win because it's a two-year role. I saw it as a broadening assignment*', but she does not intend to return to engineering.

Claire's strong ambitions and interest to work in the field of sustainability (knowing-why) led to her focused and determined approach to gain relevant experience and skills (knowing-how) for the future. As she gained experience in the engineering field, she compared herself to her university peers and looked for role models (knowing-whom) by which she could identify further steps she needed to take to pursue her ambitions. She was attempting to build knowledge and skills that would be transferable to her desired field. Outside of work, her partner was moving overseas, which, in part, drove the timing (knowing-when) of her decision to apply for roles outside of engineering. As part of this campaign to secure a new role in the right area, she established and built relationships with a number of key individuals (knowing-whom), who approached her when a vacancy arose. Despite still being in the early stages of a career change, she is now building on her knowing-how by gaining new and varied experiences working in the environmental arena, in which she is able to build and maintain new relationships with NGOs, further building her knowing-whom investments for the future. At no point in the discussion did Claire make reference to any knowing-what factors; instead, her decision to change careers was driven by four knowing-why, two knowing-whom, two knowing-when, one knowing-how and one knowing-where aspects.

Whilst these are only two cases, they typify many of the career stories conveyed by the 22 individuals interviewed. As these two cases illustrate, there are a variety of factors spanning a number of the knowings involved in the decision to change careers. Both cases provide evidence of combinations of factors identified by this study. Liam's case exhibits some of the family/partner and interest/enjoyment clusters whilst Claire's case displays elements of the family/partner and experience/skills clusters. Both, however, demonstrate that whilst many of the driving factors are personal, the influencing and facilitating factors were seen to be organisational in nature, allowing a career change to occur at a particular point in time.

5.7 SUMMARY

In this chapter, nine driving factors with both positive and negative aspects have been discussed: advancement/progression, interest/enjoyment, learning/growth, remuneration, family/partner, work/life balance, recognition, challenge and location. Of those factors driving the decision to change career, eight were related to knowing-why and one to knowing-where. Every individual raised at least one knowing-why aspect, making it the key component driving the decision to change careers. Most driving factors are subjective, intrinsic and of a personal nature, with both positive and negative aspects pushing and pulling the individual into the new career area as well as being predominantly future orientated in outlook. Career stage and expatriate status appeared to affect the driving factors raised. In addition, dissatisfaction with other factors was evidenced from the interview transcripts.

Furthermore, six influencing factors that were predominantly organisational in context were identified as being important to the individual's decision to change careers. For the factors influencing the decision to change careers, two related to knowing-what, two to knowing-when and one to each of knowing-how and knowing-whom, demonstrating the complexity and variety of influencing factors at play for those individuals interviewed in this study. These influencing factors were observed to be mainly negative in aspect, pushing the individual away

from engineering. As they were organisational in nature, many are out of the control of the individual, and, as such, they are unable to be managed by the individual, denoting that these individuals could only respond to them in an appropriate manner. They related to a temporal aspect that was either past or present.

In addition, eight facilitating factors relating predominantly to knowing-when, knowing-how and knowing-whom were identified. The most frequently cited facilitator of a career change was having an opportunity, an aspect of knowing-when. From a temporal perspective, the right/natural time to make a change was also a facilitator, which worked together with aspects such as the organisational processes, like open resourcing. Broadening assignments, an aspect of knowing-how, played an important role in facilitating a career change; for many individuals, their career change journey commenced with a broadening assignment and then, either by design or coincidence, became a career change. Additionally, a number of individuals were approached or sponsored by someone or supported in a number of ways by others, both of which relate to knowing-whom as a facilitating factor. These facilitating factors were all positive and pulling the individual by nature, as well as being present or future focused. The entry point and nature of the organisational change appeared to affect the facilitating factors raised.

A broad range of factors at play in the decision to change careers have been discussed. These relate to not only personal factors but also to the little studied organisational factors. An interesting temporal dimension has also been shown to exist in relation to the factors that play into the decision to change careers, in that the driving factors that were deemed push factors related to the past or present (e.g. interest/enjoyment or challenge), whilst those that were pull factors (e.g. family/partner) were more future orientated in outlook. The identified influencing factors were mainly push factors by nature and related to the past or the present, whilst the facilitating factors were pull in nature and related to being present or future orientated. Not only do the different factors have different roles (driving, influencing or facilitating), they also appear to have a different temporal

perspective associated with them. When this is translated into the six knowings, it is shown that knowing-why and knowing-where are associated with all temporal dimensions (the past, present and future), knowing-whom with only the present, knowing-how and knowing-what with the past and present and knowing-when with the present and future.

This chapter concluded by examining how some of these factors are evident in combinations or clusters based on the analysis of these interviews. As a result, three knowing-why as well as one knowing-how and two knowing-when clusters were identified. This was further demonstrated and discussed in relation to two cases that both exemplify the complexity and variety of factors involved in the decision to change careers. Having considered these factors, the combinations of knowing factors from an intelligent career framework perspective were discussed. This allowed an insight to be made into how the six knowings combine in instances of career change. The dominance and centrality of knowing-why, knowing-how and knowing-when in the decision to change careers was clearly evident. In the next chapter, the focus switches from the driving, influencing and facilitating factors to that of the process of career change from both a physical and psychological perspective.

6 CAREER CHANGE PROCESS

In this chapter, the process of career change is described. In section 6.1, the physical process of changing careers is set out based on the steps taken by the individuals to enact their career change. In section 6.2, the various routes or sequences taken by individuals through this end-to-end process are discussed, highlighting some of the differences seen and how these relate to the factors outlined in Chapter Five. In section 6.3, two cases are presented to demonstrate different physical processes in existence, and in Section 6.4, some of the identified psychological aspects of the change process are set out.

6.1 The Physical Career Change Process

In this section, the focus turns to understanding the actual physical process of change as experienced by the career changers. The participants' responses revealed that the actual career change decision process was: composed of a number of distinct steps; followed a number of different routes; and took at least 12 months and, in some cases, many years to go through.

It is important to note that whilst these steps are written sequentially and appear to depict a linear process, this was not the case in reality. There were many possible routes through the career change process, and these will be discussed in section 6.2. As such, what follows should not be considered as a linear process, as that would not be a true representation of the long-drawn-out and complex process experienced over many months or years by the career changers interviewed. Figure 38 below shows the physical career change process identified in this study. Each of these steps will be discussed in turn.
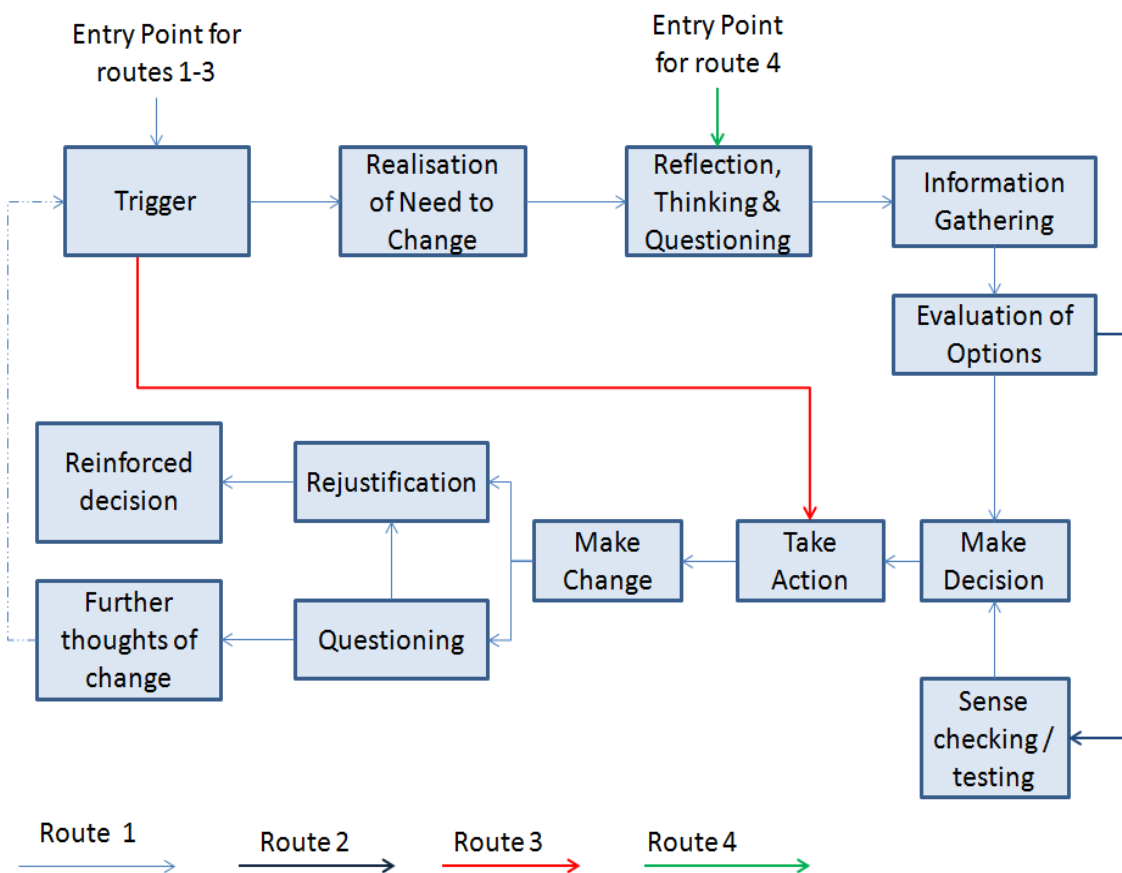
Figure 38: The physical career change process

6.1.1 Steps in the Process

6.1.1.1 Trigger

For all 22 career changers, a trigger occurred, which formally started the career change process. The triggers took a number of different forms: for some it was rising dissatisfaction or frustration in relation to another factor, for others the trigger related directly to an external event, such as a reorganisation (knowing-when), or a personal event, such as a partner relocating (knowing-why), whilst for others again, it was being presented with an unexpected opportunity or it was the right or natural time to change (knowing-when).

For many career changers, the trigger metaphorically tipped the scales. In advance, there was an accumulation of drivers, influencing and facilitating factors, which, when combined with a trigger, provided sufficient rationale to

make the change. There were some cases where the individuals persisted for a number of years in engineering knowing that they were not happy until an event or circumstance (e.g. poor health) finally led to them starting the process of changing careers. In these cases, it was clear that individually the drivers were insufficient to initiate the career change process. Hence, the analogy of a set of scales can be used, in which the triggering factor became the 'final' weight that tipped the balance. Just like the drivers, these triggers can be viewed as either a negative or a positive trigger in the sense that they are pushing individuals away from engineering or pulling them towards something else.

For 18 individuals, the initiation of the career change process commenced with a continued sense of dissatisfaction or frustration with regard to a specific driver, as discussed in section 5.2.3.

Twelve individuals suggested that an opportunity (knowing-when) was the trigger in their career change process.

> *I think it was a little bit when you don't know what you're looking for, and all of a sudden you find it and you say, oh, that's what I really want to do.* (Henry)

Five individuals suggested that an organisational restructure (knowing-when) was the trigger for their voluntary career change, as the quote below illustrates.

> *The trigger for moving careers within Globoil to a big extent was the transition, I didn't agree with where the discipline in the transition was going, I said, well I need to find another job inside Globoil or outside Globoil, let's see how things turn out, and I end up on this.* (Beatrice)

Four individuals discussed how personal reasons, such as partner moving overseas, having a long distance relationship and having a period of stress leave absence (knowing-why) were the triggers for their career change.

6.1.1.2 Realisation of the Need to Change

Almost all of the career changers discussed the point in time when they consciously realised that they needed to make a change. For many during the period of time leading to this realisation of the need to change, the issues were bubbling under the surface often unconsciously. The driver(s) of the change and what led up to that point vary, but almost all discussed how this realisation had been preceded by a trigger.

For some, the realisation was professional, i.e. it followed a broadening assignment (knowing-when), whilst others identified that they needed to make a change to realise their career ambitions (knowing-why). For Janis, reading an article a journalist had written about her 'adventurous life' as an engineer in remote locations of the world led to the realisation that this was not the lifestyle she wanted to follow and that she needed to change careers. What followed was a period of questioning and reflecting (which is the next step in the process to be discussed below).

> *When I read it I was like, do I really… It's really exciting to be pinpointed as an adventurous engineer going to spend time in these locations but is it really what I want to do and do I really want to be in these locations away from my family and my friends all the time?* (Janis)

For others, the realisation was personally driven, and it followed a difficult period. For Isaac, the realisation came whilst working overseas; being apart from his partner meant that their relationship was being affected by work.

> *I think it came to a head as we were in Australia from a personal perspective and it was clear in months the leading up until the point at which I decided to step away that I didn't have a huge amount of time before the whole thing would sort of unravel. So there was a process over a number of months, certainly, where it became clear that I had to make that decision.* (Isaac)

For some, the trigger and realisation occurred instantaneously; for others, the realisation of the need to change occurred over days, months or even years, as in the case of Dean.

> *Over the few years that I was there slowly got to realise that, 'Okay, I can effect change within this small company, but this company that I'm working in can't effect change in the actual industry, which is what I really want to do.'… so I want to get to a position where I can do that.* (Dean)

6.1.1.3 Reflection and Questioning

All 22 individuals discussed the need to take time to reflect and question themselves. During this phase, they were asking questions such as 'Who am I?' and 'What do I want to do both now and in the future?'

This stage of reflection and questioning was not only just about themselves, their desires and motives (knowing-why), but also about the future career paths available to them (knowing-what). On average, this step lasted about 12 to 24 months, with some like Liam suggesting the thought process had been going on for years. This step was pivotal in their career change as it gave them direction in which to gather information and seek out the support of others (knowing-whom) as well as the understanding of what they as an individual wanted (knowing-why).

> *I became convinced that engineering wasn't it and then that changed more and more towards, okay, so if that's not it, what else?* (Stuart)

The events that led to this point in time varied based on the trigger and realisation of the need to change. For some individuals, this was a self-imposed period of reflection, taking time out to really contemplate the future both personally and professionally. This was often accompanied by a period of formal study, with the MBA being a qualification of choice, as the quote below demonstrates.

> *I wasn't really sure what I would do at that stage. I think I was fairly open-minded. I didn't necessarily have a view as to whether I would stay in*

engineering or move into something more commercial. It wasn't really locked down in my mind, but I thought I needed a bit of time to think about it and so I came back to Edinburgh with my girlfriend and I did an MBA. (Isaac)

For others, being confronted by someone close to them (knowing-whom), a reorganisation (knowing-when) or having an article written about them led into this period of reflection. Two females discussed how they were facing difficult times emotionally due to stress or bereavement (knowing-why), and how this made them stop and reassess their own lives.

And then I said, 'Okay, what do I do?' I always like this combination of things, and CP felt like the right fit. I thought CP projects, it was this role also central, and the decision there was actually more on the personal side. I went through a very difficult one year, relatives were passing away and all that, and so it's not the right timing for me. (Beatrice)

6.1.1.4 Information Gathering

Having undertaken a period of reflection or questioning, the next step involved information gathering. Nineteen individuals sought additional information with the sole purpose of informing their later decision(s). The information they gathered varied as did the sources they approached. For some, it was purely talking to individuals, whilst others conducted internet-based research. Most of the information they were gathering was targeted towards a specific role or area for which they had an interest or curiosity.

For two individuals, it was the personal views, experiences and reflections of others that they were seeking in order to inform their decision to change to a commercial role. They were taking a backward-looking approach in respect of someone else's career (knowing-whom) and analysing it in order to inform their decision.

That particular decision, again, really came down to talking to a few people in the industry, and getting their views. Getting their experiences,

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looking back at their careers; what did they think was helpful, what did they think were the mistakes they made, and what they would see as the best way of doing it. (Nathan)

Others, however, took a future-orientated approach by predicting what the future would look like. They were concerned more with gaining a broader overview and a future outlook. In essence, they were trying to understand what the future as an engineer looked like, and compare it with what life would look like in a different area.

I did a little bit of research around what was the shape of the organisation at that point, what sort of roles might I aspire to in 10 or 20 years' time as a well engineer, what was the equivalent opportunity set that might be open to me in a more commercial role, and you can just do a quick comparison of those. I looked at what geographic locations might I expect to have access to in both sorts of roles. (Liam)

Some focused on trying to obtain a full picture about what certain roles would entail, what skills they could expect to develop in that role (knowing-how), what opportunities it would open up and where they might be working (knowing-where). This involved them speaking mainly to individuals in a role they aspired to or to hiring managers (knowing-whom). Others openly talked about quite an extensive information gathering process, which involved internet research, reading blogs, speaking to individuals and reviewing job adverts, whilst others just spoke to individuals.

I did a lot of research on the internet, and the internet seemed to confirm what I felt. I made the decision quite early on, so I made it after doing the internet research, and the only other decision for me was really to trade-off, the economic trade-off, so it was really understanding what opportunities will I have if I actually move, and how those opportunities grow in terms of economic trade-off. (Gordon)

6.1.1.5 Evaluation

Having gathered all of this information from various sources, the individuals discussed how they undertook an evaluation in which they considered the options available to them. There were clear differences in the evaluation process. Sixteen individuals took a very objective and analytical, data-driven approach whilst four others took a more subjective, instinctive and almost opportunistic approach. For these individuals, the evaluation was based on feelings and reacting to an opportunity, although a couple of them did follow up objectively to reinforce their decision.

> *Obviously the decision was two sided; if you like, my decision was very quick. I'm a very instinctive person. I base my decisions often on instinct, a gut feel, so if you want, in a few days or weeks I had already decided that's what I wanted.* (Henry)

Interestingly, for Peter, a subjective evaluation was made and then an analytical process used to confirm their earlier evaluation. In this instance, he says that he jumped at it, but wanted to make sure others identified with his reasoning.

> *I just jumped at it, emotionally and then I checked that it wouldn't be career suicide and then I went for it. ... Well I had really already had a strong sense that I had decided that this was right for me.* (Peter)

For Dean, the evaluation was more analytical and objective, taking considerably longer to complete. Others including Dean talked about how they recorded their findings in spreadsheets to aid the decision-making process

> *I was very analytical about the whole thing. I've got quite an analytical mind set, and it helps me to simply give scores to stuff to eliminate obvious bad choices, or put obvious good choices to the front, and that really helps for me. ... I'd have a list of companies, that sort of thing and I'd go through pay, training, future options, fun, taking account of past experience, brand name, that sort of thing, and applying weighted and un-weighted scores to them.* (Dean)

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In two instances, an evaluation process was not undertaken, for one individual an opportunity that had arisen was considered too good to miss, and he moved immediately to taking action thereby bypassing any of the earlier steps in the process. In another instance, the decision to move to be with a partner meant that the individual seized the first opportunity offered without any real evaluation process taking place.

6.1.1.6 Sense-checking/Testing

Having evaluated the options, 13 individuals then chose to undertake some form of sense-checking/testing with others in order to test out their decision to see if the individuals they had approached agreed with their conclusion. In testing it out with individuals, there were a few conditions to be met, in the sense that the individuals had to be trusted; be working in that role or be close personally to the individual. For some, it was important that they spoke with someone who had been in a similar situation or were in a similar role and had experienced what they were personally going through in order to provide validation for their decision. All clear evidence of knowing-whom.

> *And test the logic; just because you think something is the right decision now, it doesn't necessarily mean it's the right decision for the right reasons in five or ten years' time.* (Nathan)

For others, it was testing it out with those close to them, seeking their advice and honest feedback from a personal rather than professional perspective as they saw that their family were able to give the necessary support and encouragement that a colleague could not give.

