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CHAPTER 1

INTRODUCTION

1. Introduction

1.1 Setting the scene for the study

Small and medium-sized enterprises (SMEs) are integral to economic and social development and regeneration (Harrigan *et al.*, 2011; Halabi and Lussier, 2014; Philip, 2011; Robson *et al.*, 2009). They promote economic growth and increase a country's competitiveness and wealth (Dobbs and Hamilton, 2007; Franco and Haase, 2010; McLarty *et al.*, 2012), facilitate rapid industrialisation (Arando *et al.*, 2009; Dickson and Weaver, 2008; Harris and Gibson, 2006; Smallbone *et al.*, 2010; Sauser, 2005) and are a key driver to innovation and R&D (Azimzadeh *et al.*, 2013; Caca, 2010; European Union, 2015; Halabi and Lussier, 2014; Robbins *et al.*, 2000). Small businesses are further regarded as a vehicle for invigorating the enterprise economy and an 'engine of growth' to stimulate recovery in the wake of recession (Cabinet Office, 2013; Holmes *et al.*, 2010; Simpson *et al.*, 2012; Unger *et al.*, 2011).

Above all, the single most important contribution of SMEs to the economy is employment generation (Adeoti, 2000; Amoros *et al.*, 2011; Chawla *et al.*, 2010, Dobbs and Hamilton, 2007; Holmes *et al.*, 2010; Lussier, 2010). Considering the fact that employment creation is mainly due to the expansion of current businesses rather than through the establishment of new businesses (Dobbs and Hamilton, 2007; Hill, 2001), further stresses their importance.

However, regardless the business environment (country and industry) they operate in, SMEs tend to exhibit high failure rates and poor performance levels (Arasti *et al.*, 2012; Baldwin *et al.*, 2000; Bates, 2005; Culkin and Smith, 2000; Disney *et al.*, 2003; Franco and Haase, 2009; Gray *et al.*, 2012; Hayward *et al.*, 2006; Jocumsen, 2004; Ropega, 2011) with their success and/or survival receiving increasing attention from academia and professionals alike.

The European and UK chemical distribution industry is a rapidly developing, well-established, significant part of the chemical industry (Burns, 2010; Brenntag, 2010; BCG, 2014; Districonsult, 2009; Hornke, 2013), worth EUR 52 billion (Chemagility, 2015) and corresponding to approximately 10 percent of the market value of all distributable chemicals. The industry is a significant contributor to the economy and employment and therefore of key importance to society (CEFIC, 2012; FECC, 2013; Hornke, 2013).

SMEs have a strong presence in the European and UK chemical distribution industry and play an important role in its overall growth and performance (CEFIC, 2012; FECC, 2013). The European

association of chemical distributors (FECC), represents over 1,700 companies with the vast majority being small businesses, employing 31,000 people and with an industry turnover of EUR 27 billion (FECC, 2015). In the UK specifically, chemical distributors, the majority of which are SMEs, employ circa 6,800 people with the market worth EUR 5.4bn (Chemagility, 2015).

The European and UK chemical distribution industry further exhibit very strong consolidation trends and regulatory requirements resulting in the overall reduction of the number of companies present, increasing even more the pressure on the survival of SMEs (BCG, 2013; Chemagility, 2008 and 2015; FECC, 2013; Hornke, 2013; Jung *et al.*, 2014; Keynote, 2011; Kronimuns *et al.*, 2009; Mortelmans and Reniers, 2012; Plimsoll, 2013).

1.2 Stating the problem

A review of the business literature reveals that there is not yet a universally accepted definition of small-medium enterprises, with significant variations in different countries (Chawla *et al.*, 2010; Smallbone *et al.*, 2010; Unger *et al.*, 2011) nor a single agreed-upon definition of business success (Beaver, 2002; Rogoff *et al.*, 2000) with the most prevailing one defining success as an increase in sales turnover and/or profitability (Brannback *et al.*, 2010; Davidsson *et al.*, 2009; Delmar 2006; Kiviluoto *et al.*, 2011; Steffens *et al.*, 2009). In this doctoral thesis, the terms small and medium sized enterprises (SMEs) and small businesses are used interchangeably. Both terms reflect the European Union Commission definition as published in the Official Journal of the European Union (May 2003). According to this classification, SMEs are enterprises that employ less than 250 people and have an annual turnover not exceeding EUR 50 million and/or an annual balance sheet total not exceeding EUR 43 million. Also, for the purpose of this study traditional financial criteria as described above are used to define SMEs success.

Despite the well-established importance of small-medium enterprises, there is also no unifying theory on small businesses success and knowledge is more fragmented than cumulative (Chawla *et al.*, 2010; Dobbs and Hamilton, 2007). Business literature features a wide range of critical success factors (CSFs) through a large number of conceptual frameworks that attempt to capture aspects of small business success. However, the importance of these already established CSFs appears to be relative and varies with the business environment, that is the industry and country SMEs operate in; meaning that while one success factor may be of great importance in one industry or country, it may not necessarily be of equal importance in another (Alfaadhel, 2010; Benzing *et al.*, 2009; Cragg and King, 1988; Colin *et al.*, 2005; Dean *et al.*, 2000; Gibb, 2000; Kader *et al.*, 2009; Krasniqi *et al.*,

2008; Lawal, 2005; Lin, 2006; Ogundele, 2007; Rutherford *et al.*, 2001; Simpson *et al.*, 2012; Smallbone and Wyer, 2000; Van de Van, 1993). This inevitably creates a need for empirical studies to investigate the impact of the already identified CSFs on each individual industry and in a specific country setting.

An area where small businesses have a particularly strong presence is the European and consequently the UK chemical distribution industry (BCG, 2013; Chemagility, 2012; FECC, 2013). In Europe, there are at least 10.000 companies servicing the end-users for their chemical needs, with the vast majority being small and medium enterprises with local and regional coverage (Brenntag, 2010; FECC, 2013). Chemical distributors are a fragmented network, positioned between chemical producers and their customers, adding value through an extensive range of services to both customers and suppliers such as managing complexity, accessing markets, providing financing and support etc.

However, very little is known about SMEs in the specific industry, their modus operandi and any factors contributing to their success and/or failure (Chemagility, 2008; CBA, 2015; FECC, 2015). In fact, due to the wide variety of functions performed by these companies and confusion with other types of trading in the industry, there is still no universally agreed definition of a chemical distributor (Chemagility, 2008 and 2012). To date, no study has examined the success factors for small and medium-sized firms in the UK chemical distribution industry and even on a European level, very little information exists (Hornke, 2012). Furthermore, there is no updated official statistical data available, in the form of a complete and comprehensive list through academic and/or professional sources, on the total number of SMEs operating in the UK chemical distribution industry (Chemagility, 2015).

Similarly and even though chemical distribution is a practise well established in the UK and a major contributor to the economy and employment, it remains an unexplored part of the chemical industry (Chemagility, 2008 and 2012) and is severely understudied on both an academic and professional level with very limited literature and research available. All academic knowledge originates from the study of the European chemical distribution industry (i.e. BCG, 2013; Hornke, 2012) while the majority of business information is available from industry reports (i.e. Plimsoll, Chemagility), Business Associations (i.e. BACS - British Association of Chemical Specialties, FECC - European Association of Chemical Distributors) and internet sources (i.e. ICIS). This inevitably creates the need for more academic and empirical research in this area.