> *I was asking advice, my parents, my wife, my in-laws, cousins, about whether this was a good move to make in their eyes and they all echoed my mentor, as long as your heart's in it. I mean as long as you enjoy what you're doing then it's fine.* (Karl)

Nine individuals made their decision to change careers without reference to anyone else, where they was potentially an opportunity for them to sense-check or discuss their decision with others.

6.1.1.7 Making the Decision

Having evaluated the options and/or having tested it out with others, the actual stage of decision-making was finally reached. Eleven individuals were able to clearly define the point in time when they reached the decision to change careers. Having completed a broadening assignment (knowing-when) in Contracting and Procurement, Liam, upon needing to look for a new role, made the decision to continue in the commercial arena and detach himself even further from engineering, thus cementing his career change.

> *I took a decision at that point to look for an even more commercially focused job. ... I then took a decision basically to move into what you might call more hard-core commercial roles where you're slightly less connected to the technical and more connected to your corporate strategy and everything else.* (Liam)

For others it was less clear-cut: it was not an active decision or one that they considered that they had taken; the change occurred as a result of their inactivity or time away from engineering. In other words, they were passive and the decision was made for them by Globoil.

> *I do think that the decision will probably have already been made for me and it may be too late to get back into technical.* (Hannah)

6.1.1.8 Taking Action

After taking the decision to change careers, there was a further step in the process undertaken before completing the change, which, as seen, can take months as the individual prepared to change. Nineteen individuals outlined the actions they needed to take before they could actually career change. These ranged from gaining additional qualifications, to discussing opportunities with a wide range of people, to searching out potential vacancies, to pursuing

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opportunities that crossed their paths, to applying for roles being advertised, to working very closely with commercial folk and gaining relevant experience.

For seven individuals, this involved undertaking a MBA before or whilst making the change (knowing-how). The MBA gave them the knowledge and opportunity to explore commercial areas. Five of the seven undertook the MBA whilst working and being sponsored by Globoil. The other two had essentially resigned from their previous company and were undertaking the MBA as full-time students and had decided to make the change after completing the qualification. Both of these individuals joined Globoil as experienced hires in the commercial arena. One knew he wanted to move into the commercial field prior to doing the MBA; the other was unsure when starting the MBA where his future would lie, but subsequently joined commercial and has not looked back since.

> *I had an opportunity to go to one of the top MBA schools, so that was part of the element of it. ... Whereas I think the MBA gave me the opportunity to make that step change.* (Edward)

For five others, the preparation was more about applying for roles as they appeared on the internal job system and then following through with the usual application, interview and offer process for securing a role.

> *I happened to see a job on Open Resourcing, and I showed it to one of my colleagues who was a very experienced engineer, was a kind of a bit of a mentor, and I just said, 'Do you know what, I really like the look of this job', and he said 'That is you, I think you should apply and see what happens'. ... and I got the job.* (Isabelle)

For five individuals, it was being made aware of an opportunity that was available directly or indirectly (knowing-when) and then following up by having conversations with the hiring line manager to explore further, before submitting a formal application.

> *It crossed my way ... one of them mentioned to me that she had been interested in a recruiter role and... had decided for herself it was not the*

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right thing ... but wouldn't it be something for me? And so I somehow got talking to them and then moved very quickly from there on. (Peter)

Henry devised a strategy to help him change careers. He began to work very closely with the commercial area he was interested in joining and started to broaden the scope of his work to demonstrate his capabilities to potential managers in the commercial arena, in the hope that they would see him and be supportive of him making the switch.

I had to build alliances on the commercial side that would pull me in order to convince my technical management to let me go. ... So a lot of effort went into demonstrating before the change that I was able to do that, with potential positive results. There really, it was a very thorough exercise and discussions were run through with my future colleagues trying to understand how to make me succeed. ... So, in a nutshell, I started to work together with the commercial guys already during my technical time. (Henry)

6.1.1.9 The Change

At this point in time, all 22 career changers left the engineering profession and moved into a new role. For some, the process of change had initially started as a broadening assignment of varying duration several years before. At the end of that assignment, it was clear that this was going to be a permanent change in career, as they did not return to engineering but choose to pursue another commercial or functional role.

It's difficult to pinpoint it down to a specific moment in time. I made the move from what you might call hard-core engineering jobs into that C&P role as a result of a corporate reorganisation. I guess you could argue it was the point at which I decided at the end of that time not to return to an engineering role but to pursue more commercial roles. And I think I'd had so much fun in that C&P job that that decision was probably quite quick, but I guess the thought process behind it had probably been going on for a few years. (Liam)

Some left engineering and moved directly into a commercial role, whilst others started in a commercial or financial role upon completion of their MBA.

> *By that time my mind was already made up that I will need to move into commercial roles, and that's where I saw future challenges for me. I felt like my technical role had become quite monotonous, so I made up my mind to leave the company; I did an MBA and I switched to a commercial role.* (Gordon)

It was clear that making the change was not the end point in their career change process for the 22 individuals interviewed. Many talked about what had happened since, and from these discussions some additional steps post career change were distinguished as part of the process of making a career change. Whilst some individuals made the change and never looked back, others reflected on their decision, questioned their decision and considered either moving back into engineering or looking to make another change. For four individuals, it was clear that they needed to convince themselves that they had made the right decision, a kind of rationalisation process. This served to reinforce their decision. For others, the questioning was almost commencing the process again, and looking to potentially make a further change. These post change steps are set out in sections 6.1.1.10 to 6.1.1.12 below.

6.1.1.10 Further Questioning

For some individuals, the period after making the change was not always comfortable. The change was not the end point in their career change journey, and there was a subsequent period in which they continued to question themselves about their career change decision. There was a period of transition and settling in after the change, but some, even after four to six years in the new area, were questioning their decision. As Claire's quote below exemplifies, the post change period can be difficult.

> *And it's also what is scary now even with this role, you're like, 'Did I make the right decision? Is it really the right thing to do? Is that taking me*

in the right place or not? Where am I taking it next?' It would have been
so much easier to stay where I was, basically. (Claire)

6.1.1.11 Re-justification/Reinforcing the Change Decision

For nine individuals, even after several years out of engineering, there was
evidence of the need to re-justify their decision to change careers to
themselves. Explaining this justification was like they needed to reinforce the
decision and convince themselves it was the right thing to do. For some, it even
felt like they were denying that they had left engineering and made a career
change.

> *I consider myself to be at a fork in the road ... I think deep down I know I*
> *have made a career change, but I just haven't accepted that I have made*
> *it. In some ways, I tell myself it's just like a side step for a while, and I will*
> *go back again, but in reality I think it's too late now to go back.* (Hannah)

6.1.1.12 Further Thoughts of Change

Despite having made one career change, nine individuals were considering
making another change in the future to enable them to realise their career
aspirations. They discussed how this second change may not appear as
dramatic as the first change, i.e. leaving the engineering profession, but that it
would be a career change in their minds all the same.

> *Yes. As I've spoken to you about, I've got the technical background, got*
> *that pretty much bolted down, I think the commercial piece is a key part*
> *and a critical part which I need to develop, and then as I said I'd like to*
> *move into more of a strategic leadership role longer term. So I would see*
> *that as a change of direction or a change of career I would imagine.*
> (Callum)

Some individuals, stated that they now recognised the warning signs or had
learnt from their first experience and would do things differently a second time
around, proposing that they would move much sooner. There was a certain

level of confidence in having made a career change, which meant subsequent changes were less frightening.

Having set out the steps involved in the career change process above, the next section considers the various routes seen from the 22 career changers' accounts.

6.1.2 Sequencing of the Physical Career Change Process

As mentioned in section 6.1, the steps involved in career change occur in a number of different sequences. Based on the findings from the interviews, it was evident that there were four different routes through which the individuals commenced and progressed through their physical career change process. Whilst Figure 38 above shows the whole career change process, Figure 39 to Figure 42 outline the various routes taken through the change process.
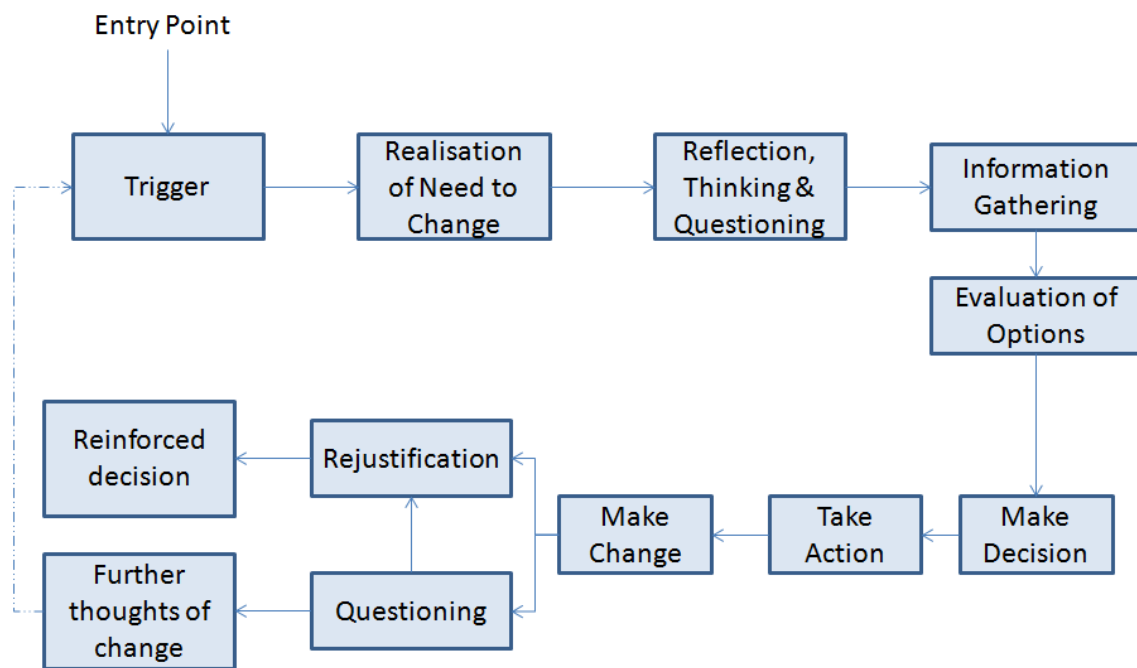
Figure 39: Route 1 through the change process

Three individuals described a short, simple, linear sequence (Route 1), whereby following a trigger, they reflected before gathering information and evaluating the options before making a decision, taking action and making the change. Post career change, the steps of re-justification and questioning were seen.

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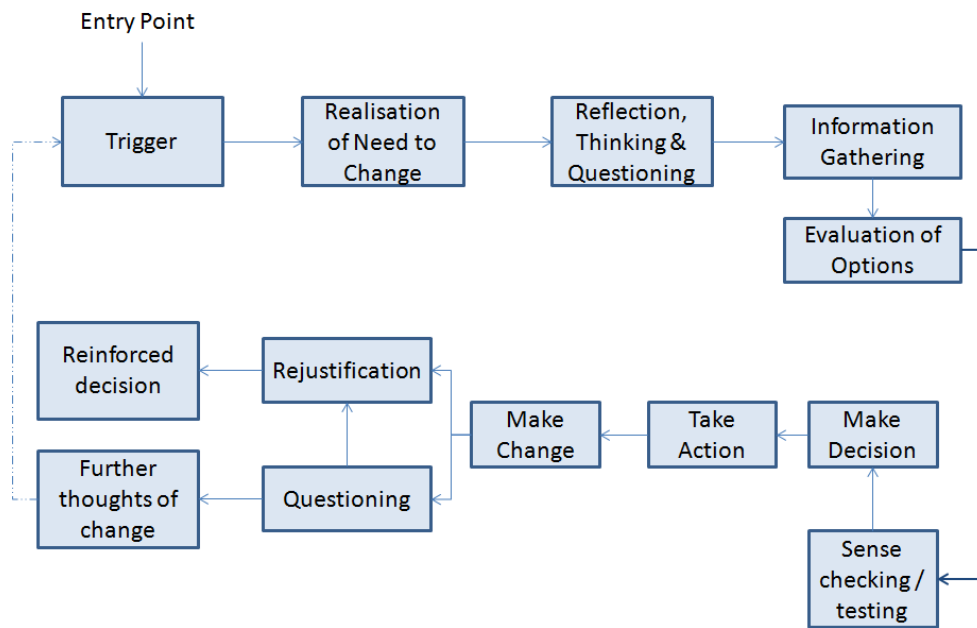
Figure 40: Route 2 through the change process

Twelve individuals followed Route 2, which is identical to Route 1, with the additional step of sense checking, in that, following a trigger, they realised that they needed to make a change, which led to a period of reflection before gathering information, evaluating that information and undertaking some sense checking before making a decision, taking action and making the change.
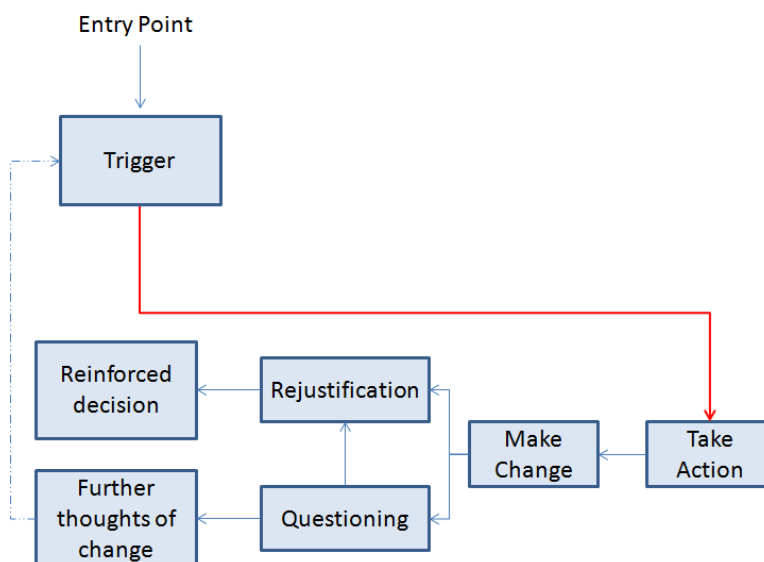
Figure 41: Route 3 through the change process

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Four individuals followed Route 3 . An opportunity was presented (trigger); they took some action, usually applying for the role, and over time found that they had made a career change. This route was short and essentially missed out all of the reflection/questioning, information gathering, evaluation and decision-making steps.
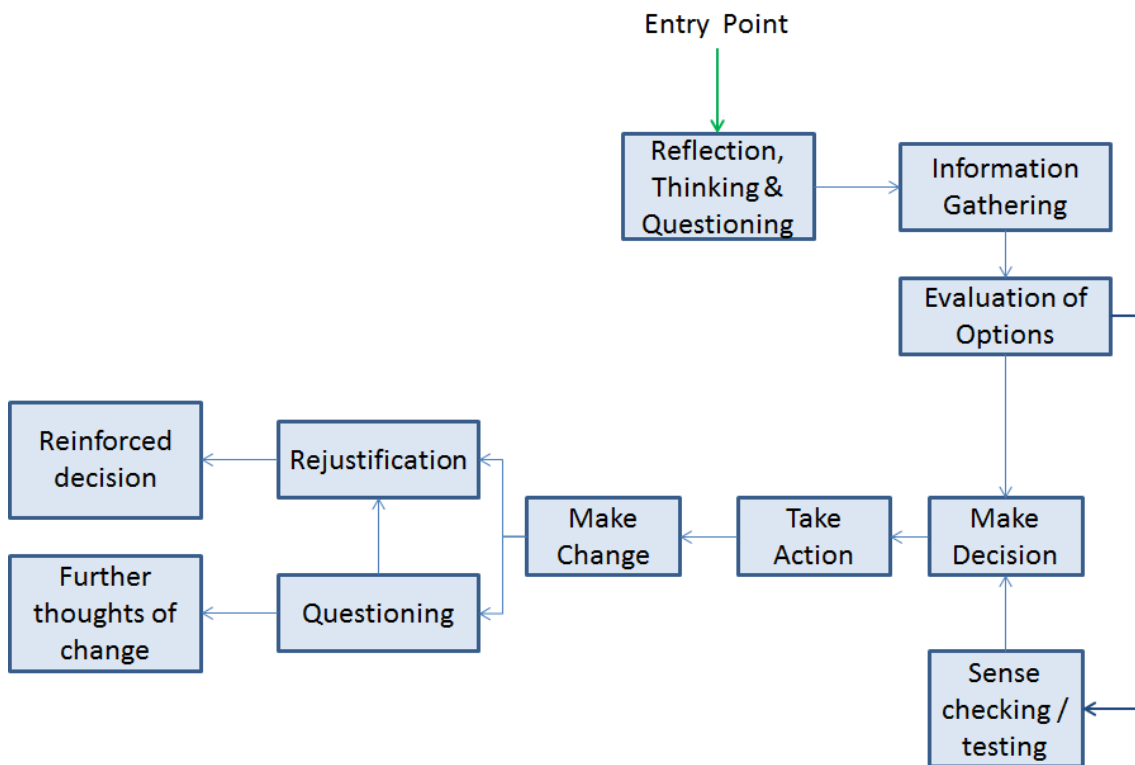
Figure 42: Route 4 through the change process

For three individuals, there was no real trigger; it was a natural point in their career to make a role change. They were naturally looking to change roles based on the organisation's processes (knowing-when) and they took the opportunity to either reflect on their career before moving forward or jumped straight into the information-gathering stage before evaluating the options after which two sense-checked their thoughts before making the decision, as evidenced by Route 4 above.

As has been discussed above, the process typically commenced following a trigger and followed one of three main routes. There was evidence of a second

entry point (Route 4) for those individuals where there was no trigger, rather just the natural inclination to look for a new role.

6.1.3 The Career Change Process through the Intelligent Career Lens

When examining the process of career change as depicted by the model derived from this study set out in <u>Figure 37</u>, it is evident that at various steps in the process, varying aspects of the knowings come to the fore and influence the actions taken within each step as discussed below.

The trigger (step 1) that commences the career change process for most individuals was driven by factors associated with dissatisfaction in relation to a number of different factors, such as advancement/progression (knowing-why), the right or natural time (knowing-when), a broadening assignment (knowing-how), an opportunity (knowing-when) or an organisational structure change (knowing-when). This is a key finding as it demonstrates that the trigger does not always have to relate to a knowing-why reason, it can also be related to a temporal aspect in relation to knowing-when, in the sense that there was a right time to commence the career change process.

Realising the need to change careers (step 2) was very much related to knowing-when. There was a point in time when the individual was ready to accept the need to change, and this aligned most closely to the temporal aspects of knowing-when.

Reflection, thinking and questioning (step 3) in the career change process related very closely to the knowing-why and knowing-whom aspects of the intelligent career framework. At this stage of the career change process, the individuals were connecting with their inner drivers, values and aspirations (knowing-why), questioning who they are and what they wanted in order to determine what they wanted to achieve and the next steps they needed to take, as well as gathering feedback from others about their situation. Having gained this awareness, the fourth step they took in the career change process model

brings together several of the different aspects of the knowings: knowing-whom was important in terms of who to speak to when gathering information; knowing-how was important in considering the skills, knowledge and experiences required by the new career area; knowing-where was important in terms of understanding what training might be available and where roles might be located; and knowing-what was important to understand the organisational systems and rules as well as the aspects of the new occupational area. Whilst it may not be conscious to the individuals, these knowings were directing their search for information. Hence, in this step of the process all six knowings play an influential role in the process of changing careers.

Within step 5, evaluation, both knowing-how and knowing-what were prevalent among the individuals when considering the options and weighing up the decision to be made. Again, these were likely to be unknown to the individual, but they would have been examining the choices that lay ahead of them in relation to these two knowing aspects. Likewise, as the individual moves to making the decision, five additional aspects of the six knowings came into view: knowing-why, knowing-what, knowing-how, knowing-where and knowing-when. The constituent parts of these knowings and the relative weighting given to them by the individual career changers informed the decision being made. For those individuals who engaged in the process of sense-checking/testing their thoughts, the aspects of knowing-how and knowing-whom were important. Within the next step of taking action, knowing-when became a critical component; timing in relation to when to apply for roles was key to securing the right role. In addition, knowing-where was also important in terms of where to locate the necessary training and the role. One individual in this study stated that it was not just about any role in a particular location, it had to the right role in the right location at the right time. This triangulation of knowings appears of paramount importance to the perceived success of the career change.

Post change, the two steps brought knowing-why back to the fore, as the individuals were again considering their values, aspirations and motives in order

to reconfirm their decision and career change or to re-question their career and look to making another possible change in the future.

Given the above, if this proposed career change model was to be viewed through the lens of these knowing influences, then the resultant process model would look something like the model shown in Figure 43 below.
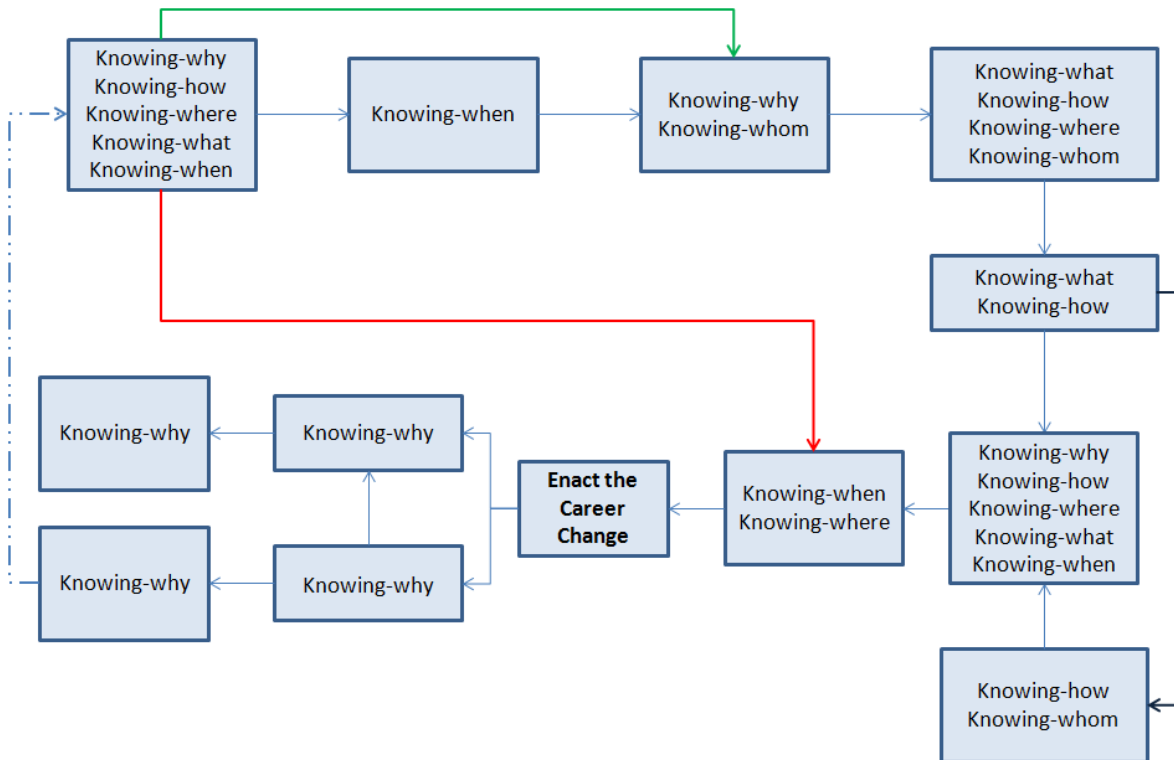
Figure 43: The career change process through the Intelligent Career Lens

6.2 The Psychological Process of Changing Careers

In addition to the physical process of changing careers, an emotional or psychological process of changing careers occurred, which essentially involved the individual overcoming emotional barriers. Whilst the steps involved in the physical process can and are set out above, the psychological process of changing careers appeared not to be so simple and certainly not one that can be depicted as a series of steps. For many individuals, changing career was a

long and complex process. Within this study, a number of participants (predominantly females) alluded to a range of emotional responses experienced whilst undertaking their career change in relation to both the decision and the process of career change. Many of these emotional responses required the individual to be very clear on the rationale for the career change and therefore having clarity about the knowing-why and using their knowing-whom contacts to support them through this difficult journey. These emotional responses are set out below.

6.2.1 Dissatisfaction

An emotion expressed by all career changers related to that of dissatisfaction, as discussed in section 5.2.3 above. For some, this dissatisfaction was short-lived in that they acted upon it quickly, whilst for others it was experienced over a much longer time frame.

6.2.2 Persistence

Eight career changers discussed persistence or stubbornness that had showed up throughout their career change. For some, it was evident that they were persevering and continuing in the engineering profession in the hope that something might change for the positive, which it never did in their opinion. Many individuals remained in the engineering profession for a considerable amount of time, in some cases up to eight years, in this phase before finally realising they needed to make a change. Some individuals suggested that with hindsight, they had stayed too long in engineering and should have made a career change earlier in their career. The reasons for persisting varied by individual.

Peter, being new to the world of work and having no external reference, chose to reserve judgment and undertake another role in engineering before eventually changing careers.

> *It was fairly hard for me to judge in that first role not having worked anywhere else in Globoil before ... So I reserved judgement, but even*

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there I said, I don't know if I'm going to be working for Globoil for my career, I'll keep my options open. (Peter)

Kate described herself as being stubborn and, whilst knowing engineering was not for her, persisted.

I just got married; my two children were born, so I had so much other stuff around that I just kept on going. Very stubborn because somewhere in the back of my mind I knew 'you're not really happy in the role'; I knew it already, like after a year or so. ... And I always thought, okay, maybe I just have to get through this. (Kate)

With persistence also came a deepening sense of frustration and dissatisfaction, and it was only when a trigger was sufficiently large or impactful that it moved these individuals into the start of the career change process and they realised the need to change. They discussed how this took a long time and that they would not persist for so long in the future. Some other individuals interviewed appeared to have the propensity to have persisted longer had it not been for a trigger that occurred at that particular point in time. In these instances, the individuals in question mentioned how their decision was accelerated by some other factor and whilst they had been thinking about changing careers for a long time, they may not have done it at that particular point in time.

6.2.3 Fear

Four females raised fear as part of their decision to change career. They discussed how, during the process of change, they were afraid that they were making a mistake or that their decision would be wrong. For some, because of this fear, they almost 'froze', choosing to ignore it.

some of the stuff that I was quite … because it's scary so I was quite happy just ignoring it for as long as I could. ... whether or not it was really a mistake, or whether it was actually a good decision. (Claire)

One was fearful of the risk she was taking, and so drew upon others to help allay her fears (knowing-whom) and proceed with the change. In essence, these individuals needed to be convinced of the rationale for the change and, as such, this played out both in the reflection/questioning and sense-checking steps in the process.

> *He took away a bit the fear of trying something new, and I really wanted to do it anyway, and so that won quite easy.* (Janis)

Isabelle talked about how the decision was very difficult to make.

> *So I probably make it sound like I was okay with it, but I had a huge number of sleepless nights and it was a massive, massive risk because I had essentially restarted my career.* (Isabelle)

6.2.4 Confusion

Having realised the need to change careers, a number of individuals found the process confusing. They were not clear on the steps to take or the path they were following. Some cited having a lack of role models (knowing-whom) as adding to this confusion because these individuals found that they were trailblazing a new career path, which, on the one hand, was exciting and, on the other, was confusing as there were no mapped paths for them to follow. They were desperately seeking information from others, exploring the options, listening to the stories of others in the hope of finding some light at the end of the tunnel, which would give them clarity, which at this point in time was lacking for them. Claire, in particular, found it a difficult decision.

> *There is a lack of role models. So I haven't seen anyone around me that does exactly what I want to do in the future, so if you don't have the, 'I want to be you' it's really hard.* (Claire)

She was not clear on what she wanted, and so this lack of clarity was causing her confusion at the point of making the decision and she can still be seen to be weighing up different options.

So I had a really tough moment of, 'What do I do with this? Do I really want this? Do I want something more traditional Globoil, more in operations but in the States? Do I want to stay in Europe in a corporate role?' (Claire)

Even having made the change, Claire was unable to see a clear path based on her personal ambitions, and so the confusion continued.

I think it makes a path clearer if you know where you're going, but I've tried, I can't frame it ... my fear is that I'm not going… I'm not taking the right step because I can't fully frame that one job that I want to do as, 'Is this enough? Is this too much? Is this completely the wrong thing?' (Claire)

6.2.5 Pain

Some individuals described their feelings on making the change as almost painful; they felt like they were making sacrifices or, as Isaac explained, sold their soul.

I do feel like I've sold my soul in a way, if you know what I mean. (Isaac)

These feeling of pain, expressed also as a sense of regret, betrayal and guilt, appear to be similar to bereavement and loss.

As I said I regret, I have a space in my heart for engineering and I regret not being an engineer anymore, but I don't think that what I like in my job I could achieve as an engineer, at least without sacrificing some of the things that are important such as the location or the balance or whatever. (Janis)

There was a trade-off being made and it was not an easy one, as it involved giving something up in order to pursue something else.

I'm still disappointed that I had to make it in some ways. ... I decided I couldn't live with the former whereas I could live with the latter. (Liam)

6.2.6 Denial

Even having made the change, some individuals experienced a period of denial. This emotion was very evident in relation to their career identity as an engineer. Six individuals still considered themselves to be engineers despite having made a career change. A further three individuals expressed how they no longer considered themselves to be engineers, but were in denial about having made the change.

> *I think deep down I know I have made a career change, but I just haven't accepted that I have made it. In some ways I tell myself it's just like a side step for a while, and I will go back again, but in reality I think it's too late now to go back. ... Well, as I said, I am still almost in denial that I have left engineering, and it sometimes makes me wonder if I made the right decision.* (Hannah)

6.2.7 Resistance

A number of individuals faced resistance or lack of support. Ten instances of such unsupportiveness were mentioned, whereby HR, managers or family resisted their change intents. Not only did they have to convince themselves that this was the right thing to do, they also had to convince others.

> *I remember at the time doubting myself a little and my family were not particularly supportive people; they thought I was making a mistake.* (Isabelle)

Individuals found that they were considered 'novel' because of the changes that they were making and following a non-typical path. Some found that no-one whom they turned to would take them seriously

> *I have carved my own path, and it was very difficult to leave engineering because nobody would take you seriously.* (Isabelle)

Others were intent on pointing out the size of the risk that they were taking and the consequences associated with the change.

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There were people advising against me doing so because ... I was taking a risk and it could turn out to be the wrong choice. (Peter)

They said I risked becoming a Jack-of-all-trades and a master of none. (Edward)

For most of the interviewees who were determined to change careers, they either ignored these individuals or stopped talking to them. They favoured individuals who were supportive or who had made a similar change and could offer advice and empathy (knowing-whom).

Sometimes their managers needed to be convinced that this was the right move for the individual.

The painful aspect has been to convince my technical management of the switch and that has been a story on its own ... I've been very, very much pushed back by my technical management at all levels, also at very senior level, basically all telling me was absolutely the wrong thing to do. (Henry)

Sometimes the individual found that they also needed to convince themselves of the change, especially when the first steps to making the change were unwelcome.

For me, to be quite honest, it wasn't an area which I had a desire to go into, almost I had a little battle with myself ... there was certainly some discomfort around making that move. (Callum)

In these instances, the drive to pursue an ambition (knowing-why) outweighed the challenge of making the change.

it's conciliating heart with head basically. So what I'm doing with what I want to be doing. (Claire)

6.2.8 Illustrative Cases

What follows are two cases, which illustrate how these two individuals enacted their career change process. They depict the two main routes through the career change process, as set out in Figure 40 and Figure 41 above, as well as discussing some of the emotional barriers that they had to overcome.

The first case is one in which the individual followed the career change process as laid out above in a linear fashion, following Route 2. He found that a strategic organisational decision to close a refinery (a knowing-what trigger) led him into a period of reflection to determine what he wanted to do. At this point in time, he discussed how he was fearful for the future and this fear led him to leave engineering. He then commenced a period of information gathering and evaluating of options, both to remain in a technical role and to make a career change. He then undertook a period of testing or sense-checking with his mentors and family (knowing-whom) before finally making the decision and taking action. He found all of those around him to be highly supportive of his decision to change careers.

In the second case, the individual followed Route 3 above. That is, he was presented with an opportunity (a knowing-when trigger) and pursued it without too much thought or deliberation by bypassing most of the process and moving immediately to the stage of taking action, i.e. he found himself in a commercial role and then applied for a second role, having been approached by a hiring manager (knowing-whom). He then found himself four years later having made a career change. His approach to the career change process was short, one in which he bypassed some of the steps and encountered very little emotional resistance.

Since making the change, both individuals have reassessed their decision by reflecting where they are currently and have confirmed that they are committed to their current career and are not looking to make any further changes.

6.2.8.1 Case 1 – Karl

Karl, a chemical engineer, commenced work in a refinery as an engineer. He moved to a commercial role approximately four years after entering full-time employment because of a strategic organisation decision taken in 2012 to close the refinery he was working in. Despite having the opportunity to transfer to another refinery, he chose to look for another role within Globoil.

After the closure announcement, Karl talked about how first he '*started off with really thinking about what I wanted to do in the future and what sort of work I enjoy doing*' (knowing-why). Karl discussed how he was fearful of finding himself in the same situation again in the future if he moved to another refinery. His fear was an overriding emotion, which he addressed by looking outside of engineering. He explained that through his work in the refinery, he had exposure to some commercial work (knowing-how) and enjoyed it immensely. Karl identified that it was important for him to be recognised (knowing-why) and that he had '*a commercial mind*'. Having contemplated what he wanted, he spoke to lots of individuals both within the refinery and outside to see if they knew of any roles that he could move into given his background. He ensured he talked to people that had done what he was planning on doing (knowing-whom). In addition, he was able '*to get an understanding of the roles, the businesses and opportunities that were available to me in Globoil*'. He explained that by contacting these individuals, he was trying to identify whether there was a future in refining or not. He was trying to establish the current state of the refining business (knowing-what), and, as he explained, '*it was clear to me at that point that the refining industry in the country didn't have a long-term future so I had to find something else*'.

Having gathered information from various individuals and establishing that there were no constraints from a mobility perspective (knowing-where) for him and his wife, he started to look for roles outside his home country. He explained that he was '*quite open to anything at that point, I wasn't very specific on exactly what I wanted to move into, but I think it was just really a role that would still utilise my*

technical skills, but be in a commercial space'. He turned to his mentors both internal and external to discuss things and look for their support and advice (knowing-whom) in terms of the decision he was making. He was testing out whether it was a sensible move to make at an early stage in his career. He found them all to be supportive, and this reassured him.

He explained that he then started '*contacting the individuals that were responsible for those teams and asking them if they had any opportunities that I could apply for*'. This included him contacting individuals external to Globoil to determine if there were opportunities in other organisations. He was, however, unsuccessful as the other organisations wanted to place him in a purely technical role based on his background, but that was not what he had decided he wanted to do going forward. He was successful in securing a role in trading as an oil market analyst in London. He is now looking to the future and the new opportunities that have opened up for him as a result of this change. When asked about the decision and timescale, it said that it was '*an ongoing thing for, maybe a year*'.

6.2.8.2 Case 2 – Nathan

Nathan started life as an engineer working at a small consultancy. After a couple of years, he joined Globoil in the Shipping Department, working on projects. He explained that '*towards the end of my time in projects my work scope drifted into more project management itself, and also contracting and putting contracts and work scopes in place with sub-contractors*'. He found that he enjoyed this.

After spending approximately two years in projects, an opportunity came up in the commercial shipping department (knowing-when). In his project role, he had exposure to and worked on 'ship efficiency', which formed part of the role. He felt that there was a natural fit or certain logic to experience it from the commercial perspective having been exposed to the technical aspects. He explained that the position had been open for a couple of months and no suitable candidate had applied and so the '*hiring manager approached me*

through my line saying would I be interested in applying and joining' (knowing-whom), which he did through the usual resourcing process.

He moved across into commercial shipping as a shipping commercial advisor, and then found himself standing in for the team leader whilst she *'was away on maternity leave'*. He explained when doing this role, he found it was '*purely a commercial job*' but where the details involved would '*be of a technical nature*', so he was '*able to use my technical engineering knowledge, and also that I was starting to have a bit of commercial experience*'.

Having found that he really enjoyed that role (knowing-why), when the team leader came back from maternity leave, he decided to look for something that was more commercial in orientation and nature. This led him to take up his current role. In the six months leading up to the logistics role, he did in fact think about leaving the organisation due to the lack of opportunities and his line manager wanting to put him in a role that did not offer developmental or promotional prospects. During his whole change process, this was the only emotional challenge he had to overcome and that was due to unsupportive managers. This led him to speak to HR and look at other options both internally and externally.

The initial move into commercial was 'opportunistic' in the sense that '*there is a job open*' with a promotion and that '*it would be good to get some commercial experience*' (knowing-when). He explained that when he started to make the career change, it was a broadening experience (knowing-how) and he expected to return to engineering. However, since moving into his current role, he has spent more time exploring future options and avenues and has realised that he has made a permanent career change. The future opportunities for him are now commercial, which he is very pleased about.

6.3 SUMMARY

In this chapter, the process by which individuals change careers has been discussed. From a physical perspective, the steps that are taken and the four routes through this career change process have been explained. As has been demonstrated in this chapter, the time that it takes for individuals to move through the process varies; some stages are relatively quick and others are ones in which the individual remains for a considerable period of time.

In addition to the physical process of change, there is also an underlying psychological process, which was starting to be unearthed through this study – although the information in relation to this was much harder to come by and less obvious as individuals tended to discuss the physical process. This was most notably seen in the female participants. What was observed was that the individual needed to overcome a number of barriers to enact their career change, and this required them to have the courage of their convictions and hold firm on the change that they wanted to pursue. For some, this meant facing their fears head on, whilst others took a slower path and persisted in an unsatisfied state for years before a large trigger commenced the actual physical process of change.

The physical process involved drawing upon factors that related to all six knowings, whilst the psychological process centred on knowing-why and knowing-whom. Finally, two illustrative cases were presented in which they set out two very different approaches to making a career change and the knowings involved.

7 DISCUSSION

Over the last fifteen years, much of the research on career change has noted that there is a need for more qualitative studies examining the individual's subjective experiences of changing careers, as career change is still poorly understood and relatively little is known about the process by which adults make career changes (Blau, 2007; Carless and Bernath, 2007; Ng et al., 2007; Sullivan and Baruch, 2009; Carless and Arnup, 2011; Hess, Jepsen and Dries, 2012).

This thesis has sought to address these gaps in knowledge by investigating two research questions: What factors contribute to the decision to change careers? and how is a career change enacted? This has been done by exploring career change through the contemporary theoretical lens of the intelligent career framework. This research, therefore, aimed to broaden and deepen the understanding of why and how individuals change careers as well as contribute to the growing body of knowledge on career change in a contemporary setting. As a result of the qualitative approach taken, the findings from this study are based on the sense and subjective meanings that the interviewees have made of their own experiences of career change.