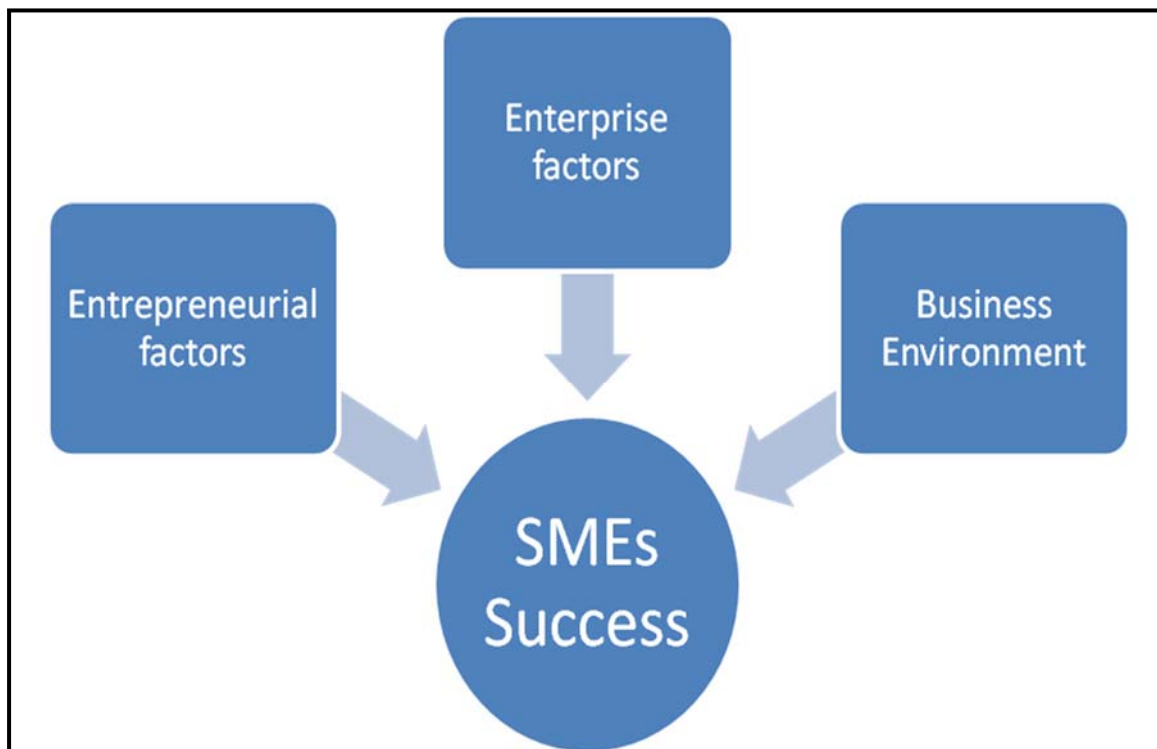
Therefore the 'problem', which also becomes the basis of theoretical positioning for this study, is the fact that critical success factors (CSFs) for SMEs depend upon and vary with the industry

and country they operate in. Therefore, in order to uncover the factors critical to small business success, it is necessary to investigate these factors within a specific industry and geographical context. With the UK chemical distribution being an important yet understudied industry with very little known about small businesses and their success, a very clear and well-defined research gap is established. The need for more empirical research to investigate success factors for SMEs in the UK chemical distribution industry is obvious.

1.3 Conceptual framework

This research begins with a review of the literature on SMEs, discussing their importance, definitions and unique characteristics. The terms of success and failure in a small business context are also defined and discussed in detail. Then, the study drills down into the factors contributory to small business success and failure and through a more critical and in depth literature review identifies the most prevailing SMEs success factors (SFs) without an industry and geographical focus. These are categorised in entrepreneurial (personal), enterprise (firm) and business environment (external) factors, as per Figure 1.1 below.

Figure 1.1 SMEs Success factors categorisation

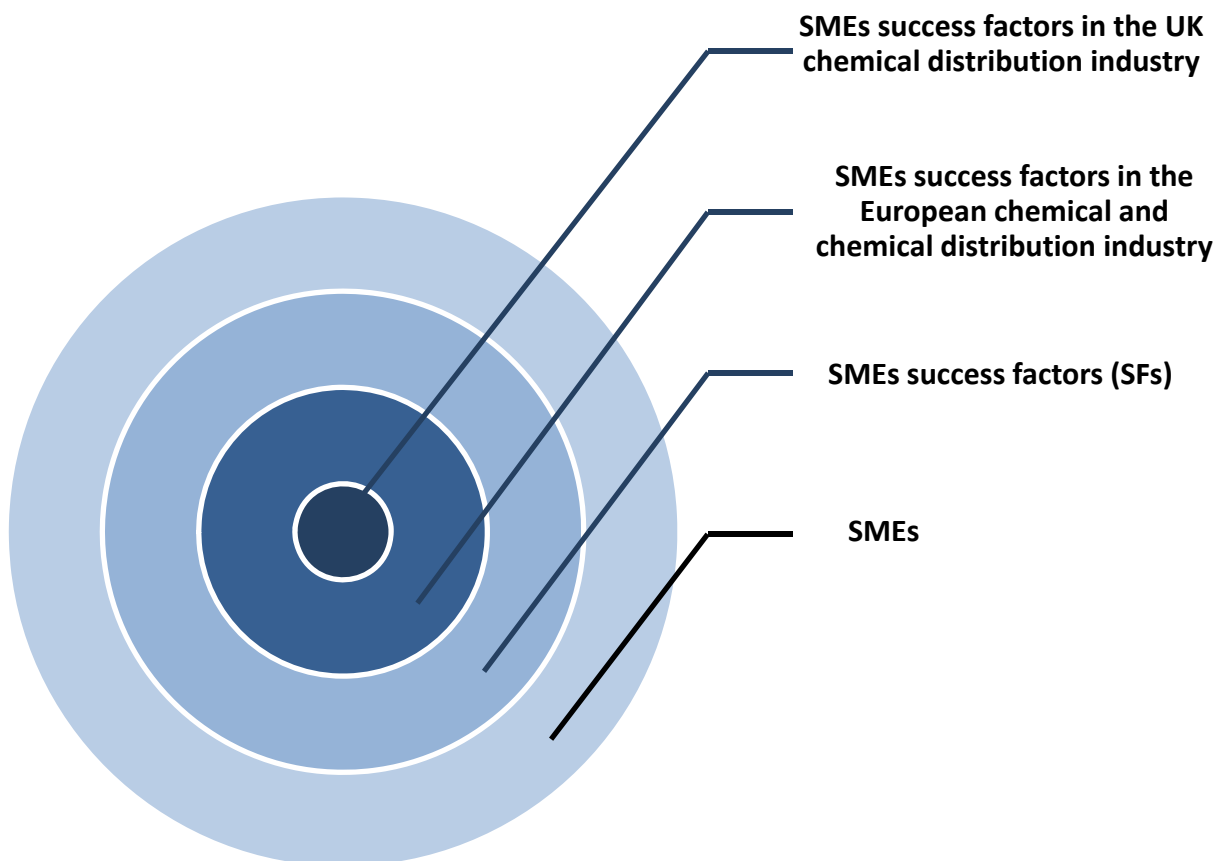


The research then focuses and draws upon the European chemical and chemical distribution industry, offering an overview and discussing the most salient driving forces. Factors contributory to

small business success in the specific industry and geography are identified and incorporated into the set of variables, whose impact is to be investigated ultimately in the UK chemical distribution industry, which is the setting of this study. Overall, this research uses existing theory on SMEs, SMEs success factors and SMEs success factors in the European chemical and chemical distribution industry to develop a conceptual and theoretical structure to confirm the critical success factors in the UK chemical distribution industry.