In this chapter, the findings are related back to the literature in order to locate them and determine in what ways this study confirms, extends, creates or differs from existing knowledge in this field of career change. In section 7.1, the concept of career change will be looked at in relation to the literature. Section 7.2 considers the drivers, influencing and facilitating factors of career change before section 7.3 examines the process of career change.

7.1 Career Change Classification

This study suggests that context plays an important role in an individual's understanding of career change, in that the wider environment in which careers are enacted will affect how the individuals define what a career change is. Careers do not exist in a vacuum, and the organisation in which these

individuals were working in prior to their career change, had some influence of their definition of what constituted a career change. This supports Arthur, Hall and Lawrence (1989), who suggested that careers are a reflection of relationships with various organisations.

This study found that the 22 participants differed in their perspective and operationalisation of a career change. As a population, they defined a career change as being one of six different types of change: a change in profession/function, company, path or direction, engineering discipline, sector or business within the organisation. Those who did not see a career change as being a change in profession/function saw it as a change in path/direction and were single males aged between 25 and 29 years when making their own career change. Those who saw a career change as a change in engineering discipline were young (25–29 years), had joined as a graduate and had made an intra-organisational career change. Those who saw a career change as a change in sector were single, had made an intra-organisational career change and held an MBA. Those who saw a career change as a change in business within the organisation had made a career change in their early career, i.e. with less than eight years' professional experience. Those who saw it as a change in company had all made an intra-organisational career change and, with the exception of one individual, were graduate entrants who had less than eight years' experience and were non-British.

The definitions given by the individuals heavily reflected the history of the individual's own career: those career changers who changed company as well as function reflected that in their definition of a career change. Similarly those who changed business also reflected that in their definition. This identification of the differences in which individuals define a career change suggests that the influence of the individuals' own lived experiences should not be underestimated when studying phenomena related to careers and career change. This finding supports Nicholson and West's (1989) suggestion that defining the term career should be left to the individual career actors based on their own lived experiences. The individuals in this study clearly generated a

definition of career change based on their own cognitions of their own work history and experiences.

Nicholson and West's (1988) classification of a career change referenced a change in function that can be accompanied by a change in status and/or employer. Interestingly, the individuals in this study, when asked to define a career change, referred to both a change in function and company (employer), but no one referenced a status change. The only explanation that can be offered for this omission may be the fact that these individuals were all working in a recognised professional context and therefore status was perceived as a given and not something that they were consciously aware of. Working for a large multinational oil and gas company in itself represents a level of status. Status may prove to be more relevant to those in different contexts such as blue-collar, clerical or the unskilled occupational fields. This aspect of change in status is worth exploring in more depth in future research.

There was evidence in this study that only male career changers changed both their occupation and employer at the same time, doing so at a relatively early stage in their careers, i.e. after five years of professional experience or following the completion of a MBA. This was not seen in the female career changers, who all changed career within the same company, despite two defining a career change as a change in company. A potential explanation for this difference may relate to the level of risk and insecurity involved in changing both employer and occupation. The magnitude of change when changing both employer and occupation is greater than just changing occupation. When changing occupation only, other aspects of the individual's employment remain stable (i.e. internal network, employer, benefits, etc.), and this may feel 'safer' and less risky compared to making a wholesale change (Otto, Dette-Hagenmeyer and Dalbert, 2010). Blau (2000) identified that career change is less typical than job change due to the barriers involved, such as loss of investment. Similarly, Markey and Parks (1989) suggested that a career change when one changes both occupation and employer is uncommon. However, this assertion was later questioned by Neal (1999), who found that early career decision-makers tended

to experience complex career changes, consisting of a change in both employer and job. Both of these findings were supported by this study. Some of the males interviewed had changed both employer and occupation, although they had all taken time out in between employers to complete a MBA. This suggests that the context is critical and should always be examined as part of the career change decision.

7.2 Drivers of Change Careers

In the section below, the reasons why individuals changed careers will be discussed in relation to what is already known in the literature. The findings were examined using the intelligent career framework, and the factors found to be involved in the decision to change careers were mapped against the six knowings.

Eight driving factors were identified relating to knowing-why. Of these driving factors, one was solely a push factor and the remaining eight were shown to have aspects of both push and pull. From an interaction perspective, there were seen to be two clusters of factors that centred on the driving factors of interest/enjoyment and family/partner, as shown in Figure 29 and Figure 30.

Two aspects of advancement/progression that were found in this study confirm the findings of previous studies, that of career progression or lack thereof (Lewis and Thomas, 1987; Doering and Rhodes, 1989, 1993; Holmes and Cartwright, 1994; Mallon, 1999; Sullivan et al., 2003; Fochsen et al., 2005 McGinley et al., 2014). Along with meaning/purpose entailing making a difference, etc., this confirms the findings of studies that identified having meaningful work or a sense of purpose as a driver of career change (Thomas, 1980; Heppner, Moulton and Johnston, 2004; Wise and Millward, 2005). However, a number of different aspects of advancement/progression were found in this study. Having future opportunities to advance was seen as an important consideration in the decision to change careers, which had not been detailed in the literature. The impact of a lack of advancement opportunities or the existence of better opportunities elsewhere was identified by Doering and

Rhodes (1989) and McGinley et al., (2014) respectively, but this referred to the current situation rather than future opportunities. One explanation for why future opportunities was raised in this study may relate to the highly educated, qualified and professional sample in comparison to the two previous studies of actual career change: teachers (Doering and Rhodes, 1989) and hoteliers (McGinley et al., 2014). Making a career change for reasons of achieving one's aspirations is a component of advancement/progression not previously explicitly identified in the literature. Kanchier and Unruh (1989) identified that managers perceived that they gained more control over their own destiny having made a career change, which could be interpreted loosely as ambition driving one's decision, although it was not expressed in this manner. Both of these aspects warrant further examination by studying career changers in other professional occupations.

The existence of interest/enjoyment as the second most cited driver supports the findings of Doering and Rhodes (1989). Enjoyment or, more precisely, a lack of enjoyment was raised in this study. Whilst few studies could be located with a similar finding, Costello (2001) did find that enjoyment was a key characteristic of the new job, which was deemed important to those who had made a radical career change, suggesting it may have been a driver for the change. The identification of energy as part of the driver of interest/enjoyment appears to be a new finding in relation to career change as no direct link between energy and career change could be found in the literature. That said, a tentative link to burnout could be surmised. Doering and Rhodes (1989) found burnout to be a reason for considering an occupation change, and Otto, Dette-Hagenmeyer and Dalbert (2010) suggested that burnout may contribute to a willingness to change occupation. This study thus extends the knowledge in relation to energy being an actual driver of career change rather than a hypothesised one in intent or willingness to change studies. In this study, interest/enjoyment as a driver was equally applicable to males and females, which contradicts Preston (1994) suggestion that women are more likely than men to change careers due to a lack of interest. A possible explanation for this

contradiction may be due to the context of this study (i.e. the engineering profession), and, consequently, the smaller number of females that enter the engineering profession, suggesting that those who pursue a career in engineering do so with an interest at the outset. One new finding was the centrality of interest/enjoyment in a cluster of other factors, demonstrating that it has a very important role in the decision to change careers. This has not previously been seen in the literature as studies have failed to identify the actual relationships or connectedness of factors. This is something that warrants further examination in the future.

Within this study, learning/growth was identified as an important driver of career change, supporting the findings of Teixiera and Gomes (2000), Costello (2001), Wise and Millward (2005), Carless and Bernath (2007) and Chudzikowski et al. (2009). Many individuals said how they wanted to gain more exposure, breadth and experiences. There was a sense of deep specialisation and narrowness in engineering, and those making a change did so because they wanted to know and experience more. This appears to be a new finding and may be due to the uniqueness of the engineering profession, which requires individuals to develop knowledge by working in a narrowly defined area. Another possible explanation may relate to the personalities and ambitions of the individuals in this study, who possibly had a greater need to see the relevance of their day-to-day work in relation to the organisation's business drivers. This finding may be reflective of the current information age, in which information is freely available and thus leads to individuals wanting to see the bigger picture, rather than being focused on their constituent part. Either way, this aspect of the learning/growth driver warrants further investigation. Additionally, individuals were seen to be moving in order to gain additional qualifications and training as a function of development and growth. This recognition of the need to constantly learn, develop and grow may be reflective of the current era in which transferable skills are more marketable than deep specialisations. This finding was also not evident from the literature review, suggesting again that it is a new finding.

Contrary to other studies (Neapolitan, 1980; Lewis and Thomas, 1987; Doering and Rhodes, 1989; Markey and Parks, 1989; Holmes and Cartwright, 1993; Mallon, 1999; Teixiera and Gomes, 2000; Higgins, 2001; Sullivan et al. 2003; Wise and Millward, 2005; Carless and Bernath, 2007; Blau, 2007), remuneration (i.e. more money) was not found to be a key driver of career change in this study. In this study, remuneration was raised in the context of maintaining the individuals' current level of income or being paid their worth, which is a very different motivation. This may be because engineers within the oil and gas industry are well paid. Money in this sense is a hygiene factor rather than a motivating factor for the individuals making a career change within this industrial sector. In this study, almost twice as many males raised remuneration as a driver compared to females, supporting Blau and Lunz (1998), who suggested that men are more likely than females to change career due to remuneration. Equally, recognition has not been cited as a driving factor in other studies of career change in the last 25 years. It was, however, found to be a driver of career change by Neapolitan (1980), Doering and Rhodes (1989) and Cherniss (1989). One possible reason for it being raised in this study is that whilst the individuals are more subjectively driven, they like to undertake some form of peer comparison against which to track growth.

Consistent with Doering and Rhodes (1989), Wise and Millward (2005) and Holmes and Cartwright (1993), challenge was identified as both a positive and negative driving factor. This study, therefore, supports their findings that challenge or a feeling of not being able to use one's abilities to their optimum are reasons for career change. Likewise, the finding of work/life balance as a driver supports many other studies (Thomas, 1980; Lewis and Thomas, 1987; Holmes and Cartwright, 1993; Mallon, 1999; Cohen and Mallon, 1999; Teixiera and Gomes, 2000; Costello, 2001; Andrews, Doherty and Viney, 2004; Wise and Millward, 2005; Chudzikowski et al., 2009; McGinley et al., 2014). Interestingly, work/life balance was raised as a factor predominantly by single females over the age of 33, who were in a mid-career stage and expatriate at

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the time of the change, which suggests that it not just applicable to those with a family, but to all individuals.

Family/partner was identified as being an important factor and central to a cluster of other factors. In many cases, family/partner was raised in the context of other drivers (work/life balance and location) or facilitating factors (opportunity and right/natural time). This supports previous studies (Lewis and Thomas, 1987; Costello, 2001; Sullivan et al., 2003). However, there were no studies found in the literature that discussed career change in relation to dual career aspects, elderly dependent care or long-distance relationships, which were key concerns for the individuals in this study. A reference to family/career role conflict was found (Brown, 1995), which may be similar to the three above-mentioned aspects found in this study, although it was not explicitly stated and explained. Family/partner concerns warrant further investigation as a key societal influence. In this study, the males and females interviewed both cited family/partner as a driver in almost equal percentages, which contradicts the findings of Preston (1994), who found that women were more likely to leave science or engineering for family reasons than men. One possible explanation for this may be because the majority of female career changers in this study were single and did not yet have children. Another possible reason may relate to the age of Preston's study, which was undertaken over 20 years ago when childcare support and parental leave policies were much less developed. The equality that is seen in this study may reflect modern times, in which both males and females take responsibility for their children and both work flexibly.

7.2.1 Knowing-where

Location as a driver of the decision to change careers was seen as secondary, which fails to confirm Carless and Arnup's (2011) proposition that issues like location may lead to a career change from a contextual perspective. It also contradicts Lewis and Thomas's (1987) finding, in which geographical preference was the most frequent single reason given for a career change, expressed as a strong desire to live within a particular area or an aversion to

remaining in or moving to a particular region. One possible explanation for this may be the wider contextual aspect of the 'era'. Almost 30 years have elapsed since Lewis and Thomas's study, and individuals are now able to pursue careers at a time when geography is not seen as much as a barrier as it once was. This contemporary careers environment reflects the opening of borders and the free movement of workers, particularly knowledge workers, across countries within Europe, but also internationally, more so than in the past. Another explanation may reflect the nature of the oil and gas industry and the engineering profession, in which international careers are the norm for engineers. Interestingly, five of the eight individuals who raised location as a driver were expatriates at the time of making their career change, and so, in these instances, it did matter. But for the locally employed individuals it was not really a factor in their decision to change careers, except when it affected their family/partner, which was the overriding and primary driver cited.

7.2.2 Dissatisfaction/Frustration

Within this study, many of the drivers interacted with other drivers through the dissatisfaction-centric cluster. Figure 31 reveals how seven other drivers and one influencing factor interacted with dissatisfaction/frustration. These findings support the many scholars who have found this same influence and, as such, have premised their model of turnover on job satisfaction being a key motivational driver of career change (Rhodes and Doering, 1983; Markey and Parks, 1989; Smart and Peterson, 1997).

Rhodes and Doering (1993) argued that occupational satisfaction is more proximal than job satisfaction in influencing thoughts of changing career. Within this study, when questioned further about career satisfaction, most of the individuals did, in fact, determine that their decision to change careers was about the pursuit of the longer term career satisfaction rather than shorter term job satisfaction, to the extent that some would forego job satisfaction if it meant longer term success and career satisfaction.

In conclusion, the drivers that drove the individual's decision to change career were related to knowing-why - a wide range of predominantly subjective factors and knowing-where. They essentially clustered around interest/enjoyment, family/partner and dissatisfaction. However, in analysing the findings, it became evident that an individual's decision to change career was subject to a wide range of influences and facilitating factors, which affected their decision individually. These factors are discussed in the next two sections.

7.3 Influences on Career Change

As described in chapter five, findings from this study showed that the identified drivers did not act in isolation to bring about the decision to change careers. A number of situational (age or peer comparisons) or contextual factors, including organisational factors (culture and strategy), significantly influenced individuals' decisions to change careers. These influencing factors were related to knowing-how; knowing-when; knowing-whom and knowing-what. The reason why these factors were so important in this study was that they appeared to provide the necessary impetus for the change. Whilst there were a number of personally motivating factors, the influence of these wider situational or organisational factors provided further reasoning for making the change. Many individuals were more in control of their career, and knew with more or less clarity what they were trying to achieve from their career, and this empowered them to make decisions to overcome barriers to the enacting of their career change. Many were doing so with a future-orientated perspective, making a change for the longer term rather than the 'here and now' and were comfortable with the fact that it might not be the perfect move to make, but that it was a step in the right direction.

7.3.1 Knowing-how

Organisational culture was an influencing factor in this study. Very little literature explicitly suggested that an organisation's culture was a reason for changing careers, particularly when the individuals were remaining in the organisation. One reason for this dearth of studies may relate to the identified

acknowledgment that organisational factors are still largely undiscovered in relation to career change. Doering and Rhodes (1989) did identify a philosophical level of dissatisfaction with the administration of teaching as a reason for changing careers, which could be interpreted as a form of organisational culture, although this is a tentative association. Similarly, Mallon (1999) discussed disillusionment with organisational life, which could imply culture as a reason for a career change. It could be that this finding is organisationally specific – this is another interesting angle for further future consideration as it relates to the little understood aspect of organisational factors. Interestingly, though most individuals in this study remained in the organisation having made their career change, so were still subjected to the organisational culture but from a different occupational perspective.

7.3.2 Knowing-what

Two factors relating to knowing-what were identified, providing new knowledge in relation to career change. Firstly, organisational strategy was raised in the context of the individuals not agreeing with the strategy and deciding that they did not want to be part of it, which has not been seen explicitly in the literature on voluntary actual career changers. It may be that this occurs mainly in the context of involuntary changes in those cases where businesses are restructuring or downsizing and, as a result, redundancies have led to individuals finding themselves changing careers out of necessity, as seen by Sullivan et al. (2003). The extent to which this factor is organisationally specific is unknown. It may be that professional individuals, who in this organisation were making career changers for reason of advancement/progression, were more highly sensitive to the organisation's strategy and determined that their career aspirations were not going to be met in the engineering sphere. Organisational strategy requires further exploration in future research. Secondly, the influence of events taking place in the industry and wider external environment were seen to affect the decision to change careers. No previous study has identified such an external influence on the decision of an individual to change their occupational area.

7.3.3 Knowing-whom

A number of individuals discussed how they were influenced by role models as well as the peer comparisons that they were making. Very little could be found in the literature with regard to this aspect of knowing-whom in relation to career change, although social comparison theory (Festinger, 1954) suggests that individuals are driven to compare their abilities to those of others. Eddleston (2008) quoted Buunk et al. (2003), finding that individuals who make upwards comparisons displayed job search behaviours, as well as Diener and Fujita (1997) and Thornton and Moore (2003), whose findings were that they are also likely to have higher organisational turnover intentions, whilst Collin (1986) found that career changers use others to define themselves. Similarly, Higgins (2001) found that MBA students made social comparisons when choosing employers. She confirmed the importance of understanding the social context in which individuals make career decisions, as well as suggesting that social influence should be accepted as a source of non-traditional data in career decisions. Some support for these studies appears to have been obtained by the findings of this study that peer comparisons were an important influencing factor in the decision to change careers, thus extending their work.

An additional parallel for peer comparisons can be made in the work on career timetables (Lawrence, 2011), in which individuals compared themselves to a widely held belief about their own progression in comparison to their organisational reference group.

Role models have not previously been identified as an influencing factor with regard to career change, although role models are widely considered to be influential in terms of career management. This finding warrants further investigation.

7.3.4 Knowing-when

The timing of the decision of when to make a career change was an important influence for those interviewed in this study. For many, there was a

consideration of age. This finding is somewhat contrary to other findings, mainly because age was not studied here as a demographic variable as it has been in prior quantitative studies. Age emerged from these interviews as an influencing factor predominantly for those who were 33 or older at the time of their career change. The knowledge that one was ageing seemed to provide some impetus for making the change at a particular point in time. There is a general consensus that younger individuals are more likely to make a career change than older individuals (Kanchier and Unruh, 1989; Doering and Rhodes, 1989; Young and Rodgers, 1997; Costello, 2001; Wise and Millward, 2005; McGinley et al., 2014). Given that this study was examining those in early-mid career, i.e. those aged 40 or under, the finding that those over 33 raised age as an influencing factor seems to suggest that age becomes more important as an influencer as one ages.

Another aspect of knowing-when that was seen in this study and appears to be a new finding is that of why not. No previous studies have documented this carefree attitude to making a career change. It was openly accepted that if it did not work out, then there was the alternative of going back to engineering. This appears to suggest that there was not a dislike with engineering per se, but other reasons driving and influencing individuals to make a change.

7.4 Facilitating Factors

All of the facilitating factors that were identified in this study were seen to be positive, i.e. pull factors drawing individuals to the new occupational area. As facilitating factors, knowing-how, knowing-when and knowing-whom were seen as key components of the decision to change careers.

7.4.1 Knowing-when

In this study, opportunity was the most frequently cited facilitating factor identified by the career changers. This was unsurprising given that Nicholson and West (1989) noted that many career moves are 'planless' and that so much has been written in the wider careers literature (e.g. career counselling, career

decision-making and career development) about chance and happenstance (Mitchell, Levin and Krumboltz, 1999; Bright, Pryor and Harpham, 2005; Bright et al., 2009). The accounts of the individuals here who came by an opportunity and pursued it without much thought are consistent with the findings of Arthur et al. (1999), in that many of their participants 'happened on' their new career. This supports Lewis and Thomas (1987) and Chudzikowski (2009), who both cited opportunistic job offers as a reason for individuals making a career change. Similarly, Deeming and Chelin (2001) found that those changing careers both exploited opportunities presented and created their own opportunities, as both of these scenarios were seen in this study. In this study, many career changers also mentioned that it was the right or natural time for them to be looking for a role, supporting the findings of Wise and Millward (2005) and Deeming and Chelin (2001). Additionally, their finding on the interaction between the right time and opportunity is also supported by this study, as 13 career changers cited both the right time and opportunity as a facilitating factor in their own career change experience.

In this study, some career changes were facilitated by reorganisations or restructures, reflecting a change in organisational strategy or the external marketplace. Whilst this is not an uncommon reason for a career change, in previous studies, such structural changes led to involuntary career changes, whereas in this study, the organisation's processes and policies led to a voluntary career change decision. Within the literature, only one study (Sullivan et al. 2003) identified that organisational changes, in line with organisational strategy, can be one of the drivers of a career change. Interestingly, Ismail (2003) identified organisational structure to be one of the top three factors affecting engineers' career progression, in which the structure is related to the organisational strategy in terms of growth and the opportunities that may or may not exist.

A new finding from this study relates to the organisational processes that were seen to facilitate the individuals' career changes. One reason for this omission is possibly due to the dearth of research into organisational factors.

Alternatively, it may be that this is organisationally specific and connected to the nature of the organisation and its global way of working. This appears to suggest that organisational processes are a newly identified facilitating factor, which would be a fruitful avenue for further exploration.

7.4.2 Knowing-how

In this study, broadening assignments were a key aspect of knowing-how, as they enabled the individuals to 'try out' or gain experience of working in a new career in a safe environment without having to commit to it. The use of a broadening assignment as a facilitating factor in a career change appears to be supportive of Ibarra's (2003) concept of working identity, in which individuals try out different roles and identities whilst in the process of change in order to reshape their professional identity. Whilst little exists in the literature around such a concept, Wise and Millward (2005) found that several individuals made a career change via gaining work experience and found it to be advantageous. This broadening assignment experienced by a number of the career changers in this study supports Wise and Millward's finding that there is value in gaining insights or sampling a new career via work experience and its role as a facilitating factor.

Another aspect of knowing-how, which was supported by the finding from this study, relates to one's experience and skills, which were seen to facilitate career change from the technical arena into more commercial roles. Hess, Jepsen and Dries (2012) found one's experience and skills to be valuable in making a career change. Interestingly, nine participants in this study had an MBA, and some explained that without it facilitating their career change, they would not be where they are today. Somewhat contrary to this finding, none of the actual voluntary career change studies identified an MBA as playing a facilitating role in the decision to change. A possible explanation for this is that many of the studies of actual voluntary career changers were conducted in the late 1980s and early 1990s before the popularity of MBAs. Additionally, the more recent studies by Costello (2001) involved interviewees who had left

professional and managerial careers to pursue self-employment options; Wise and Millward (2005) interviewed a mixed sample, where educational background was not included, and McGinley et al. (2014) interviewed hospitality workers for which a MBA would not be expected. However, the finding from this study confirms the proposition of Carless and Arnup (2011) that individuals may participate in further education in order to facilitate a career change and appears to support Muja and Applebaum (2014), who concluded that MBAs facilitate career change.

7.4.3 Knowing-whom

Five individuals identified that being approached to apply for a role or being actively sponsored for a position was a facilitating factor in the career change decision. This finding appears to support the work of Higgins (2001), who found that the greater the diversity of one's instrumental advice relations, the greater the number of career alternatives one would receive. In order to be approached to apply for a role or be sponsored, one must be known to the right individuals, which demonstrates the importance of one's relationship capital (or knowing-whom) in the organisation. With the exception of Higgins, (2001) very few studies to date have considered the role of others in facilitating a career change decision.

Being encouraged or actively supported was found to be an important facilitating factor in this study. Whilst not specifically associated with career changers, Bosley, Arnold and Cohen (2005) proposed the concept of career shapers to reflect the range of people who provide individuals with career support, advice and access to development opportunities, with perceived consequences for the individuals' careers. They identified informants who share knowledge of job vacancies/opportunities and occupations, and intermediaries, who use or are believed to use influence to intervene with powerful gatekeepers on behalf of participants. The finding from this study of supporters facilitating the career change process supports Bosley, Arnold and Cohen's (2005) propositions.

7.5 Career Change Process

In this section, the process of changing career as proposed in this research study will be further examined and compared to the existing literature.

Existing models of career change and turnover (i.e. leaving an organisation or occupation) have not considered emotions as part of the process. This study showed that the individuals enacting a career change had to overcome a number of psychological barriers in order to progress through the steps. Some of these were felt strongest at the outset, as evidenced by the persistence demonstrated by some individuals.

The overall career change process involved a number of clear and distinct steps. However, the manner in which the career changers experienced the process of career change differed by individual. The steps they went through and the period of time they remained in each step were highly individualised, based on the drivers for their career change decision as well as the influencing and facilitating factors, as outlined below. Hence, within the overall career change process, as determined by this study, a number of different routes through and entry points into the process were observed, as shown in Figure 38 above. Depending upon the entry point and the individual drivers and approach, these career change process steps were either passed through sequentially or bypassed. This suggests that there was no one definitive process of career change, but that individuals have a highly personalised career change journey within an overarching career change process framework. This finding supports Rhodes and Doering's (1983) suggestion that a model of career change needs to allow for varied sequences that allow for the differences individual in both the approach and timing to the career change. This study considered the individual's descriptions of the steps they went through in enacting their career change, and, as a result, this study has demonstrated a somewhat different career change (withdrawal) process than that depicted by Rhodes and Doering's (1983) model.

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A comparison with the withdrawal process model, as determined by this research study and Rhodes and Doering's (1983) model, will be set out below once the steps that confirm the validity of prior studies or propositions are discussed.

7.5.1 Confirmation of Prior Studies

Many studies of career change (for example, Amundson, 1995, Ibarra, 2005) have identified a trigger at the start of the process, which is no different than what was observed in this study. Therefore, this study provides further support for their findings that a trigger initiates the process of career change and that these triggers can vary. For many individuals in this study, there was a certain level of internal dissatisfaction or frustration either with their job or their career (knowing-why), which was not only the trigger for change but demonstrates support for the centrality of job and career dissatisfaction at the heart of Rhodes and Doering's model. The trigger does not have to be a driving influencing or facilitating factor; it can be the proverbial final straw that broke the camel's back, jolting the individual into action.

Step 2, realising the need to change, as identified in this study, was also found in other research on career change. This supports Young and Rodgers (1997) who identified this in their theme of disruption, whereby individuals acknowledged they were unhappy and could identify a point of no return in which they commenced the need to change. Louis (1980) discussed how events 'unfreeze' individuals so that they can move forward, Ebaugh (1988) talked of 'defining moments', and these appear to be referencing such realisations of the need to change – as seen in this study – and Hind (2005), in her four-room analogy of career change, explains this realisation as moving from the denial to the confusion room. Barclay, Stoltz and Chung (2011) included a contemplation/growth step in their model of career development, in which they described an emotional stage when the individuals' level of consciousness is being raised. Ibarra (2005) talked of how some events hone the individual's feelings, making them more conscious. This is then followed by

a period of reflection, which she calls 'mental processing'. Ibarra references Louis and Sutton (1991) and Langer and Piper (1987) when pointing out that events often provide an explicit confirmation of something which is known deep down. This apparent 'shock' or unfreezing that has led to the realisation of the need to take action was evident for some of the career changers in this study. For example, one individual talked of a 'perfect storm'. Similarly, McGinley et al. (2014) suggested that there was a perfect storm of influences that align to enable a career change. This realisation appears to be a culmination of a number of different drivers, influencing or facilitating factors, identified as a combination of forces by Sullivan et al. (2003), in which a pivotal moment in the career change process occurs whereby the equilibrium is disturbed (denial and inactivity are no longer options) and action needs to be taken.

The third step in the process identified by this research was that of reflection, thinking and questioning and, for some, a period of time out. This supports Sullivan and Baruch's (2009) suggestion that individuals make radical career changes in response to individual reflection and re-evaluation. Within the process outlined above, it was evident that reflection, thinking and questioning form a critical early step in the career change process. The individuals in this study felt that it was necessary for them to have clarity before moving forward, and so this period of reflection lasted as long as the individual needed it to, which was approximately a year. It was clear that this was not an easy time; there were tensions and uncertainties that needed to be resolved before the individual could move forward. There was a sense that some individuals needed to find 'inner peace' or their greater purpose before they could move forward with renewed vigour. This period took considerable time, soul searching and deep reflection. This supports Hind's (2005) proposal that in the change process there are feeling of doubt and the need to engage in self-analysis to understand oneself, and one's strengths, values, goals, etc. In this study, these aspects of tension, deep internal reflection, questioning of one's values and purpose and reference to such self-help books were seen to be supporting Hind's proposition. Interestingly for some individuals, this period of reflection

was undertaken away from the workplace. A couple of male career changers decided to undertake a MBA without being sure what the future looked like but in the hope that during that time out, they would be able to work out what they wanted to do. For another individual, it was having time off work due to stress-related issues that gave them the space to think clearly. This period of time out supports Wise and Millward's (2005) findings, in which they suggested that a period of time out was a needed recovery period for some individuals. Those who had stepped out to complete a MBA had a defined period of time, typically 12 months, in which to answer such questions and make a decision. This taking time out supports Ibarra (2004), in which she presents cases in working identity, where individuals have undertaken such an activity, termed 'stepping back', in which individuals create space and distance as well as the time to evaluate and reflect. It was unclear whether this third step truly equates with Rhodes and Doering's (1983) finding on 'thoughts of changing careers' as little detail was given about that step in their description of the process; however, there was evidence from this study to suggest that step 3 in combination with step 2 outlined in this model could be considered a parallel step to their initial step of 'thoughts of changing careers'. If this was the case, then this research has extended their model by separating out the distinguishing aspects of the step and further defining the constituent elements of each step.

Step 4 relates to gathering information to enable the individual to evaluate the different options available to them in step 5 of this research model. This fourth step is similar to block 14, 'the actual search', in Rhodes and Doering's (1983) model, in which they defined this step as the search behaviours and finding the means to achieve the goal. Hence, this finding supports the inclusion of the actual search step in Rhodes and Doering's model, although within this model, there was no evidence at this stage that the individuals were searching for actual sources of education or training; they were merely identifying what was required if they were to make a change. Similarly, this finding of the gathering information (step 4) supports Young and Rodgers' (1997) finding that career changers undertake a period of exploration about new jobs or careers before

changing careers. Within this study, when the individuals in step 4 can be likened to the individuals being situated in the confusion room (Hind, 2005), in which they are trying to get a sense of the world outside, wanting to know what else was available, what the entry criteria to that occupation are, how their skills and experiences link to those that are required, and what the finer details of working in that occupational field look like – salary, career progression and nature of the work, etc. This information gathering step has similarities to the exploration stage, i.e. the point of entry into the world of work, as identified by Super (1957). Similarly, Smart and Peterson (1997) found that individuals in the midst of a career change reflected the characteristics of those in the exploration stage of Super's model. This similarity provides additional support for the concept of recycling occurring when one undertakes a career change.

For some individuals in this study, a step involving sense checking/testing was found to be an intermediate step between evaluating the options and making the decision to change careers. This step of sense-checking/testing appears to be aligned with the working identities work of Ibarra, (Ibarra, 1999; Ibarra, 2005; Ibarra and Barbulescu, 2010), in which he discusses how a possible-self model involves testing out new identities. However, other than the work of Ibarra, there were no other studies found in the literature that discuss this sense making/testing step in relation to the career change process. This finding of the sense-making/testing process step as part of the career change process provides a further extension to Rhodes and Doering's integrated career change model. In doing so, it provides greater clarity to the process and activities involved within their intention to change careers step and, as such, should be included in any future models of career change as a separate and distinct step in the process of changing careers.

Step 7 in the model derived from this research study concerns taking action, which can be reached directly from step 1 or from step 6. The finding that some individuals move directly from a trigger (e.g. an opportunity arising or a reorganisation) to taking action thus bypassing many steps in the withdrawal process was not apparent in Rhodes and Doering's model, as their model does

not allow for such bypassing actions. A possible explanation for this can be found in the literature. Rouse (2001) developed a number of propositions and examined, on the one hand, a rational approach to turnover (in which the individuals follow a sequence of thought processes to arrive at their end decision) and an instinctual approach (in which turnover may have been triggered by an event and is typically not initiated via much cognitive thought). Within this research study, there was a two-route approach to taking action clearly evidenced, thus providing empirical support for Rouse's proposition.

In this study, there was also evidence of post career change (steps 9 and 10), in which some individuals either re-justified or questioned their decision (serving to reinforce their career change decision or to further thoughts of changing careers). This created a 'loop' in the process back to step 1, whereby they were essentially waiting for the next trigger to commence the process of change, again, be that an opportunity arising or the right time to make the next change. This further questioning was seen as a healthy process, a kind of 'after action review', in which they were taking stock and assessing their current situation. In steps 9a and 9b, the individuals were again considering their values, aspirations and motives in relation to their career change or questioning a possible future change.

This is an important finding. It suggests that the process of career change is one that is continuous throughout an individual's life, despite having made one change. The individuals were already re-assessing their careers with a view to making further changes or remaining in their new career area. Not only does this support Hall's (2002) definition of a career as a sequence of attitudes and behaviours related to work experiences and activities over an individual's lifespan, it lends support to Wise and Millward's (2005) suggestion that career change should be viewed as a natural step in one's career. This appears to support Super's (1980) concept of career development over one's lifespan and viewing a career change as a career management or career development activity, which in itself is not the end game but a component in a wider career game, leading to self-actualisation and, ultimately, greater career satisfaction. In

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this study, a number of career changers were already contemplating another change, although these future changes were deemed to be less radical than the one made in the past. This finding supports those of Young and Rodgers (1997), who noted something similar in their study, in which many of their career changers were already planning further changes. They noted that these were less radical and seen to be more as tweaking and related to greater alignment of the individuals' values and purposes. They concluded that, in such instances, the focus was on actualisation, and that the career change was driven by growth and development needs. It is plausible that having made one successful career change, the individual gains confidence, which leads to feelings that enable future career changes. This supports Hall's (1986) notion that through midcareer transitions, the individual gains self-esteem and, as a result of having made one change that demonstrated their ability to adapt, leads to an increase in their confidence, which may in turn lead to a higher probability of future changes. This suggests a link to the individual's ability to build not only their identity but also their career resilience through making the career change. In this study, there was one individual who made two radical voluntary career changes, and he clearly went through the proposed cycle twice, with evidence of a link to his identity. Trying out 'possible selves', as defined by Ibarra (2005), is an important component of career change. The evidence of a continuous process suggests that careers grow and mature as the individual grows and matures and that the needs and values of an individual change as they progress through life, thus supporting Super's notion of the career rainbow, in which differing roles come to the fore during one's life. Much like the work of Mainiero and Sullivan (2005), this signifies a kaleidoscope approach to careers, in which different aspects move into the foreground and background at different times in one's life, depending on the wider aspects of one's life.

7.5.2 Contrary Findings to the Existing Literature

Within this study, there was clear evidence that the evaluation step (step 5) formed part of the career change process and that during this step, the individuals were weighing up their decisions both objectively or rationally, with a

few talking quite openly about a cost/benefit analysis being conducted and others who evaluated their situation subjectively or instinctively. Within Rhodes and Doering's (1983) model, the evaluation process does not form part of the withdrawal process. There is a suggestion being made here based on this study that the evaluative processes should be considered part of the withdrawal process as the individual was making critical decisions on the back of the evaluation and perceptions that they hold. Very little evidence could be found in the literature based on the studies to date of this evaluation process with regard to career change. Many of the career change models proposed in the literature focus on the determinants of career change and, it would appear, assume some form of evaluation implicitly. An explanation for this positioning may be found in the origins of some of these process models, which have been born out of models of turnover. In these, it is assumed that there are expectations about the present job and an alternative job that feed into the expected utility of the present or other job, which lead to intentions to search. In the case of Rhodes and Doering's model, this is not fully explained.

Additionally, in this study, there was no evidence found to support Rhodes and Doering's inclusion of the evaluation of current job outcomes in comparison to alternative opportunity outcomes as an antecedent to thoughts of changing careers. Outcomes did not figure in the discussions of those making career changes in this study, which appeared more driven by needs. Although it is acknowledged here that Rhodes and Doering found support in their 1993 study, within the model derived from this research study, the evaluation process came much later in the process than it appears in Rhodes and Doering's model. Evaluating alternatives prior to commencing the career change process was not something that was discussed by any individuals in this study. One possible explanation for this may be that it did in fact occur but they were not able to recall it when questioned or that the evaluation of outcomes was conducted at a subconscious level. The reason this is suggested is that one individual who was interviewed suggested that there were critical career decisions that he had and had not made both unconsciously and consciously.

7.5.3 Extended Findings in Relation to the Career Change Process

The exit steps 9a and 9b, together with steps 10a and 10b are not included in Rhodes and Doering's model, and there was no definitive evidence found of these additional steps having occurred in previous career change studies, making this a new finding in relation to the process of changing careers. This may be as a result of the majority of the previous studies having been quantitative in nature, focused on 'intent to change/leave', or that the studies failed to consider the entire career history of the individual and focused only on a career change. That said, there were some suggestions found in the literature that support the inclusion of these additional steps in the process. Wise and Millward (2005) found that many of the participants in their study did not see their most recent change as the last one. They explained that having made one change, new future opportunities had arisen and that they had gained confidence to make another change. Their findings are supported by this study, in which the participants seemed to suggest that following their career change and after a period of time, they could see themselves making another change in the future. Whilst they did not recognise that this would take them back to the first step in this cyclical process, some did allude to the fact that another trigger would need to occur to start the formal process of career change again.

With regard to the existing literature, this loop from step 10 back to step 1 can be seen to relate closely to Super's (1984) concept of mini-cycles and recycling. Sullivan et al. (2003) suggested that recycling can be seen as a time for career rejuvenation, which essentially takes the individual back to the establishment stage within their career. Through their study, they suggested that recycling results from a number of different factors coming together. For some individuals, there were many driving, influencing and facilitating factors in operation. For many individuals, further thoughts of changing careers were possibilities, assuming that there was both a need and another trigger for the future change. Smart and Peterson (1997) examined recycling and found that recyclers re-examine their careers (as demonstrated in steps 9 and 10 of the model derived from this study) and are ready to look outside the boundaries of

their organisation or career. As such, this study provides further support to Hall and Mirvis's (1996) updated career stage model, in which they described the changes in the careers as an ongoing cycle, with exploration following mastery, which, in some instances, will lead to a new path, role, profession or organisation (Baruch, 2004). This study also supports Bejian and Salomone's (1995) suggestion of a theoretical fifth stage, known as career renewal, during which the individual undergoes a period of re-consideration of choice and commitment amongst other things. Bejian and Salomone (1995) reviewed the literature to provide evidence of this fifth stage, quoting Murphy and Burck (1976), who concluded that renewal was characterised by re-evaluation and led to a change or reestablishment of one's career. There was evidence in this study that this reappraisal and subsequent adjustment or re-commitment to the new career area had clearly happened in step 10 for some of the individuals.

The finding from this study that these additional steps occur after the actual change demonstrates a way in which this research study has extended current knowledge about the career change process and, in particular, has extended Rhodes and Doering's withdrawal process.