Figure 1.2 below depicts the process of theoretical deduction this research follows and constitutes the conceptual framework for this study.

Figure 1.2: Conceptual framework



1.4 Aim and research questions

Having established the fact that success factors for SMEs vary with the industry and country they operate in and having identified the UK chemical distribution industry as a severely understudied area, a very clear and well-defined gap in the business literature is established. This study attempts to address this gap in knowledge and therefore its primary aim is to identify the critical success factors (CSFs) for SMEs in the UK chemical distribution industry. The research further attempts to investigate the reasons why factors these are considered important, identify the challenges small businesses face and make recommendations for SMEs success and sustainable growth in the UK chemical distribution industry.

Following a review of the literature, the most significant factors affecting small business success are identified and categorised into entrepreneurial (relating to the owner/manager), enterprise (relating to the company) and business environment (external). This study intends to uncover the relationship between these factors and SMEs success and sustainable growth in the UK chemical distribution industry. Therefore, this study poses three (3) research questions:

- Which are the most important (critical) entrepreneurial (personal) factors influencing SMEs success and sustainable growth in the UK chemical distribution industry?

This question concerns the effect of the personal characteristics and features, acquired skills, experience and background dimensions of the owner/manager on the success of SMEs. In detail, the impact of age and gender, education level, entrepreneurial orientation, personality, prior work experience and management skills is investigated.

- Which are the most important (critical) enterprise (firm) factors influencing SMEs success and sustainable growth in the UK chemical distribution industry?

This question concerns the effect of the enterprise factors on the success of SMEs; that is any factors relating to the company itself, its structural characteristics, policies and strategies. These include the age and size of the company, business networks, customer relations management, financial resources, internationalisation, human capital, market and product development, marketing and strategic planning.

- Which are the most important (critical) external (business environment) factors influencing SMEs success and sustainable growth in the UK chemical distribution industry?

This question concerns the effect of the external environment on SMEs success. The impact of the political, economic, socio-cultural, technological, legal and regulatory and ecological and environmental factors is investigated in line with the PESTLE analysis framework.

In order to further support the primary aim as stated above and develop a more comprehensive view of the UK chemical distribution industry, the study also attempts to contribute to the academic literature the following underlying objectives:

- To establish the most critical entrepreneurial, enterprise and business environment factor
- To identify the challenges that SMEs face in the UK chemical distribution industry
- To document the owners/managers' recommendation(s) for SMEs success and sustainable growth in the UK chemical distribution industry.

These objectives are confirmatory (CSFs importance) and explanatory (challenges and recommendations) in nature and are entirely supportive of the identification of the factors critical to the specific industry which is the core of this study. In detail, this study further attempts to identify the most important entrepreneurial, enterprise and business environment factor and more importantly provide a justification for that selection. This further reinforces the identified critical success factors by introducing an element of factorisation and at the same time produces richer, more in-depth data on each factor. Similarly, in order to get a better insight into the selected industry, the study identifies the challenges that SMEs face in the UK chemical distribution industry and seeks the recommendations of owners/managers for success and sustainable growth.

1.5 Significance and original contribution of the study

This research aims to address a gap in small business success in the UK chemical distribution industry as this is the first study to investigate the critical success factors (CSFs) for SMEs operating in this sector (Chemagility, 2008; CBA, 2015; FECC, 2015). The original and significant contribution of this thesis would be the identification of the factors critical to the success and sustainable growth of UK chemical distribution SMEs. Therefore, this study does not only fulfil the need for more empirical studies in this area but is also expected to improve the understanding of small business success in this currently under-investigated industry.

This research further seeks to enhance the understanding of SMEs in the UK chemical distribution industry and offer an insight into their *modus operandi* (i.e. what chemical distributors are and what services they offer). Similarly, as there has not been any prior research in this area in the UK and very limited in Europe, this academic work is expected to expand the knowledge on the UK chemical distribution industry and ultimately offer a framework specifically designed for SMEs success in this important, well-established and yet understudied industry.

This study would further provide guidelines to stakeholders (SMEs owners/managers and entrepreneurs, the Government, policy makers, financial institutions, industry and non-government organisations) to improve their strategy formulation and decision-making process in order to support chemical distribution SMEs in being successful, achieving sustainable growth and strengthening them against failure.

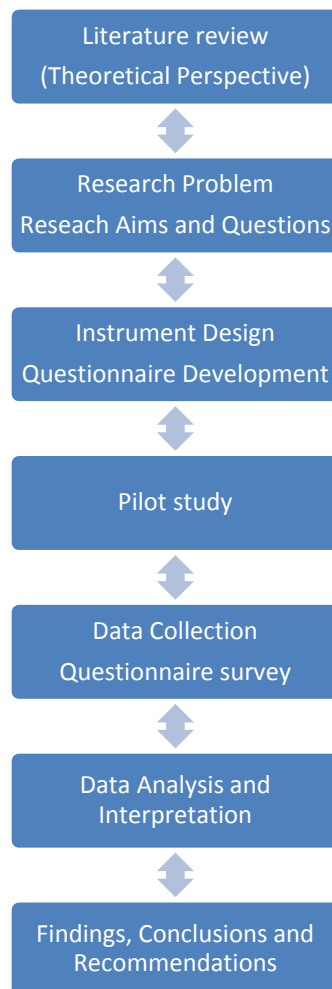
Overall, this study is expected to contribute to the knowledge and expand the literature on SMEs, entrepreneurship and small business success, provide an academic base for decision makers and a common language for academics to discuss and study factors crucial for the success of SMEs in the specific industry.

Last but not least, this study becomes the foundation and opens up avenues for future research in the small business arena for instance, by applying the framework in other industries and geographical settings; or investigating SMEs homogeneity. Future research might also focus on the UK and European chemical distribution industry, for instance through more in depth investigation of success factors or by exploring suppliers and manufacturers' success factors.

1.6 Research process

This research initially undertakes an extensive literature review in the area of SMEs, small business success and growth and the European and UK chemical and chemical distribution industry. This is the foundation and provides the theoretical framework for this study. The research problem is identified and the aims and research questions of this study are developed. An instrument to collect the data necessary to satisfy the research aim and address the research gap is designed and consequently a questionnaire is developed. A pilot study is conducted to refine the questionnaire and ensure content validity. Data collection is carried out using a postal survey approach. Statistical and qualitative methods of analysis are utilised to analyse and interpret the data followed by the reporting of findings, conclusions and recommendations. These become the contribution of this study to theory and practise. In detail, the research process of the thesis is presented in Figure 1.2 below:

Figure 1.2: Research Process



1.7 Structure of the thesis

In order to address the research gap and satisfy the aim of this research, the thesis comprises six chapters. Chapter 1 is the introduction; Chapters 2 and 3 explore and review the current body of

literature on each of the main concepts; Chapter 4 outlines the methodology; Chapter 5 presents findings and involves the analysis of data and Chapter 6 details the conclusions, contributions and recommendations of the study. Therefore, the structure of this thesis is as follows:

Chapter 1 provides an overview of this study. It initially states the problem, identifies the research gap and outlines the conceptual framework. It further establishes the importance and presents the research aim, research questions and anticipated contribution. The structure of the thesis is also presented. Last, the motivation of this study is discussed.

Chapter 2 discusses the importance, definition and characteristics of SMEs and critically reviews small business success and failure. This chapter provides a full review of the business literature and identifies a list of factors critical to small business success and sustainable growth. These factors are categorised in entrepreneurial, enterprise and business environment.

Chapter 3 initially offers an overview on the European and UK chemical and chemical distribution industry, which is the setting of this study, documenting their importance and detailing the most salient trends and driving forces. The chapter further establishes the significance of SMEs and conducts a full literature review to identify the factors critical to their success and sustainable growth in the specific industry.

Chapter 4 outlines the various methodological considerations and rationale of the research methods deployed in this study. This chapter presents the aims and objectives, the research process, the adopted philosophy, approach and strategy. The methods of data collection and analysis are further discussed and justified alongside validity and reliability. Last, the ethical considerations of this research are presented.

Chapter 5 presents and discusses the results of the survey questionnaire among SMEs owners/managers in the UK chemical distribution industry. The critical success factors for SMEs in the UK chemical distribution industry are identified and the reasons why these are considered important in the specific industry are discussed. The main challenges that small businesses face in the selected industry are also presented and discussed alongside the recommendations of owners/managers on success and sustainable growth in the specific industry.

Chapter 6 presents the conclusions of this study and demonstrates how the aim and objectives have been met. The contribution of this research on a theoretical basis is also discussed followed by

the impact and consideration of implications on the various stakeholders. Research limitations and recommendations for future research are also presented.

1.8 Motivation for this study

This thesis would not have been made a reality but for the natural curiosity of the researcher and his desire for continuous development. Furthermore, there is no point denying that being involved in the specific industry (with the researcher being a senior executive in a medium-sized, family-owned chemical distributor operating in the UK) has tremendously assisted in the realisation of this thesis in means of obtaining access to key people and securing their cooperation. Undoubtedly, anonymity and confidentiality had to be dealt with in the strictest and most objective way and considerable effort has been put into separating the professional and the academic (research) side.

The notion of undertaking a PhD (and consequently spending the next 3 ½ years balancing work, studies and family to the best of my abilities) sparked into life approximately 2 years after joining my current company, a SME in the UK chemical distribution industry. Having already had a long service record in the chemical industry, moving into chemical distribution was an epiphany as the significance and equally the low profile of this industry became very clear. Having realised that without chemical distribution companies, manufacturing of chemical products (which basically includes everything around us) would be extremely difficult, I started taking a more focused interest into the specific industry. Similarly, as this was the first time in my career working for a SME, I came to face the small business reality and quickly realised that it much differed from that of larger organisations. Small businesses operated in different ways, were more flexible and adaptable, provided more level of autonomy but equally lacked resources, were dependent much upon the owner/MD and were less secure in employment terms. Having taken all the above into consideration and in an attempt to develop myself professionally, I started investigating SMEs in the specific industry (initially through professional and then academic sources) and quickly came to the conclusion that there have not received enough attention in a professional and an academic way. The gap became too obvious to ignore and the opportunity to develop myself in a professional but more importantly in an academic way presented itself.

Throughout this study, becoming a competent researcher and developing academic skills while at the same time building up my knowledge on small business success and the UK chemical distribution industry have been my motivation. Having reached the end of my journey, I see myself having developed as a positivistic philosopher, fully understanding and appreciating the paradigm of

deductive research and competent in using quantitative and qualitative methods for data collection and analysis. Having gone beyond the many years of industry and practical experience as a senior executive, I am now in a position to understand the academic reasoning of the industry, the underlying issues and the factors critical to small business success. In other words, I have been able to develop an academic underpinning for my practical experience. At the same time, I have been able to increase my knowledge of the industry and SMEs operating in it, have developed valuable business contacts and feel more confident and capable in developing a strategy to achieve success and growth. However, my 'ulterior' motives and a very strong drive for this research, has always been the dissemination of my research in a professional and academic level.

On a professional level, the European Federation of Chemical Distributors (FECC) and the Chemical Business Association (CBA), the governing bodies of the European and the UK industry, are already aware of this study and the opportunity to present my findings in the FECC annual conference in the near future is being negotiated. Similarly, I have established contact with the industry's top magazines, ICIS and Chemanager with a view to pursue publication in the near future. External collaborations with well-known industry consultants have also been formed as I have been working closely with Chemagility (the only global chemical distribution database provider and consultancy, based in the UK) and with Neil A. Burns LLC, an international consultant in the chemical industry with strong ties to ICIS. Last but not least, plans for the findings of this study to become the basis for an industry report on SME success and a tailor-made training course to be offered to high-ranking executives in the industry, have already been set.

On an academic level, dissemination had been slow as priority had been given to completing my PhD rather than publishing my work. However, I did attend three conferences during the literature review stage (one international and the other two organised by my institution), where critical feedback was received and taken into consideration, with a further paper being accepted recently in an international conference (EuroMed, September 2015). Let it be noted that towards the last stages of my PhD, I have become more active in publications with three papers having being submitted. A literature review paper on SMEs success factors, a conceptual paper on success factors for European chemical distribution SMEs and a research paper on success factors for SMEs in the UK chemical distribution industry (as per list of unpublished work). A paper on SMEs growth strategies in the UK chemical distribution industry is also under preparation. Furthermore, collaborations have been sought with pan-European educational platforms, particularly Euromed, to extend my research to investigate CSFs for SMEs in the European chemical distribution industry. Last but not least, the

opportunity to do a post-doc on UK chemical distribution SMEs and Corporate Social Responsibility (CSR) is currently being explored.

CHAPTER 2

CRITICAL SUCCESS FACTORS (CSFs)

FOR

SMALL AND MEDIUM-SIZED ENTERPRISES

(SMEs)

2. Critical Success Factors (CSFs) for Small Medium-sized Enterprises (SMEs)

This chapter provides a review of the small business literature in order to identify and offer an insight into the factors critical to their success and sustainable growth. As previously noted (please see section 1.1), the terms small and medium-sized enterprises (SMEs) and small businesses are

interchangeably used throughout this study, both reflecting the European Union Commission definition (European Union, 2003).

Initially, the vital role of SMEs in society is discussed detailing their impact on the economy, employment generation and innovation. Despite small businesses being a well-established area of research, there are several variations in their definition and therefore the most prevailing ones are presented and discussed. In order to better understand the nature of SMEs, the unique characteristics that distinguish them from larger firms are further presented and analysed. Similarly, before establishing the critical success factors (CSFs) for SMEs, it is crucial to define the terms of success and failure in a small business context and recognise that one is as important as the other. Therefore, the various definitions of success and failure are discussed and a closer view is taken into the factors that contribute to small business failure. Then, a detailed and comprehensive review of the small business literature follows. Contemporary conceptual frameworks are utilised with the most important ones being from Chawla *et al.* (2010), Global Entrepreneurship Monitor (2014), Dobbs and Hamilton (2007), Lussier (1995) and Lussier and Halabi (2010) alongside numerous studies in the area of SMEs success. The most prevailing success factors are identified, categorised in entrepreneurial, enterprise and business environment and then presented as a set of variables whose impact is to be investigated in the UK chemical distribution industry.