7.5.3.1 Process Differences

As discussed earlier, Rhodes and Doering's model (1983) is perhaps the most comprehensive model of career change in the literature at present. When comparing the process model developed as a result of this study with that of Rhodes and Doering's, there are five major differences that stand out: steps involved, linearity, the entry and exit points, and the location of the evaluation step in the process. Some of these differences have been discussed briefly in sections above and the remainder are discussed below.

Number of Steps

The first difference that stands out relates to the number of steps. Within the model based on the findings from this study, there could be as many as twelve separate steps, depending on the route the individual takes. This compares to the six steps involved in the withdrawal process specified by Rhodes and

Doering (1983). One possible explanation for this difference may lie in the boundaries and definitions of the steps. Whilst some details of the steps are provided in their explanation of the model, Rhodes and Doering did not provide detailed working definitions for their steps, making comparisons with this study somewhat open to interpretation. Another possible explanation relates to the level of detail; Rhodes and Doering may have used 'higher level' aggregated steps in explaining their model. Thus, within each step, there are a number of constituent parts. The model based on this research study has defined the steps at a detailed level, reflecting the different and discrete activities that the individuals have undertaken within the step, rather than collating them together.

An implication of both of these explanations in relation to this finding might be that the steps within the process are better defined within this study than in Rhodes and Doering's. This enables full clarity about what is and is not contained within a particular step, thus allowing other researchers to test this model more effectively as they can use more effective measures, i.e. operationalising the steps as they were intended to be operationalised rather than being open to interpretation.

Linearity of the Process

The second difference was that the process model developed as a result of this study was not linear and the steps within in were not always followed sequentially. Whilst Rhodes and Doering proposed that there could be various sequences in their integrated model, their actual withdrawal process was shown as six linear steps. Although Rhodes and Doering do have one step-out from the withdrawal process (i.e. where the individuals are said to follow an evaluation sequence), it does bring them back into the withdrawal process at the start and assumes that they follow the steps sequentially.

In the model based on this research study, as set out in Figure 38, there was evidence of the individuals bypassing steps and taking alternative routes through the career change process. As an example, individuals who followed route three bypassed most of the process steps by moving from step 1 to step 8

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directly. Others described starting at step 4 without a trigger and seeming to realise the need to change. In other instances, some individuals in this research included step 6b, sense-checking/testing, whilst others moved directly to step 6a, making the decision.

In Rhodes and Doering's model, an individual's journey through the career change process is generalised and lacks depth. Their model reflects higher level steps, which fail to take into account some of the individual nuances that have been seen within this study and that are depicted in the career change process model derived from this study.

Of particular note on the point made above was a discussion raised by Blau and Lunz (1998), who, in discussing the withdrawal process as shown by Rhodes and Doering, argued that as this is a dynamic process, the steps leading up to the actual change need to be examined separately, as noted in this study. Hom and Griffeth (1991) showed that the steps related to thoughts of quitting one's job, intent to search and intent to quit are all part of an overall withdrawal construct and should not be separated; however, the findings from this study and the argument raised above contradict this proposal. The nuances and details of what are included in these early process steps need to be separated to fully appreciate and understand the individual career change process. Not separating them into the constituent parts assumes that every individual experiences the same process in the same order and over the same time period, which, as demonstrated in this research, is not a true reflection of the highly individualised career change process.

Entry and Exit Points

The third major difference seen was that in the model derived from this study, there were two entry points into the career change process not one. Additionally, this study has shown that the process of career change does not end at the point of making the actual change, but rather, based on the evidence from some of the interviews, is an ongoing and cyclical process.

Individuals in this study were seen to enter the career change process at either step 1 (trigger) or step 3 (reflection, thinking and questioning), whereas Rhodes and Doering (1983) identified that individuals entered the withdrawal process at 'thoughts of changing careers'. There is an argument to say that 'thoughts of changing careers' equates to step 3, reflection, thinking and questioning. But as Rhodes and Doering have not defined thoughts of changing career, it is difficult to confirm this. Within this study, three individuals entered the career change process at step 3. In these instances, they identified that the timing was right (knowing-when) for them to look for a new role internally. None of the three had identified dissatisfaction as a factor in their career change decision and, as such, they described how they were reflecting and thinking about their next role and this was the point of entry for them. As mentioned above, this entry point into the career change withdrawal process was not reflected by any of the steps shown in Rhodes and Doering's model, and whilst it may be unique to the organisational processes (knowing-when) at play in this particular organisational context, it is an important distinction and a new finding in relation to the process of changing careers.

The finding of the absence of dissatisfaction for some individuals supports the findings from other studies that have shown that job satisfaction may not to be related to intention to change careers (Breeden, 1993; Carless and Arnup, 2011). The lack of dissatisfaction as a trigger and entry into the career change process at a point other than a trigger supports the assertions of Lee and Maurer (1997), who argued that traditional turnover theories that focus on job dissatisfaction may not be applicable to the careers of knowledge workers in their study of engineers. It may be that there are instances where individuals are satisfied with their career or job but still take time out to reflect on their future and, as a result, decide to make a career change. The finding in this study that there is not necessarily a trigger relating to knowing-why at the start of the career change process is important as it demonstrates how facilitating factors such as those related to the organisational factors are influential in the career change process, which in this study related to knowing-when. These

factors are somewhat external to the individual and more unpredictable, leading to a much more reactive and opportunistic form of career change. It also demonstrates evidence of career adaptability on the part of the individuals, who seize on such occurrences to pursue their own careers.

Furthermore, this study has shown that the process of career change does not end at the point of making a change step 8 in this model (or the actual change in Rhodes and Doering's model). There was evidence from some of the interviews to suggest that career change is an ongoing and cyclical process, and this study found that there were a further two segments, each with two steps in the process, as discussed in the section above.

Evaluation Process

The evaluation process has been discussed extensively in the sections above. It has been shown that the evaluation process in this study varies from that proposed by Rhodes and Doering (1983). Some individuals took an objective analytical approach whilst other took a more subjective and instinctive approach. These differences in decision-making approaches have been seen in the studies of others (Neapolitan, 1980; Carson and Carson, 1997; Lopes and Lyons, 2011).

In summary, these findings in relation to the actual career process enacted by 22 individuals in this study have deepened knowledge in relation to the steps and knowing aspects involved in the career change process by demonstrating a more detailed understanding of the subjective process of career change than previously determined.

7.6 The Intelligent Career Framework

This is the first known study to examine actual voluntary career change through the lens of the intelligent career framework to determine how the six knowings operate in terms of the factors involved in the decision to change careers as well as throughout the process. The use of this framework as a lens through which to examine career change has proved valuable in guiding the analysis

phase of the study when examining the factors involved in the decision to change careers. It has demonstrated the value of using the full lens as it has identified the role that each six knowing plays in not only the decision but also the process of career change.

As discussed in Chapter Two, Jones and DeFillippi (1996) identified how the six factors interacted and the connections they saw based on their study; however, these were somewhat linear and uni-directional, with one knowing leading the other sequentially, with the exception of knowing-what, which influences both the development of knowing-why and knowing-whom. This study identified a contrary pattern of interactions, which neither supports Jones and DeFillippi's (1996) findings or Parker, Khapova and Arthur's (2009). Figure 36 shows the identified relationships based on this study, and, unlike previous findings and proposition, no interaction was seen from knowing-why or knowing-how to knowing-whom, which suggests that when it comes to the factor affecting the decision to change careers, knowing-whom has only a one-way relationship with these other two knowing aspects. Whilst it may be seen that these six knowings play out and develop continuously during an individual's career, there appears to be a particular way in which they interact during a career change based on the findings of this study. From a career capital perspective, knowing-why and knowing-how do not seem to aid the development of knowing-whom during the process of a career change. Rather, the knowing-whom relationships, by providing support and information, assist the individuals in understanding their knowing-why motivations and knowing-how to bring about a career change.

7.7 Summary

In this chapter, the findings of this study have been discussed in relation to the existing literature. As highlighted by the literature review and at the start of this chapter, there are relatively few qualitative studies of actual voluntary career change in an early-mid career stage that exist, so the findings of this study are

also discussed within the context of those quantitative studies that have examined intent to change or willingness to change.

7.7.1 What Factors Contribute to the Decision to Change Careers?

Through this study, support has been provided for the findings of previous studies and an extra level of detail has been added, in that it has not only set out the factors and knowing aspect but also determined their roles (i.e. whether a driving, influencing or facilitating factor in the decision to change careers) as well as the possible interactions with other factors based on the coexistence of the factors in the individuals' accounts of their career change. This had not been done in other studies. It has allowed for the development of complex models of the interactions of the factors and knowings involved in career change.

This study has confirmed the findings of several others in relation to the intrinsic motivational factors or personal needs that drive the decision to change careers. Evidence has been seen in this study of a growth orientation, interest/enjoyment, challenge, as well as advancement/progression in relation to realising one's potential, meaning and purpose, which supports Neapolitan (1980). It has also demonstrated the importance of personal factors related to family/partner (Preston, 1994; Cohen and Mallon, 1999) and work/life balance (Brown, 1995). Through the identification of the factors involved in the decision to change careers, both pull and push factors were raised which varied in nature from personal, job-related, organisational, psychological and environmental, demonstrating that a broad range of factors from all the entire career ecosystem (Collins, 1990) operates to bring about a career change. Facilitating factors relating to knowing-whom supports the importance of social support (Lewis and Thomas, 1987; Holmes and Cartwright, 1994; Young and Rodgers, 1997; Higgins, 2001; Carless and Arnup, 2011) as well as the organisational role as a result of restructures and reorganisations (knowing-what and knowing-when). One's career capital was seen to also facilitate change, in that experience/skills (knowing-how) were important factors that enabled individuals to step out of the engineering profession. Additionally, the

influence of opportunity (knowing-when) and occurrence of luck was evidenced in this study, providing support for Lewis and Thomas (1987) and Chudzikowski et al. (2009), who suggested that this has a large role to play in the decision to change careers. It has also confirmed Collin's (1990) and Walker and Tracey's (2012) findings that the factors being considered during the decision to change careers are predominantly future orientated.

At the same time, this study has contradicted some earlier studies' findings, in relation to the knowing-why aspects, namely that individuals change careers for reasons of remuneration and job insecurity. Contrary evidence was also seen in relation to family/partner and location being key drivers of career change decisions. Whilst they were all raised, they were not done so in such high frequencies as previously seen and were not as influential as prior studies suggested. The findings of dual career and location considerations from a family/partner perspective in this study contradict Shamir and Arthur (1987), who indicated that these factors were not strongly associated with reasons for perceived career change. Where these contradictions have occurred, possible explanations have been offered. Additionally, whilst dissatisfaction was raised as a factor, most individuals discussed how they would return to the engineering profession if they were able to, which suggests that dissatisfaction with their former career was not a reason for making a career change, as proposed by Markey and Parks 1995. Whilst contradicting this finding, it does support Kirk (1989), who, like Lee and Maurer (2001), found that dissatisfaction was not a prerequisite for change as the attraction to the new career can play a greater role than the negative pressures of the old career.

This study has extended previous studies in the sense that it has built upon and provided much more detailed knowledge in relation to the elements of the identified factors. It has demonstrated that the factors all play different roles in the decision to change careers – i.e. drivers, influencers or facilitators. It has also shown how the factors interact with one another to produce clusters of factors. Furthermore, this study has extended the work of others in relation to work experiences playing a role in the decision to change careers. For example,

broadening assignments (knowing-how), which may be specific to this organisational context, were seen to be important facilitating factors, thus extending the findings of Wise and Millward (2005) and Ibarra's (2003) work on working identities.

As discussed above, this study has identified some new findings in relation to the factors that drive, influence or facilitate a career change and these all warrant further investigation. As part of the driver of advancement/progression, aspects relating to fulfilling one's ambitions and future opportunities were seen suggesting the influence of the more contemporary career theories at play. Similarly with the driver of family/partner, dual career was referenced as a factor, whereby couples are trying to balance and advance two careers. A key influencing factor was why not, suggesting that having nothing to lose in making a change is a powerful factor. Based on this study participants, having gained a broader education and knowledge base, making the change from technical to commercial was deemed to be possible. An MBA was seen to be a key component facilitating the career change, and whilst often proposed as a factor, very few studies have identified how this supports a career change. This study also provided new information in relation to how the six knowings appear and operate in the decision and process of career change. This study has identified the centrality of three of the knowings and the high prevalence of their occurrence in the factors that lead to a career change. Interestingly, the centrality of interest/enjoyment to other factors as well as the desire for breadth of knowledge and experience, suggests a more generalist rather than specialised approach to careers and one in which individuals have a genuine interest, is prevalent.

Finally, given the dearth of evidence in the literature and the known gap in relation to the organisational factors, it was pleasing to uncover how organisational strategy (knowing-what), organisational culture (knowing-what) and organisational processes (knowing-when), as well the documented influence of organisational structure (knowing-when), were seen to influence and facilitate the decision to change careers. It provided much needed

information in relation to the organisational factors in relation to what their role is in the decision to change careers and how they interact with other factors. Past research, as discussed above, assumes or implicitly suggests the role of these organisational factors, but no studies have explicitly found it. This study identified a number of organisational factors at play in the decision to change careers, and these organisational factors related to the knowing-what and knowing-when aspects of the intelligent career framework and were shown to be the critical factors that lead to a career change. The identification and discussion of these organisational factors is a major contribution of this study to the career change literature. A key recommendation of this study is to ensure further studies specifically examine how aspects of organisational strategy, culture, structure and process influence and facilitate career change decisions in more depth.

7.7.2 How is a Career Change enacted?

Through the study of the process of career change, support has been provided for the findings of previous studies in relation to the steps involved in the process.

This study has confirmed the study by Collin (1990), in that career change is in effect a process, not a one-off event. The process of change begins before the actual change (Teixiera and Gomes, 2000) and, as Collin (1990) identified, the beginning of change for many individuals is a significant subjective experience. Based on the accounts of individuals in this study, O'Connor and Wolfe's (1987) observation of a period of rising discontent prior to the critical juncture occurred can be seen as most individuals could verbalise the point in which they realised the need to change. Through examining the early stages of the process from an emotional perspective, it was clear to see that the individuals in this study reacted differently to not only the environment but also to those around them. As Collin (1990) noted, some individuals are active whilst others are passive to the environment. The observance of eight individuals in a persistence state seems to confirm the findings of Heppner et al. (1994) that individuals who lack

confidence appear to feel more stress and make less progress, as well as having to overcome more perceived barriers.

Questioning and reassessing careers were found by both Sullivan et al. (2003) and Teixiera and Gomes (2000) as an important step in the process, where the reality of change emerges into the consciousness of the individuals and the process of change appears to become more real, and they start actively thinking and talking to individuals about it. Individuals in this study were seen to take a number of actions before making the change once the decision was made. This can be likened to exposure by doing or by trying, supporting Murtagh et al. (2014). In many instances, undertaking a broadening assignment was an important action step taken in the process of changing careers.

The finding that the process of change does not stop at the point of making the change supports the findings of O'Connor and Wolfe (1987), who suggested that post career change individuals re-stabilise and recommit to their new directions. It was also seen that some individuals have since had further thoughts of changing careers, which supports Kanchier and Unruh's (1989) suggestion that individuals who had made one career change are more likely to change occupations again in the future. The process seen in this study suggests that the recycling observed by Smart and Petersen (1997) and Teixiera and Gomes (2000) occurs as mini-cycles during one's career, as the individuals are constantly exploring and searching for information in relation to their careers and prepared to make changes in line with the protean career orientation.

This study contradicts elements of the withdrawal process, as set out by Rhodes and Doering (1983), and, given the differences seen (section 7.5.3.1), this study can be seen to extend their work in a number of ways. In addition, this study can be seen to challenge and extend the finding by Murtagh et al. (2014) that career decision-making is non-deterministic, iterative and contextual. This study has shown how there is a general process of change that individuals follow, and whilst it does appear to be contextual, in that as the

factors change so too does the process that is followed, it also is iterative, in the sense that as something happens, the next step follows on from that rather than being standard to all career changers. This requires the individual's response and actions to be adapted to meet their personal and subjective needs. While Murtagh et al. (2014) suggested that the process was planless, in this study this was found not to be entirely true.

This study has identified some new and more detailed steps in the career change process and distinguished four routes through which individuals enacted a career change. It has highlighted the different entry points based on the decision-making type that has been made, as well as identifying what aspects of the intelligent career framework operate in each step of the process.

8 CONCLUSION

This research study set out to investigate through the lens of the intelligent career framework the following research questions:

- What factors contribute to the decision to change careers?
- How is a career change enacted?

This study has provided a greater understanding of the factors that drove, influenced and facilitated the actual voluntary career change of 22 individuals in an early-mid career stage that left the engineering profession. The analysis has been conducted and the factors examined through the theoretical lens of the intelligent careers framework. This study has enabled new knowledge to be gained in relation to the role that the six knowings play in the decision and process of career change. The qualitative approach taken in this study has allowed for the complex and dynamic process of career change to be studied in depth, with rich insights being gained, enabling new knowledge in relation to the organisational factors to emerge. This study has contributed to knowledge theoretically and empirically, as well as providing some insights from a practical perspective.

In this final chapter, the contribution that this study makes from a theoretical and empirical perspective is set out in sections 8.1 and 8.2 respectively, before some practical implications in section 8.3 are discussed. Section 8.4 considers the limitations of the study, whilst in section 8.5, suggestions for future research are proposed. Finally, section 8.6 concludes this thesis with some closing remarks.

The contributions of this study can be seen in Figure 44 below.

Contribution	What has been confirmed	What has been extended	What is new
Theoretical	This study has shown how the concept of recycling is wholly applicable to career changers. This study has confirmed many of the steps involved in the process of changing careers and the decision-making process taken.	This study has extended Rhodes and Doering's (1983) withdrawal process. In particular, this study has determined that a career change does not end at the actual change. There are additional steps: re-justification and reinforced decision or questioning and further thoughts of change post career change.	This research is the first known study to examine career change through the lens of the intelligent career framework. It has identified the ways in which each knowings operates in the career change decision or process. It has shown the central role played by knowing-why; knowing-how and knowing-when, and the critical role of knowing-whom.
Empirical	This study has confirmed the findings of other studies related to intent to change and actual career change in relation to the drivers (advancement, interest, growth, family, location, dissatisfaction, remuneration, challenge and work/life balance).	This study sampled actual voluntary career changers in an early-mid career stage, which has extended the knowledge by determining how these factors are clustered and interact in the decision and process of career change.	This study has identified and determined how some organisational factors, for example, organisational culture and strategy, influence the decision to change careers as well as how the organisation's structure and processes can facilitate a career change.

Figure 44: Study contributions

8.1 Theoretical Contributions

8.1.1 Career Change and the Intelligent Careers Framework

This study has analysed the drivers, influencing and facilitating factors involved in the decision to change careers as well as the steps involved in the process of changing careers through the lens of the intelligent career framework. It appears to be the first known study to examine career change through this contemporary lens and perspective of the six knowings. This has been an important lens to study career change as Carless and Arnup (2011, p.88) indicated that 'career change rather than stability is a characteristic of contemporary careers'. As a result of the analysis, this study has identified the role that each of the six knowings play in the actual voluntary career change decision and process, which makes a theoretical contribution to the literature as this was a gap in prior knowledge. This study has provided some knowledge into how the six knowings interact and how individuals draw upon their career capital in the decision and process of career change. The intelligent career framework has proved a fruitful and innovative basis through which to examine career change.