In detail, the first part of this chapter discusses the importance (section 2.1), definition (section 2.2) and characteristics (section 2.3) of SMEs and provides a more in-depth view into their success and failure (section 2.4). The second part (section 2.5) focuses on the factors critical to their success and sustainable growth, initially presenting a number of contemporary, well-established conceptual frameworks and studies (section 2.5.1). A full review of the business literature follows based on the categorisation of critical success factors (CSFs) into Entrepreneurial (section 2.5.2), Enterprise (section 2.5.3) and Business Environment (section 2.5.4). Last, the full list of the success factors is presented (section 2.6).

2.1 SMEs Importance

Small and medium-sized enterprises (SMEs) are the focus of political, business and management research (Adeoti, 2000; Amoros *et al.*, 2011; Dobbs and Hamilton, 2007; Lussier, 2010; Halabi and Lussier, 2014). They are regarded as the preferred vehicle for invigorating the enterprise

economy (Beaver and Carr, 2002; Carr, 2000; Holmes *et al.*, 2010; Simpson *et al.*, 2012; Unger *et al.*, 2011) and considered integral to contemporary economic and social regeneration (Harrigan *et al.*, 2011; Mulhern, 1995; Philip, 2011; Reynolds, 1997; Robson *et al.*, 2009). SMEs promote economic growth and increase a country's competitiveness and wealth (Dobbs and Hamilton, 2007; Franco and Haase, 2010; McLarty *et al.*, 2012). SMEs are essential for the establishment of a solid industrial base and facilitate rapid industrialisation (Arando *et al.*, 2009; Dickson and Weaver, 2008; Harris and Gibson, 2006; Smallbone *et al.*, 2010; Sauser, 2005); are seen to be more innovative than their larger counterparts (Caca, 2010; Day, 2000; Meyer, 2004; Tonge *et al.*, 2000) and are a key driver to innovation and R&D (Azimzadeh *et al.*, 2013; European Union, 2015; Halabi and Lussier, 2014; Robbins *et al.*, 2000). In the UK, small firms are considered of core importance, an 'engine of growth' to stimulate recovery in the wake of recession (Cabinet Office, 2013).

However, the single most important contribution of SMEs to an economy is employment generation. A very large number of studies conclude that small businesses play a major role in job creation (Dobbs and Hamilton, 2007; Galapova and McKie 2012; Hamilton and Dana, 2003; Raju *et al.*, 2011; Robbins *et al.*, 2000; Smallbone and Wyer, 2000; Tilley and Tonge, 2003; Tonge *et al.*, 2000). More recent research by Arasti *et al.* (2012) in Iran, McLarty *et al.* (2012) in the Czech Republic, Islam *et al.* (2011) in Bangladesh, Lee and Stearns (2012) in Korea, Chittithawom *et al.* (2011) in Thailand Krasniqi *et al.* (2008) in Kosovo and Jasra *et al.* (2011) in Pakistan further reinforces the importance of SMEs in creating new jobs and thus promoting economic growth.

In the European Union, micro, small and medium-sized enterprises are socially and economically important as they represent 99% of all enterprises (European Union, 2013). They employ around 90 million people, generating 3.7 trillion EUR in added value while providing 2 out of 3 jobs and contribute to entrepreneurship and innovation (European Union, 2014a; European Union, 2015). In the UK, small and medium-sized enterprises (SMEs) form an equally important part of the economy as they account for 50% of all UK economic activity and 58.7% of the private sector jobs (Tilley and Tonge, 2003). According to the Small Business Statistics (SBS), in the UK in 2007, there were 4.3 million firms, 99.8% out of which had less than 250 employees and were classed as SMEs, while in 2012 there were 4.8 million firms, 99.9% out of which were classed as SMEs. Small businesses in the UK in 2012 employed 14.1 million people, which is 59.1 per cent of private sector employment, and had a combined turnover of £1,500 billion, that being 34.4 per cent of turnover (Department of Business Innovation and Skills, 2012; SBS, 2012). More recent data from the Department for Business and Innovation (2014) report that, at the start of 2014, small and medium-sized businesses employed 15.2

million people and had a combined turnover of £1.6 trillion; these accounted for 99.3 per cent of all private sector businesses in the UK, 47.8 per cent of private sector employment and 33.2 per cent of private sector turnover.

Overall, it is well established in the business literature that SMEs play an extremely vital role in the economy and society not only because their performance affects to a large degree the country's economic growth and prosperity but also due to the large number of people they employ. Due to the fact that SMEs are a major part in today's modern economies, an understanding of why they succeed or fail is crucial to the stability and health of the economy (Blackburn and Kovalainen, 2009; Corman *et al.*, 1996; Holmes *et al.*, 2010; Halabi and Lussier, 2014; Philip, 2011; Pompe and Bilderbeek, 2005; Raju *et al.*, 2011). As such, considerable research is still needed to determine and identify the critical factors affecting their success and investigate how they can contribute further to economic growth and employment.

2.2 SMEs Definition

Even though SMEs is an area well researched with its importance well documented (i.e. Dobbs and Hamilton, 2007; Smallbone *et al.*, 2010; Unger *et al.*, 2011), there is still no universally accepted definition of what constitutes a small business with variations existing in different countries. This study initially presents the various definitions of SMEs in the United States and Japan as these are large, heavily industrialised, technologically advanced economies, with a strong presence of SMEs and is therefore deemed more suitable. Then, for the purposes of this research, the EU and UK definitions are discussed.

In the United States, small businesses are defined as independent businesses comprising fewer than 500 employees and are further classified according to varying industry standards on employment size, sales and annual turnover (Office of the Advocacy United States Small Business Association, 2003). In Japan, SMEs are generally businesses which employ between 4 and 299 employees but yet again definitions vary according to both sector and capital invested. In the European Union, any enterprise that employs fewer than 250 persons and has an annual turnover not exceeding EUR 50 million and/or an annual balance sheet total not exceeding EUR 43 million qualifies as a SME (European Union, 2013). Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 staff and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million while a microenterprise is defined as an enterprise which

employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million EUR (Enterprise and Industry, 2003).

Table 2.1 EU definition of SMEs

	Micro	Small	Medium	Large
No of Employees	<10	10-50	50-250	250+
Annual Turnover	<2m EUR	2-10m EUR	10-50m EUR	50m EUR +
Annual Balance Sheet Total	<2m EUR	2-10m EUR	20-43m EUR	43m EUR+

Source: European Union (2013)

In the United Kingdom, a small medium firm (SME) is defined as an independent business that does not form part of a large company, is managed by its owners or part-owners in a personalised way and has a relatively small market share that cannot affect the overall market (Bolton Committee, 1971). The Bolton committee also states that the firm size is relevant to the sector it operates in, meaning that a firm of a given size can be considered small in one sector but large in another. In addition to that, the same authors also recognise that in some sectors it may be more appropriate to define firm size based on the number of employees while in other sectors on turnover. The need for further research into different industries becomes obvious.

A clearer and more concise way of defining small firms in the UK is given through the UK Companies Act of 2006 which states that if a company is to be defined as 'small', it must satisfy at least two of the following criteria:

- Have a turnover of no more than £6.5 million.
- Have a balance sheet total of no more than £3.26million.
- Have no more than 50 employees.

Similarly, a medium-sized company must satisfy at least two of the following criteria:

- Have a turnover of no more than £25.9 million.
- Have a balance sheet total of no more than £12.9 million.
- Have no more than 250 employees.

For the purpose of this study, the definition of SMEs is that of the European Union Enterprise and Industry (2003, 2015); that is any enterprise that employs fewer than 250 people and has an annual turnover not exceeding EUR 50 million and/or an annual balance sheet total not exceeding EUR

43 million. As the SMEs under investigation operate in a member state of the European Union, the United Kingdom, this definition is more suitable and more relevant to the study. It has also been more recently updated so it is deemed to better reflect the current market conditions. The following table presents the SME definition adopted for this study:

Table 2.2 SMEs Definition adopted in this study

	SMEs	Large Enterprises
No of Employees	Up to 250	250+
Annual Turnover	Up to 50m EUR	50m EUR +
Annual Balance Sheet Total	Up to 43m EUR	43m EUR+

2.3 SMEs Characteristics

Overall, SMEs have several features that distinguish them from larger firms. Business literature concurs that their most important characteristics are the absence of complex formal structures, the dominance of owner-managers, the lack of internal labour markets, environmental uncertainty and a limited customer base (Adams *et al.*, 2012; Floren, 2006; Storey and Greene, 2010; Wynarczyk *et al.*, 1993). According to Simpson *et al.* (2012), the typical SME has limited resources, limited cash flows, few customers, is often engaged in management ‘fire-fighting’, concentrates on current performance rather than taking a strategic focus, often has a flat organisational structure and possibly high staff turnover. Similarly, a high risk of failure makes small businesses more focused on short-term survival than long term planning and consequently ‘cash rather than profit’ (Adams *et al.*, 2012; Raju *et al.*, 2011).

Where perhaps SMEs are more distinct compared to larger firms, is the fact that they are defined very much by the personal commitment and motivation of their owners, which, in turn, creates within firms an individual and particular approach to strategic management (Bonet *et al.*, 2011; Gartner *et al.*, 1992; Gibb, 1997; Raju *et al.*, 2011; Scott, 1991; Perks, 2006). This means that, as organisations, they are likely to be sustained primarily by economically significant skills along with successive knowledge claims concerning the viability of those skills. In addition, their success is likely to be dependent on combining entrepreneurial orientation with strategic action (Hitt *et al.*, 2001; Kumar *et al.*, 2012). It is therefore recognised that the evolution of smaller firms is likely to be influenced by the development of firm-based resources and capabilities enacted through activity rather than the accrual of resources (Weick, 1995; Unger *et al.*, 2011). To further support the absence of formality in small businesses, Rantanen (2001) in Forsman (2008), argues that small firms are more

likely to engage in informal management practices than to adopt sophisticated planning and control techniques. For instance, small firms are likely to provide less formal training and recruit new staff through informal channels. The less formalised internal and external information and communication systems are in place, the faster response times and problem-solving are, making SMEs more responsive to customer needs (Winch and McDonald, 1999).

Adams *et al.* (2012), Forsman (2008) and Raju *et al.* (2011) provide a good account of small businesses advantages and disadvantages compared with large organisations. Advantages include the distinct flexibility that enables them to respond quickly to environmental changes (further supported by Fiegenbaum and Karnani, 1991; Salavou *et al.*, 2004; Scott, 1991; Vossen, 1998); the informal management structure and centralised decision-making; the fact that they are close to the customers (further supported by Coviello *et al.*, 2000; Julien, 1993; Scott, 1991; Storey, 2000) and the ability to frequently use technology and/or superior quality to gain competitive advantage (further supported by Levy and Powell, 2000). The main disadvantages as identified again by Adams *et al.* (2012), Forsman (2008) and Raju *et al.*, (2011) are the lack of formal strategy and formulation processes, which result in implicit rather than explicit business strategies; a focus on day-to-day problems instead of longer goals; the relative lack of resources (i.e. personnel, financial, and physical facilities), which discourages management specialisation as multiple responsibilities are assigned to one person (further supported by Chapman, 1999; Dean *et al.*, 1998; Herbane, 2010; Levy and Powell, 2000; Thun *et al.*, 2011) and the relatively low degree of purchasing leverage (further supported by Cox, 2001; Thun *et al.*, 2011).

2.4 SMEs failure and success

2.4.1 SMEs Failure

Developing a deeper understanding of SMEs can never be complete without recognition of business failure and until the causes of those failures have been thoroughly investigated (Halabi and Lussier, 2014; Michael and Combs, 2008). Samuels *et al.* (2008) report that there is little empirical literature on failures and, in a more recent research, Arasti *et al.* (2012) also agree that the majority of entrepreneurship/SMEs studies have focused on business success while little information regarding business failure exists. Liao *et al.* (2009), concur that understanding business failure is as important as understanding business success and further argue that this understanding provides equally critical information for several key stakeholders in new ventures such as entrepreneurs, venture financiers and government policymakers. Eyal-Cohen (2014) views failure as a way to diffuse knowledge among SMEs and emphasise the skill sets needed to be resilient and eventually successful; a way to educate

investors, allowing them to choose their future investments more wisely and finally a way to introduce 'churn' into the labour markets, which eventually leads to greater economic growth.

Ropega (2011) argues that although business failure happens to businesses of all sizes, small businesses are exposed to bigger threats because they simply do not have the support of extra finance or resources that larger companies typically possess and due to their extremely poor ability to source financing from banking institutions. The same author also notes that business failure does not always occur because of problems in one's own business, but can happen as a knock-on effect from actions made by other businesses, suppliers and customers.

Many researchers, in a number of studies in different countries, have focused on SMEs failure rates and conclude that there is a high risk of failure in the first years of operation. In more detail, Baldwin *et al.* (2000) reports, that 23 % of Canadian firms are likely to exit during their first year of operation. Mata and Portugal (1994), studying the survival of new manufacturing firms in Portugal, report comparable results. Disney *et al.* (2003) note that after five years, only 20% of small UK manufacturing businesses will have survived. Hayward *et al.* (2006) suggest that failure is a significant outcome of most of the entrepreneurial enterprises initiated in the US. Franco and Haase (2009), note that small business failure is high, above all within the first years after starting up. Ropega (2011) argues that only about 50 percent of small businesses are still trading after the first three years from their initial set up. According to Arasti *et al.* (2012), a new firm in Iran has a 42% probability of surviving past its fourth year and a 20% likelihood of completing its first decade. The same authors also report that one fifth of such firms failed during the first year of entry and that only 50% survived for four years. Last but not least, more recent data from the UK Office for National Statistics (Gray *et al.*, 2012) indicates that fewer than 65% of SMEs are still trading three years after start-up, with fewer than 45% surviving after five years.