Knowing-why was seen as critical in driving the decision to change careers. These drivers related not only to objective factors such as advancement/progression and remuneration but also to more subjective factors such as interest/enjoyment; learning/growth; challenge; family/partner and work/life balance to name a few. Knowing-why was seen to play a central role in the clustering of factors which led to a career change and was seen to interact with all of the other five knowings. Without knowing the reasons why individuals are making the change it is very hard to enact a change successfully. Factors relating to knowing-what and knowing-whom provided important feeds into knowing-why which in turn provided input into those factors reflective of knowing-where; knowing-how and knowing-when. Every individual verbalised how knowing-why factors directed their decision to change careers. Knowing-why was critical in a number of the steps involved in the actual process of

change namely the trigger; reflection/thinking; the decision-making and then post change steps of re-justification or further questioning. This visible centrality of knowing-why supports the theoretical underpinning of it being concerned with one's motivations, values and aspirations (Jones and DeFillippi, 1996) and a key component in the decision to change careers.

Knowing-when and knowing-how are the two most important aspects involved in facilitating the decision to change careers. Like knowing-why they were central to the interactions of the six knowings and interacted with the five other knowings. Most individuals discussed factors which related to knowing-how. knowing-what and knowing-whom provided input into the knowing-how factors which facilitated the career change, whilst knowing-how fed into factors related to knowing-where; knowing-why and knowing-when. Most individuals also raised knowing-when which fed factors from knowing-where and knowing-what which in turn provided input into the observed factors relating to knowing-how; knowing-why and knowing-whom. For many individuals knowing-when to: take an opportunity which was presented or available or determine the right or natural point in time was a key aspect of facilitating the decision to change careers. Likewise, knowing-when in the form of taking advantage of organisational structural changes or policies and processes enabled individuals to change careers with relative ease, whilst using ones' experiences, skills and education (knowing-how) to make a change proved beneficial. In terms of the actual process of changing career knowing-when was observed in four steps: the trigger; realising the need to change; the actual decision-making and in taking action. Whereas, knowing-how was seen to be influential in four steps: the trigger; information gathering; evaluating the options and sense-checking. By understanding not only why to make a change but also how and when to make it are important aspects of changing careers voluntarily and whilst the other three knowings are important these three were seen to be central to the decision and process. Together these three central knowing aspects can be seen in every step of the career change process determined by this study.

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Knowing-whom was seen as an influencing and facilitating factor as well as playing a significant role in the process to change careers in three key steps: reflection/questioning; information gathering and sense-checking/testing. Over three-quarters of the individuals raised factors relating to knowing-whom which demonstrates that the relationships and social networks one builds are crucial for future career success. Many individuals were approached to apply for roles or were actively sponsored by others which enabled them to make the first and most influential step in their career change. Knowing-whom factors provided input into both knowing-how and knowing-why as well as a dual relationship with knowing-when.

Knowing-what was predominantly shown to play an influencing role in the decision to change careers, in the sense that the organisational strategy and culture and the individual's level of competitiveness and risk in making the change weighed into their decision to change career. Less than half of the individuals raised knowing-what aspects. Knowing-what factors provided input into factors related to: knowing-how; knowing-when and knowing-why. Understanding the external factors contributed to the decisions individuals were making about motivations, timing and process of change.

Finally, knowing-where i.e. location factors provided input into knowing-why and knowing-when factors as well as being fed factors from knowing-how. Less than half of the individuals raised knowing-where related factors and these were predominantly engineers who were expatriates before making the career change, which suggests that for the most part knowing-where in a contemporary careers environment and external context has a limited influence on the decision to change careers. Knowing-where factors also appear in four steps of the career change process model: the trigger; information gathering; making a decision and in taking action.

These findings make a significant contribution to understanding how individuals utilise and expend their 'career capital' when making a career change. This is the first known study to examine career change through the lens of this

contemporary career theory, which responds to calls in the careers literature by Sullivan (1999) for more research into the contemporary careers. It demonstrates the complexity of the factors at play and how the six knowing aspects interact to bring about a career change, which was not known before. This study proved that using the intelligent career framework as a lens through which to examine career change and the associated drivers and influencing and facilitating factors has been beneficial. It has thus contributed to the literature by extending the knowledge in relation to the applicability of the intelligent career framework and provides additional support to Parker, Khapova and Arthur's (2009) suggestion that the intelligent career framework is being used for viewing disparate aspects of careers and De Janasz and Sullivan's (2004) finding that it is a new and unusual way to examine careers.

8.1.2 Extending the Withdrawal Process Model of Career Change

In fully examining the steps involved in the career change process, this study has demonstrated the need for a more detailed and fuller career change process model than currently available in the career change literature. A career change process model was developed as a result of the findings of this research, which has extended the withdrawal process model section of the integrated career change model developed by Rhodes and Doering (1983). In this study, a total of five demonstrable differences were observed between the model produced as a result of this study and that of Rhodes and Doering's (1983) withdrawal process model, as discussed in Chapter Seven. This study has specifically extended the work of Rhodes and Doering by identifying and including new steps in the process of career change. These additional steps are sense-checking/testing prior to the decision to change, as well as the additional steps of rejustification, further questioning, reinforced decision and further thoughts of change post career change. Furthermore, this study has extended knowledge in relation to the various sequences through which individuals enact a career change. Rhodes and Doering (1983) indicated that there was a loop; however, this study has developed a greater understanding of the steps individuals follow and how there are numerous routes taken which, in effect, can

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bypass some steps. This study has demonstrated that the process is much more dynamic than depicted currently in those process models that are in existence, thus contributing to the knowledge of the physical process of career change. In examining the process of career change and the steps individual pass through, it answers the call of Sullivan et al. (2003) to understand more about the process, as well as addressing the need for research to consider how individuals move through the different stages of career change, as determined by Hess, Jepsen and Dries (2012) and as discussed in Chapter Two.

8.1.3 Recycling Concept

This study has provided new evidence for the steps that individuals undertake after a career change, which supports Super's (1980) concept of recycling. The steps of re-justification and/or questioning as well as reinforcing the decision or further thoughts of change post career change signify the cyclical and constant evolutionary nature of an individual's career, for which career change represents the process of recycling, as identified by Super (1980) and Bejian and Salomone (1995). Most existing models of career change consider it to be an event, a static and bounded process, which ends once a change has been made. This study has shown career change to be an ongoing component of a contemporary career, in which the process of recycling occurs. It is part of the ongoing individual career management and career development process, in which individuals constantly reassess their career in light of personal needs and circumstances (knowing-why), and taking advantage of knowing-when aspects as they arise. The participants in this study who had undertaken a career change exhibited characteristics of those thought to exist only in the early career stage, i.e. exploration through their actions in reflecting on their needs, gathering and evaluating information, which are activities typically seen in those transitioning from education to the world of work. What they demonstrated was the ability to recycle throughout their career, reinforcing the notion that a career choice is not something that is made in early adulthood, but is an important component of their life and is reassessed frequently. For many, recycling was seen as a positive activity, which positioned them for the future in line with their

desired career or personal aspirations. This has implications for not only theory but also practice, in the sense that adults will continue to require careers advice at all ages and phases of their life.

8.2 Empirical Contributions

8.2.1 Organisational Factors

As acknowledged in chapter two most existing research has failed to adequately consider the organisational factors involved in a career change both from an identification and role perspective. This study has discovered some of these organisational factors and determined their respective role as an influencing or facilitating factor involved in career change decision. This finding is new and as a result of this study a number of organisational factors related to strategy, culture, process and structure were identified as having been involved in the decision to change careers which provides new knowledge closing a recognised gap.

This study has revealed for the first time that the organisational factors related to knowing-how and knowing-what as well as knowing-when play a key role in the decision and process of career change within the engineering profession based on the broader organisational context in which these career changes were enacted. In this study it has been shown that whilst there are a number of factors (knowing-why) which drive the decision to change careers, these alone do not always lead to an actual change. Thus, examining only driving factors is not wholly useful for understanding how to retain individuals in the profession. This study has advanced the understanding of the organisational factors involved in the decision to change careers as well as determining how some organisational factors have enabled these individuals to change careers. For some engineers their decision to change careers appears to be an unintended consequence of some of the organisational factors, which have tipped the balance and led to their career change. Some individuals in experiencing the same factors largely ignored them for one reason or another. The effects of these organisational factors do need to be tested further. What has been shown

is that for some individuals dissatisfaction with some of these organisational factors leads them to leave the profession, but in many cases the individuals remain in the organisation which is curious. As a result of identifying these factors and their role this study has demonstrated the importance of studying the organisational context in any future study of career change as this organisational environment often provides the opportunity to change careers. This study has reinforced the understanding that these organisational factors are critical to understanding career change especially in an intra-organisational context and need to be considered in any future study.

8.2.2 Actual Voluntary Career Changers in an Early-mid Career Stage

In this study, actual voluntary career changers in an early-mid career stage have been interviewed and the resultant transcripts analysed, which has provided an important empirical contribution to the literature, in that this study is one of only a few which exist. By examining actual voluntary career changers provided a greater understanding of the actual reasons for and process of a career change rather than a hypothesised thus providing additional knowledge of the real reasons for change, which supports the findings of many previous studies. This study which has gathered and analysed empirical data from early-mid career changers addresses the dearth of studies examining those individuals who have changed careers in an early-mid career stage. This has enabled a deeper understanding and knowledge of the drivers, influencing and facilitating factors for those in their early-mid career as well as supporting the notion that career change can occur at any stage within one's career. It also provides impetus for future studies of individuals in their early-mid career.

8.2.3 Drivers of Career Change

This study has empirically examined actual voluntary career change and has identified some of the factors leading to a career change, which addresses the call of Ng and Feldman (2007). As well as identifying new factors and their role in the decision to change careers, this study has confirmed that many of the previously identified drivers of a career change, which have been discovered

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through prior qualitative and quantitative studies, are still valid today in an ever changing contemporary environment.

8.3 Limitations of this Study

Like all research, there are a number of limitations associated with this research study. There are five main limitations that have been identified, and these relate to the study type, sample and organisational context.

This research was essentially exploratory in nature, yielding rich and diverse data. It has provided a depth of understanding about career change, but within a narrow focus. However, as a qualitative study, it suffers from the inherent limitation that the results cannot be generalised beyond this study. This is amplified by the fact that the sample was taken from one organisation, although some individuals were not working for the organisation prior to making their career change. However, the objective was always to explore career change through a contemporary lens via 22 interviews, which has been achieved, meaning that this research study is exploratory and conceptual in nature.

The sample for this study was 22 career changers in their early-mid career. Whilst this is small, saturation was deemed to have been achieved after 11 interviews. That said, the participants in this study were volunteers, and, as such, may have had a particular 'stance' on the subject of career change, hence their willingness to participate. In addition, the findings in this study may be limited somewhat by the use of individuals from one profession (i.e. engineers) working in one organisation at the time of the study. Despite the focus on one profession, the findings are considered to have applicability to other knowledge workers and professionals. From a gender perspective, the sample was representative of the number of males and females in the engineering profession, and so this is not considered a limitation. The sample was predominantly from a UK perspective, although it did include individuals from other countries (who had worked or studied in the UK). It is not known the extent to which these findings are applicable to engineers from different countries where the profession is viewed on an equal standing to other

professions, such as law or medicine, as in Germany, for example. This should be further tested with a wider study of engineers from across a number of different countries.

The findings and discussion may relate heavily to the organisational context of Globoil. That said, three interviewees had only recently joined the organisation, having made both a career and organisational change, two of whom did from another multinational oil and gas company, which had similar structures and training for engineers. Whilst it is feasible that there may be some unique organisational factors at play within this sample, as most participants changed careers intra-organisationally, these are not expected to differ from other large global professional organisations that operate internal resourcing and talent management processes.

This study was cross-sectional, based on retrospective accounts of critical career decisions. For some individuals, this was a recent career decision, i.e. in the last 12 months, and for others, the actual change occurred seven to ten years ago. Hence, there is a recognition that the construction of careers in hindsight always runs the risk of bias in terms of selective recall (consistency bias) and social desirability bias, although it is hoped that this has been reduced, as this study focused less on attitudinal variables measured quantitatively (Chudzikowski, 2012). It is recognised that this study was a 'point in time' retrospective review of a dynamic and complex problem. This lack of longitudinal data may limit the findings. This was unavoidable given the timescale in which one is permitted to complete a PhD and the ongoing, continuous career journey that spans decades and that individuals pursue throughout their lives.

As a final limitation, it is not possible to consider all career changers as homogenous, and due to the diverse factors at play that drive and influence one's career, the very nature of individuals together with these factors make them and their careers unique. Trying to put these subjective views into common themes created a tension in seeking to accurately reflect the nuances

discussed by the interviewees in relation to each concept, whilst portraying the unique and complex picture of career change. The researcher's lens, which was applied via the analysis, has served to change the shape and nature of the data. This together with the influence of the researcher and the perspective used will have understandably shaped the data and what has been chosen to be presented. It is recognised that this is unavoidable and consistent with other qualitative methods. As mentioned earlier, the researcher was a Globoil employee working in Human Resources, and this may have influenced the interviewees' accounts (social desirability) and the analysis undertaken.

8.4 Future Research

As the first test of how individuals use their career capital when making a career change, some important findings were uncovered in relation to how the different forms of knowing contribute to the driving, influencing and facilitating factors, as well as how they feed into the decisions made by the individual at each stage of the career change process. Further research exploring the role and interactions of these six knowings based on the clusters and interactions identified in this study in relation to career change would enable a more complete and useful picture of the differences exhibited by those undertaking a career in a contemporary context compared to the studies undertaken in the 1980s and 1990s. In addition, further investigations into the factor-centric clusters (section 5.5) and the actual relationship between the identified factors, i.e. the inter-relatedness of the factors through quantitative methods, would offer another promising possibility for further research. Interest/enjoyment is one such cluster that should be investigated further.

A number of drivers were identified in this study, which warrant further specific attention. These were: future opportunities, pursuing one's aspirations, the dual career aspect leading to family/career conflict and gaining a broad generalist skills and experience base.

This study uncovered a number of influencing and facilitating factors involved in the career change related to the organisation and the possible nature of the oil

and gas sector at a particular point in time in the mid-late 2000s. These included the organisational strategy, culture, structure and processes. It would be useful, therefore, to replicate this study with a sample of individuals from a different industrial sector, as well as from non-professional occupations, such as blue-collar, clerical or the unskilled occupational fields to see if these organisational factors still play an influencing and facilitating role. The questions that remain to be answered are: Why do individuals respond differently to the same organisational factors? What makes some individuals change careers and others remain in the profession? Why do some individuals decide to change careers but remain in the same organisation?

This study largely involved interviewing a sample from a British educational or work experience perspective. Another interesting avenue for future investigation would be a cross-cultural study, to assess whether the identified factors differ in various cultural settings, such as an Asian perspective, in which career systems are different to European/American systems, which is where most of the studies to date have originated from.

As this research was time bound, a retrospective and cross-sectional study was all that was possible. Despite individuals being in different phases of the career change process and having made the change over a varying period of time, it would be beneficial to adopt different methodologies in the future, study career change longitudinally and explore the extent to which the driving, influencing and facilitating factors emerge and interact over time. This may be a more insightful approach to the interactions of the factors, and such an approach would require recording data by means of diary or video accounts, which would permit time series analysis or time pattern analysis methods to be employed.

8.5 Practical Implications

UK industry are concerned about retention of professional engineers in the profession, given the changing demographics and perceived lack of success if one remains an engineer beyond the age of 40 (Bailyn, 1982). In a competitive global business environment, retaining engineers is critical to the ongoing

success of organisations. As such, there is a real need to understand why professionals choose to undertake a career change rather than remain within the profession. The findings from this study, whilst providing a useful insight into one professional area, have a number of implications for not only the engineering profession but also for organisations employing knowledge workers or other traditional professions, such as law, medicine and accounting, in which there are clear career paths and professional institutions governing the requirements of professional qualification and competence.

An implication of this study for practice is, therefore, to encourage organisations to consider fully both the intended and unintended consequences of changes in their organisational strategy, structure, culture, policies and procedures. It was demonstrated here that given the opportunity, some individuals will 'exploit' the intended purpose or outcome of organisational factors for their own advantage.

When considering the drivers of career change, it is important for managers to understand at a personal level the drivers and motivators for each member of their team. By understanding more in terms of what the individual is looking to achieve in their career and what matters to them in their personal life, a manager can engage them more fully in work. There may be opportunities to give them work and project-based assignments that have more breadth and of a less narrow focus, which may make individuals feel that their work is meaningful and, consequently, less likely to think about changing careers.

Another area that was highlighted and came out strongly was that when organisations and professions insist on putting individuals in boxes, i.e. making them technical specialists, they are more likely to lose individuals through career change as they feel constrained. In this study, feeling trapped has been shown to lead to the need to explore other areas and seek out opportunities to gain wider experiences or take on unusual assignments, which, as demonstrated, was inadvertently the start of a career change process. If, through development and learning opportunities, individuals are enabled to have the experience of other aspects of the business, they are less likely to

become overly curious and take side steps. This may be a simple case of providing more communication to the engineers and engaging them in greater aspects of the business.

Another aspect that came out of this study, which is important for practice, was how difficult it is for people to return to the engineering profession once they have left. This may be related to the organisational policies and practices. Individuals discussed how, by stepping out for a short period of time, it was possible to return to a technical area, but if they were out for more than a couple of years, it was almost impossible to return due to the inequity in the career ladders and job grading systems, as well as the levels of experience and the need to have 'been there and done it' that exists in the engineering sphere. Many of the career changers discussed their level of regret or sadness at leaving engineering. Many verbalised how they wanted to follow a hybrid career with both technical and commercial aspects in their work, as they could not step back into a technical career without making backward steps because they had lost the necessary skills and lacked up-to-date experience. This barrier to entry may serve some well in certain instances, but in a profession that is lacking in numbers, it feels that it may become a self-fulfilling prophecy, further reducing numbers. Organisations should consider how they can allow individuals to re-enter the profession once they have left and benefit from their broader experiences, rather than making it an 'exclusive club'. It may be beneficial for some professions, which are struggling to recruit or retain individuals, to reconsider their policies and practices so as not to exclude professional trained and qualified individuals who, for whatever reason, have chosen to step off the career path only to find that at a later date they are unable to step back onto it.

8.6 Closing Remarks

This study adds to the existing knowledge and career theory by providing a subjective perspective on actual voluntary early-mid career changers. It has examined career change through the contemporary theoretical lens of the intelligent career framework. It has proven that this is a useful framework

through which to examine career change, and that each element of the six knowings plays a different role in both the decision and in the process to change careers. It has highlighted how the factors interact but also the centrality of knowing-why; knowing-how and knowing-when in the decision to change careers. It has provided a greater understanding of the organisational factors that influence the career changers' decision to change careers and facilitate the process of career change. It has demonstrated the process by which these individuals decided to make a career change through a detailed, step-by-step approach. It has shown how these factors and the process differ according to the career changers within one organisation, highlighting the unique and highly subjective nature of career change and the existence of different career change orientations.

A lack of qualified engineers looks set to be one of the biggest challenges facing the UK industry, and retaining engineers in the profession is deemed to be a key priority. Through this study, some of the reasons why engineers have left the profession were discussed. For many, it was not a dislike of the profession, but a result of personal factors and being influenced and facilitated by organisational factors. For a few, the decision to leave the profession was unintentional, brought about by prior actions and the passage of time.