2.4.1.1 Definition of failure

In the business literature, failure is defined in many different ways and a number of terminologies are related to it (Storey, 1988; Watson and Everett, 1996). The most common ones are firm closure, ceasing to trade, entrepreneurial exit, dissolution, deregistering, discontinuance, insolvency, liquidation, organizational mortality and bankruptcy. According to Stern (1998), all these definitions overlap to some degree. The prevailing definition for business failure appears to be filing for bankruptcy law protection (Arasti *et al.*, 2012; Boritz and Kennedy, 1995; Carter and Van Auken, 2006; McKee, 2003; Moscalu and Vintila, 2012; Ropega, 2011).

Gaskill *et al.* (1993) define business failure as wanting or needing to sell or liquidate to avoid losses or to pay off creditors or general inability to make a profitable go of the business. Watson and Everett (1999) believe that discontinuance may signal actual failure because business resources may have been reallocated to more profitable areas. Headd (2003) makes a compelling argument that discontinuance may not be associated with failure. Disappearance of a business may occur because the business failed, because the business is acquired by or merged into another company, or because the owners voluntarily closed it (Cardozo and Borchert, 2004). However, one business might continue to exist without meeting performance indicators set by its owners, for instance by achieving only minimal profits, while another business might cease to exist but its sales may generate significant capital gain to its owners. Therefore, success may be defined differently by different stakeholders.

Many financially strong firms may discontinue because of a planned exit strategy (Ropega, 2011). 'Exit' refers to several different meanings. It can refer to the exit of the business from trading in a specific market or from producing a particular product or to the end of the owner's participation in the business; as in the search for 'exit routes' by entrepreneurs wishing to sell or exit from a business (Stokes and Blackburn, 2002). At this point, it is important to make a distinction between optional and non-optional closure (also mentioned as exit or disappearance). When there are no options, the discontinuance of the firm or business is defined as failure. On the other hand, the situation can be labelled as an 'exit'. In simpler terms, a failed firm is defined as a firm which has gone into liquidation, i.e. one that has ended its business and left behind unpaid creditors while a business which is sold because, for instance, the entrepreneur wants to realise a profit in an exit, is closer to a success than a failure (Thompson, 2001; McKee, 2003). Watson (2003) also concurs that failure is the discontinuance of a business for any reason and formal bankruptcy proceedings.

Rogoff *et al.* (2004) argues that there is no single agreed-upon definition of business failure but research generally uses business termination as a surrogate for failure. Carter and Van Auken (2006), report two extreme failure definitions: (1) discontinuance of ownership (when business ownership changes) and (2) business discontinuance (when the business ceases to exist). However, the same authors argue that a change in ownership may not imply failure because the business may continue under a different owner. One of the many definitions used for business failure, from an economic as opposed to a legal perspective, is based on the net profit criterion. It is used in the study of Youn and Gu (2010) and refers to having negative net profit for two years consecutively. Arasti *et al.* (2012), refer to entrepreneurial failure as the ceasing of an operation for financial reasons. A more

contemporary review of the literature by Moscalu and Vintila (2012) reveals that at least four definitions have been used to describe failure. These definitions include (1) discontinuance for any reason; (2) bankruptcy/loss to creditors; (3) business liquidation to prevent further losses; and (4) failing to 'make a go of it'. Lastly, Dun and Bradstreet (D&B) (2015) define a financially stressed company as one that has ceased operations following assignment of bankruptcy, ceased operations with loss to creditors, voluntarily withdrawn from business operation leaving unpaid obligations or is in receivership, reorganisation, or has made an arrangement for the benefit of creditors. Most importantly, Dun and Bradstreet state that voluntary discontinuance involving no loss to creditors is not defined as financial stress (Dun and Bradstreet, 2015).

2.4.1.2 Factors of business failure

In order to develop a more complete and in-depth understanding of the factors critical to SMEs success, it is equally important to recognise and address the factors that cause failure. A more structured review of the business literature highlights a number of prevailing factors responsible for small business failure. These can be clearly categorised into individual (based on the personal characteristics of owners/managers and entrepreneurs) and environmental (firm resources and strategies and the external business environment) (Liao, 2004; Ooghe and De Prijcker, 2008) and are presented below.

Individual factors are the ones that are controlled by the person and refer to the individual's traits and characteristics. The most common ones identified in the business literature are: Personality (Gaskill *et al.*, 1993; Kazooba, 2006; Ooghe and De Prijcker, 2008); Level of education (Jennings and Beaver, 1997; Gideon *et al.*, 1997; Madsen *et al.*, 2003; Busman *et al.*, 2004); Lack of entrepreneurial qualifications (Kazooba, 2006; Bates, 2005; Franco and Hasse, 2009); Prior experience in running a business (Bosma *et al.*, 2004; Franco and Hasse, 2009; Gimeno *et al.*, 1997; Madsen *et al.*, 2003) and Lack of general management skills, for instance, marketing, financial and human resource skills (Arasti *et al.*, 2012; Berryman, 1983; Gaskill *et al.*, 1993; Ihua, 2009; Kazooba, 2006; Mundim *et al.*, 2000; Ooghe and De Prijcker, 2008).

Environmental factors are the ones that the person has no control over, for instance company resources and environmental conditions in which a firm operates but where a strategy determination could reduce harmful pressures. These are further categorised into Enterprise and Business Environment factors (Rutherford *et al.*, 2001; Gibb, 2000; Simpson *et al.*, 2012).

Enterprise factors incorporate the structural characteristics and strategies of the firm i.e. the age and size of the company (Dobbs and Hamilton, 2007; Holmes *et. al*, 2010), business planning (Kraus *et al.*, 2006; Okpara and Wynn, 2007), human capital (Chak, 1998; Gonzales, 2009; Mundim *et al.*, 2000), product and market development (Kelley and Nakosteen, 2005; Littunen and Tohmo, 2003; North and Smallbone, 2000) and business networks (Besser and Miller, 2011; Islam *et al.*, 2011).

Business environment factors include the economic conditions (Franco and Haase, 2010; Ihua, 2009; Shah *et al.*, 2013), government and institutional support (Adesua, 2006; Franco and Haase, 2010; Okpara and Wynn, 2007), any form of advisory services (Dyer and Ross, 2008; Bennett, 2006; McLarty, 2005) and available technology (Gibbons and O'Connor, 2003; Audretsch, 1995).

2.4.2 SMEs Success

In order to identify the critical success factors (CSFs) for SMEs it is important to define the terms of success in a small business context (Halabi and Lussier, 2014; Michael and Combs, 2008). However, as Beaver (2002) argues, there are very real problems with the term 'success' and its various interpretations and perceptions in the small firm sector. In fact, there are many differing definitions of success used by owners/managers, business support agencies and others (Watson *et al.*, 1998; Gadenne, 1998). Rogoff *et al.* (2004) also agree that there is no single agreed-upon definition of business success or business failure. Research generally uses continued viability or longevity as a surrogate for success and business termination as a surrogate for failure (Chen and Williams, 1999; Everett and Watson, 1998; Gatewood and Shaver, 1999; Perry, 2001; Simpson *et al.*, 2004a; Wasilczuk, 2000; Watson and Everett, 1999). However, all the above definitions concentrate on a narrow view of the term success as one business might continue to exist and therefore be categorised as a success but might continue to disappoint its owners by achieving only minimal profits; the same way that another business might cease to exist but because of the sale of its assets has left its owners wealthy (Rogoff *et al.*, 2004; Walker and Brown, 2004).