Some found participating in the research interviews a reassuring and cathartic experience. They had not previously discussed their careers or decisions in such a manner. Many found it really opened their eyes to what matters for them, as this quote exemplifies:

> *It's been an interesting discussion because it's not one I've had at this sort of level. So, thanks for the opportunity.* (Isaac)

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APPENDICES

Appendix One – Exploratory Interview Protocol

Introduction
- Who I am.
- Nature of the research: to understand more about the factors and processes which impact individuals career decisions including changing careers for those in an early career stage.
- The purpose of this exploratory interview is to talk to you informally about your career to date, your expectations, decisions you have made etc.
- The interviews will last for approximately 45 to 60 minutes and will be recorded (as they will be transcribed and analysed afterwards). During the interview, which will be semi-structured, I will begin with some biographical information and then will move on to ask you a series of questions which focus on your career to date, your expectations etc.

- Participation is voluntary. If you wish to take part in my study you agree and have signed to say:
    - I can refuse to answer any question.
    - I can withdraw from the interview/research at any point in time for any reason.
    - I can ask further/clarifying questions about the process/research.
    - Full confidentiality will be maintained. My name will not appear on any transcripts or in the report produced.
    - The interview will remain confidential, between myself and the interviewer and no one will have access to the recordings.
    - The interviews will be coded as a whole and whilst individual quotes may be used, the purpose is to identify themes/commonality contributing to the research.
    - The written report will be submitted to the university as both a panel review and part of my final thesis (which will be made available to the participating companies).
    - I give my informed written consent to participate.
    - I understand that after completion of the research and submission of the thesis, the voice files and transcripts will be destroyed adhering to data protection regulations.

- Do you have any questions? Are you clear with the process and willing to consent to participate and be recorded? (Written consent form to be signed.)

Biographical Information
- What is your job title?
- How long have you been working for the company?
- How long have your been working in the engineering profession?
- Did you join straight as a graduate? – if not please briefly explain about your prior work experiences.

Interview Questions
- What attracted you to a career in engineering?
- What did you want to get out of an engineering career? or achieve from an engineering career? i.e. What did a career in engineering offer you?
- What were your expectations when entering the engineering profession?
    - Have those expectations been met? If not why not, if so how?
    - What critical incidents do you think have shaped your expectations about your career?
- Were your wants and the career offerings aligned?
- Are your expectations different now than they were when you entered the profession? If so, in what way and why?
- Tell me about your career to date?
- What aspects of your career are important to you?
    - and why?/please explain
- What does your career mean to you?
    - and why?/please explain
- What was the most difficult career decision you have taken?
    - How did you go about making that decision?
    - What has influenced or guided those decisions?
    - What factors did you take into account?
    - How long did it take you to make that decision? Why did it take that long?
- Why did you leave engineering? (motivation/driver)
    - How did you go about making the change/decision to change?
    - What factors influenced your decision-making?
    - How long did it take?
    - Who helped and supported your career change? In what way?
    - Who was/wasn't helpful and supportive? Why not?
    - When you look back what triggers or turning points are you aware of?
    - What opportunities presented themselves to you? How did you respond?
    - What exploratory activities did you participate in?
    - How do you feel now about the decision? Any regrets? What & why?

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- What are your expectations about the future and your career now?
  - Do you expect to make a career change? If so, when and why?
  - Under what conditions/circumstances would you consider making a career change in the future?
    - What would enable and inhibit you in making a change?
- How do you see your career developing
  - please tell me more/explain/what are your aspirations
- Based on your experiences why do you think some engineers remain in the profession whilst others leave?
- Is there anything else you would like to add about your own career or careers in general?

Thank you very much for participating. If you would like the typed transcript from this session please let me know.

Appendix Two – Pilot Interview Protocol

Introduction
- Who I am.
- Nature of the research– understand more about the mechanisms and processes as well as factors which impact individuals decisions about changing careers for those in an early career stage.
- The purpose of the pilot interview is to talk to you informally about your career to date, your expectations, decisions you have made, etc., to guide the main study.
- The interviews will last for approximately 45 to 60 minutes and will be recorded (as they will be transcribed and analysed afterwards). During the interview, which will be semi-structured, I will begin with some biographical information and then will move on to ask you a series of questions which focus on your career to date, your expectations etc.
- Participation is voluntary. You can refuse to answer any question and can withdraw from the interview/research at any point in time for any reason. Please feel free to ask any further or clarifying questions about the process/research.
- Throughout, full confidentiality will be maintained; your name will not appear on any transcripts or in the report produced. The interview will remain confidential, between you and me and other than the transcribers no one will have access to the recordings. The interviews will be coded as a whole and whilst individual quotes may be used, the purpose is to identify themes/commonality contributing to the research. From these interviews a written report will be produced and submitted to the university as both a panel review and part of my final thesis (which will be made available to the participating companies). After completion of the research and submission of the thesis, the voice files and transcripts will be destroyed adhering to data protection regulations.
- Do you have any questions? Are you clear with the process and willing to consent to participate and be recorded?

Biographical information
- What is your job title?
- How long have you been working in that role?
- How long have you been working in the engineering profession?
- How long have you been working for the company?
- Did you join straight as a graduate? – If not please briefly explain about your prior work experiences.

Interview questions
1. Please tell me about your career to date from your first full time role to your present day role.
    a. What attracted you to a career in engineering?
    b. What were your expectations about a career in engineering?

     c. Where did those expectations materialise from? (Were they explicit or implicit expectations?)

     d. Have those expectations materialised?

          i. If not, why not?

          ii. If so, in what way?

          iii. How does this make you feel now about a career in the engineering profession?

2. Please tell me about any critical decisions or changes that you have made within your career to date?

     a. Why did you make them? *(rationale? – development, no fit, work/life balance etc)*

     b. How did you make them? What process did you follow? *(things that you did?)*

     c. How long did they take? *(days, weeks, months)* and why did they take that long?

3. Can you think of a critical incident or 'trigger' which led you to make that career decision/change?

     a. If not, was it a series of events?

     b. If so, what was it?

     c. What happened before that incident?

     d. What happened after that incident?

     e. What was the outcome?

4. Please tell me about any individuals who have influenced or supported you and your career.

     a. In what way have they influenced or supported you?

5. How are you managing your own career?

     a. What are some of the things you are doing?

     b. How long have you been doing these things for?

     c. What are some of things which support your career management *(career plans, goals, mentors, etc.)*

6. How do you view your own career? i.e. what does your career mean to you?

     a. What is important to you in terms of your career?

7. How would you define a career change?

     a. What would you consider and not consider to be a career change?

8. Do you consider that you have made a career change?

9. What factors did you consider when making a career change?

     a. Why did you leave engineering? What was your motivation or driver?

     b. What factors influenced your decision-making?

c. How did you go about making that decision – what process did you follow?
d. Who influenced or supported your decision-making and in what way?
e. How do you feel now about that decision?
10. Is there anything else you would like to add about your own career or careers in general?

Thank you very much for participating and giving up some of your time today. If you would like the typed transcript from this session please let me know. I would be grateful if you could provide me with some feedback on the session today, I will send you an email with some questions, your responses are important in helping me develop the main study. Many Thanks.

Appendix Three – Information Sheet

I understand and agree to the following:

- Participation is voluntary.
- I can refuse to answer any question.
- I can withdraw from the interview/research at any point in time for any reason.
- I can ask further/clarifying questions about the process/research.
- Full confidentiality will be maintained. My name will not appear on any transcripts or in the report produced.
- The interview will remain confidential.
- The interview will be recorded.
- The interview will be transcribed by an external transcription service and that there is a confidentiality agreement in place.
- I understand that after completion of the research and submission of the thesis, the voice files and transcripts will be destroyed adhering to data protection regulations
- The interviews will be coded as a whole and whilst individual quotes may be used, the purpose is to identify themes/commonality contributing to the research.
- The research/written work will be submitted to the university as both a panel review and part of my final thesis (which may be made available to Globoil in whole or part).
- I give my informed written consent to participate.
- I am clear about the process.

I .... have read the above and give my informed written consent to participate.

.... Signed

.... Date

I would/would not like a copy of the typed transcript from the interview.

Appendix Four – Participant Email

Subject: PhD Research Project – Invitation to Participate

Claire Hunter, a HR professional currently working in Learning, is conducting a study as part of her PhD research at Cranfield University, School of Management, and she is seeking assistance in her work. Claire's research is examining career change, in particular the factors which individuals consider when pondering a change. Claire's research focuses on the engineering profession and the factors and processes considered/followed when contemplating a career change away from engineering.

Claire is two years into her PhD, has reviewed the literature and has identified that there has been very little research undertaken looking at people in the early career stage. Most literature and studies focus on 'later in career' choices or objectives measures such as pay and promotion.

Claire hopes that her research will contribute to engineering organisations in the UK by providing insights into the career decisions made by young engineers. She also hopes that factors can be identified which will lead to an increase in the level of retention for young engineers in the profession.

Claire is not being sponsored by Globoil and the information she obtains from individuals will neither be attributable nor passed to Globoil. Globoil will however receive a copy of the final thesis.

I am writing to ask if you would be interested in participating in this study. Participation is completely voluntary and the study will be run in 3 phases – an exploratory phase, a pilot phase and the main study.

If you are interested in participating in the research, please contact Claire directly – her email address is below. Claire will provide you with further details including a written consent form. If you then wish to continue you will be requested to participate in a face to face or telephone interview which may last up to one hour. The interview will be held in strict confidence and any

comments included in subsequent analysis will be completely non-attributable. Interviews will be held at a location convenient for you and will be recorded to allow for transcription and analysis. Participation is voluntary and at your own initiative. You are free to withdraw at any time, without giving a reason.

Appendix Five – Main Study Interview Protocol

Introduction

- Who I am.

- Nature of the research – understand more about the mechanisms and processes as well as factors which impact individuals decisions about changing careers for those in an early-mid career stage.

- The purpose of the interview is to talk to you informally about your career to date, your expectations, decisions you have made, etc.

- The interviews will last for approximately 90 minutes and will be recorded (as they will be transcribed and analysed afterwards). During the interview, which will be semi-structured, I will begin with some biographical information and then will move on to ask you a series of questions which focus on your career to date, your expectations etc.

- Participation is voluntary. You can refuse to answer any question and can withdraw from the interview/research at any point in time for any reason. Please feel free to ask any further or clarifying questions about the process/research.

- Throughout, full confidentiality will be maintained; your name will not appear on any transcripts or in the report produced. The interview will remain confidential, between you and me and other than the transcribers no one will have access to the recordings. The interviews will be coded as a whole and whilst individual quotes may be used, the purpose is to identify themes/commonality contributing to the research. From these interviews a written report will be produced and submitted to the university as both a panel review and part of my final thesis (which may be made available to the participating organisation). After completion of the research and submission of the thesis, the voice files and transcripts will be destroyed adhering to data protection regulations.

- Do you have any questions? Are you clear with the process and willing to consent to participate and be recorded?

Biographical information

- Please can you confirm the following:
    - the age range you fall into from this list (20–24; 25–29; 30–34; 35–39; 40)
    - marital status
    - degree discipline
    - professional status (Chartered, pursuing Chartership)
    - job title
- How long have you been working in that role?
- How long have you been working in the engineering profession?
- How long have you been working for the company?
- Did you join straight as a graduate or as an experienced hire?

Interview questions

1. Please tell me about your career to date from your first full time role to your present day role.
    a. What attracted you to a career in engineering?
    b. What were your expectations about a career in engineering?
    c. Where did those expectations materialise from? (Were they explicit or implicit expectations?)
    d. Have those expectations materialised?
        i. If not, why not?
        ii. If so, in what way?
        iii. How does this make you feel now about a career in the engineering profession?
2. Please tell me about any critical decisions or changes that you have made within your career to date?
    a. *Why did you make them? (rationale? – development, no fit, work/life balance, etc.)*
    b. *How did you make them? What process did you follow? (things that you did?) why?*

  c. *How long did they take? (days, weeks, months) and why did they* take that long?

  d. Who did you turn to for support? Why?

  e. How do you feel about that decision now? Why?

3. Can you think of a critical incident or 'trigger' which led you to make that career decision/change?

  a. If not, was it a series of events?

  b. If so, what was it?

  c. What happened before that incident?

  d. What happened after that incident?

  e. What was the outcome?

4. Please tell me about any individuals who have influenced or supported you and your career at key decision points.

  a. How did they influence or support you?

  b. Why did they support you?

5. How do you see your career developing in the future?

  a. Where do you see yourself? Why?

  b. How are you managing your own career?

  c. What are some of the things you are doing? Why?

  d. When did you start doing these things and why?

  e. What are some of things which support your career management *(career plans, goals, mentors etc.)*

6. What does your career mean to you?

  a. What is important to you in terms of your career?

  b. How does that fit with what attracted you to a career in engineering?

  c. How does that fit with your expectations about a career in engineering?

7. How would you define a career change?

  a. What would you consider and not consider to be a career change?

b. Do you know any engineers who have made a career change? Why did they change? What influence has that had on you?

8. Do you consider you have made a career change?

9. What factors did you consider when making a career change?

a. Why did you leave engineering? What was your motivation or driver?

b. What factors influenced your decision-making?

c. How did you go about making that decision – what process did you follow?

d. Who influenced or supported your decision-making and in what way?

e. How do you feel now about that decision?

10. Is there anything else you would like to add about your own career or careers in general?

Thank you very much for participating and giving up some of your time today. If you would like the transcript from this session please let me know.

Appendix Six – Contact Summary Form

Today's Date: 28.10.1013; Interview Date:10.10.13; Interview Location: Telephone; Interview Code: IV 10; Interview Length: 90 minutes

What were the main concepts, themes, issues and questions I saw in this contact?

- Trigger transition 09 before was expat
- Not a usual career path, but there is a thread running through it
- Reference point of others – peer comparisons

What research questions and which variables of interest did the contact bear on most centrally?

- Committed to company
- Almost denial of career change – decision will have been made for her
- Have taken side steps (lateral moves)

Summarise the information which was obtained

- Location key for her, really wanted to stay in engineering, but wanted London more, not possible to stay an engineer so made decision based on desired location. Now trying to find a compromise a tech/comm role.

Summary of the information that was not obtained, i.e. questions not asked/covered superficially – N/A all covered

Salient, interesting, important or illuminating points in this contact

- Sees self at a 'fork in the road' but accepts she is in denial. Her heart is set on engineering and she does not accept that she has changed careers, even though she knows she has. She thinks that decision has been made for her, based on her decision to be located in London. She is now not able to move back; she tells herself she has made a sidestep, but she knows it is too late now and that it will be difficult to get back into engineering. She accepts she has chosen location over profession.

<u>What questions remain following this contact?</u> – None

<u>Reflections based on listening to the recording again</u>

She talks openly and broadly; she is relaxed and humorous and very open. She accepts that she gets bored easily and had a curiosity about production and manufacturing. Location is of paramount importance to her; work/life balance as well. She needs a mental challenge and her heart is in engineering. Transition 2009 was the trigger, together with repatriation of locals meant she needed to return to the UK.

Appendix Seven – Coding Framework

Driving Factor: A factor that causes the career change to happen

Knowing-why

- Interest/enjoyment
    - Interest in career/industry
    - Enjoyment
    - Contents of work
    - Lack of energy
- Advancement/progression
    - Career progression/lack of
    - Gaining promotion
    - Wanting greater accountability or responsibility/lack of
    - Wanting future opportunities/lack of
    - Using one's strengths/aptitude to realise potential
    - Ambition/goals/meaning/purpose: making an impact/difference
- Learning/growth
    - Personal or professional development/lack of
    - Growth/lack of
    - Wanting more exposure or breadth/lack of
    - Access to training
    - Opportunity to gain a qualification
    - Wanting a generalist perspective
- Challenge
    - Wanting a challenge/lack of
    - Sense of boredom/monotony
- Family/Partner
    - Family/Partner considerations including overseas relationship, partner moving overseas, dual career
- Remuneration
    - Desire to earn more money
    - Inequitable/unfair pay
- Work/Life Balance
    - Lifestyle options/hours worked
    - Stress/Health effects of
- Recognition
    - Recognition/lack of recognition
    - Having a valued contribution
    - Inequitable recognition

- Satisfaction
    - Seeking satisfaction as a result of frustration/dissatisfaction

Knowing-where
- Location
  - Wanting/not wanting to be in a specific location
  - Family friendly locations
  - Working overseas
  - Accessing opportunities

Influencing Factor: A factor which influences but does not drive the career change decision

Knowing-whom
- Role model/peer comparisons
  - Having a role model, who had made the change
  - Making comparisons with friends re progress

Knowing-what
- Organisational strategy
  - Disagreeing with the organisational strategy
  - Projects postponed
  - Mergers/divestments
  - Growth/decline areas
- Industry/external environment
  - Exciting times externally
  - Economic effects
  - Declining industrial sector

Knowing-how
- Organisational culture
  - Nature of the organisational culture/environment
  - Scope of roles
  - Level of authority/decision-making

Knowing-when
- Age
  - At my age
  - Rather know sooner than later as getting older
- Why not?
  - Nothing to lose/no risk
  - Can always come back

Facilitating Factor: A factor that makes the decision or process of career change easier

Knowing-when

- Opportunity
    - An opportunity arose/available
    - Having the opportunity to make a change
- Right/natural time
    - Timing was right or natural to change roles
- Organisational structure
    - Organisational restructure meant reapplying for roles
- Organisational processes
    - Process or policy, i.e. applying for new roles every four years; succession planning; ability to cross occupational boundaries; high potentials being given development projects

Knowing-how

- Broadening assignment
    - An assignment for a period of time of 2–4 years in a different function, whereby gaining breadth of experience
- Experience/skills
    - Having the relevant experience, knowledge, competence or skills to take on a role
    - Having a relevant qualification
    - Having competitive edge/advantage

Knowing-whom

- Approached to apply/sponsored
    - Being approached and asked to apply for a role
    - Being championed by others in the organisation to open doors
- Being encouraged
    - Having someone actively supporting or encouraging the individual

How are they defining a career change? What fundamentally changes when making a career change?

What constitutes a career change?

A change in:

- Profession/function
- Company
- Path/direction/goal
- Engineering discipline
- Sector
- Business area

What changes when one makes a career change?

Knowing-how
- Skills, competencies, behaviours
- Knowledge, core training
- Nature of work
- Experiences

Knowing-whom
- Relationships/peers and wider network

Knowing-why
- Aspirations/ambitions

Other considerations

- Anything else raised related to temporal aspects, degrees of change, rates of change, permanency, etc.

Steps taken in the career change decision-making process

Child node	Step	Knowing element
Persistence	Not changing career despite a desire to do so	
Trigger	The event/factor which started the process	
Realisation of the need to change	The point where they realised they need to make a change, i.e. they could not go on	Knowing-when
Reflection, thinking and questioning	The internal process of reflection and thinking about their future and questioning what they wanted personally from their life and career	Knowing-why Knowing-whom
Information gathering	Talking to others, doing research in order to gather information to inform a decision	Knowing-what Knowing-how Knowing-where Knowing-whom
Evaluation of options	Weighing up the different choices available – subjectively or objectively	Knowing-what Knowing-how
Sense checking/testing	Running the choice/options past others to gauge their responses and reactions	Knowing-how Knowing-whom
Making a decision	The actual point of making the decision	Knowing-why Knowing-how Knowing-where Knowing-what Knowing-when
Taking action	For example, undertaking training/qualification, gaining experience, applying for a role	Knowing-when Knowing-where
Making change	Commencing in the new career area	
Re-justification	Re-justifying their decision either personally or to others (rationalising it)	Knowing-why
Questioning	Questioning themselves as to whether they had made the right decision	Knowing-why
Reinforcing decision	Considering the positive aspects and benefits post career change	Knowing-why
Further thoughts of changing	Suggesting that they may make another career change in the future	Knowing-why