A number of authors suggest that success can be measured in various ways such as survival, long term viability, profitability, return on investment, turnover, sales growth, number of employees, reputation and so on (Vesper, 1990; Barkham *et al.*, 1996; Gray, 1998; Brüderl and Preisendörfer, 1998; Forsaith and Hall, 2000; Rogoff *et al.*, 2004). Dess and Robinson (1984) and Smith *et al.* (1988) argue that success is measured by growth (turnover, number of employees, market share) and profitability (profit, return on investment). Storey (1998) and Brush and Vanderwerf (1992) suggest that growth is the most appropriate indicator of the success of surviving SMEs further supported by Phillips and

Kirchhoff (1989) who state that young growing firms have twice the probability of survival as young non-growing firms. McDougall *et al.* (1994) also argue that strong growth reduces business profitability in the short term but has a positive effect on it in the long term. Contemporary small business and entrepreneurship literature further supports that sales growth and profitability remain the single most important measures of firm performance and the best indicators of future success (Achtenagen *et al.*, 2010; Brannback *et al.*, 2010; Davidsson *et al.*, 2009; Delmar, 2006; Ensley *et al.*, 2002; Kiviluoto *et al.*, 2011; Shepherd and Wiklund, 2009; Steffens *et al.*, 2009).

Even though financial criteria have been traditionally used to measure business success (Davidsson *et al.*, 2009; Kiviluoto, 2013; Steffens *et al.*, 2009), a number of authors suggest that many SMEs owners/managers do not run their businesses to maximise financial performance (i.e. growth and/or profitability) but for other non-financial reasons (Simpson *et al.*, 2012; Smallbone and Wyer, 2000; Walker and Brown, 2004). Further literature research reveals that the most important of those reasons are lifestyle (Jarvis *et al.*, 2000; Jennings and Beaver, 1997; Walker *et al.*, 1999; Walker and Brown, 2004), personal satisfaction (Greenbank, 2001), autonomy and the ability to balance work and family responsibilities (Buttner and Moore, 1997; Green and Cohen, 1995; Kuratko *et al.*, 1997; Parasuraman *et al.*, 1996). In more detail, Beaver (2002) argues that success for many small firm owners/managers means the ability to sustain an acceptable level of income for themselves and their employees, through maintaining an optimum level of activity with which they can cope. According to Walker *et al.* (1999), it is likely that self-fulfilment, job satisfaction and enjoyment at work for both owner and employees are also important to a small organisation's success. Aldrich and Cliff (2003) further argue that the role played by the family of the owner-manager has an effect on the owner/manager's motivation. Therefore, it is possible that, in some SMEs, CSFs and performance is defined according to the needs and wants of the owners/managers rather than in terms of maximising financial performance of the business (Simpson *et al.*, 2012).

Gorgievski *et al.* (2011), in their study of 150 Dutch small business owners, note that business owners use multiple criteria to define entrepreneurial success and further suggest that socio-demographic personal and business characteristics are associated with the way they define success. Their results regarding success definitions show that most small business owners put personal and interpersonal criteria above business criteria. The most widely used success criteria is personal satisfaction, followed by profit, satisfied stakeholders (customers and clients) and a good balance between work and private life. The same authors also argue that the top five ranking of success criteria differed because of the business owners' age and business size. The younger business owners ranked

profitability higher than the older business owners. Larger business owners rank continuity and business survival higher and balance between work and private life lower than the owners of smaller businesses.

Finally, Morrison *et al.* (2003) conclude that a key distinguishing feature of a pro-growth small business is a balanced alignment of the owner/managers' intention, the business abilities and the opportunity environment. Therefore, as Wasilczuk (2000) notes, small business success and growth, even though difficult to assess, can be measured both in an objective and subjective way. Objective measures, also known as 'hard' information, are sales, profits and continuance in operation and are of quantifiable nature. Subjective measures, also known as 'soft' information, are the owners' own evaluation of their success, goals and personal perception of success and are more of a qualitative nature.

For the purpose of this study and in line with contemporary literature (i.e. Brannback *et al.*, 2010; Davidsson *et al.*, 2009; Delmar, 2006; Kiviluoto *et al.*, 2011; Steffens *et al.*, 2009), traditional financial criteria - sales growth (increase in sales turnover) and/or increase in profitability (profits and/or margin) - are used to define SMEs success. Furthermore, as the SMEs under investigation operate in the chemical distribution industry where turnover and margin are considered key performance indicators (Chemagility, 2008; Districonsult, 2013), the above mentioned KPI is the most suitable and relevant to this study.

However, in this study success and failure appear to be presented as two opposite states a small firm can be in, the first defined as an increase in sales turnover and/or increase in profitability (i.e. Brannback *et al.*, 2010; Davidsson *et al.*, 2009; Delmar, 2006; Kiviluoto *et al.*, 2011; Steffens *et al.*, 2009) and the latter as ceasing of an operation following bankruptcy and loss to creditors (Arasti *et al.*, 2012; D&B, 2015; Rogoff *et al.*, 2004; Ropega, 2011). Nevertheless, the fact that many small businesses may not increase their sales turnover or profitability and still continue to operate has also been acknowledged. In fact, as mentioned above, there are a number of authors who consider small business success equivalent to continued business operations regardless of financial performance (Perry, 2001; Simpson *et al.*, 2004b; Wasilczuk, 2000; Watson and Everett, 1999). This means that there is also an intermediate state, a state of stability where small firms are surviving but not growing in financial terms (turnover or profit). This state of stability, as discussed earlier, apart from poor financial performance, may also be due to the fact that a number of owners/managers run their businesses for non-financial reasons. Therefore, for the purpose of this study and as the focus is on business success and sustainable growth, success is viewed as an increase in sales growth and is

examined from a perspective that does not take into account the state of stability and other non-financial aspects.

The factors of business success and failure are fully incorporated and analysed in the following section as part of a review of the existing business literature.

2.5 SMEs Critical Success Factors

Critical success factors (CSFs) can be defined as *'areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation'* (Rockart, 1979, p.97). In simpler terms, CSFs are: *'those few things that must go well to ensure the success of an organization'* (Boynton and Zmund, 1984, p.132). Digman (1990), Butler and Fitzgerald (1999) and Guynes and Venecek (1996) also define CSFs as the areas or functions where things must go right to ensure successful competitive performance for an organisation.

Dobbs and Hamilton (2007) argue that the approaches to the study of small business growth are divided into six broad groups: stochastic, descriptive, evolutionary, resource-based learning and deterministic. According to McMahon (1998), the stochastic models of firm growth, which have been developed mainly in the field of economics, suggest that there are a large number of factors which affect growth, thus reinforcing the absence of any dominant theory. The descriptive approach does not attempt to explain what causes a business to grow but it is rather concerned with how a small business adapts internally in order to continue its growth. In the evolutionary models, which are mostly based on the work of Aldrich (1999), the growth of a firm over a period of time depends on the interaction of a number of internal and external forces. Therefore, the nature and timing of a firm's growth is a result of its own unique circumstances and as such there is no standard model or sequence of stages to be observed (Vinnell and Hamilton, 1999). According to Orser *et al.* (2000) the essence of this theory, as applied to small firms, is that their growth depends on the managerial resources available over time to plan and manage growth in addition to maintaining current operations. In the resource-based learning models, the growth path of each business mirrors, to some extent, the dynamics of learning within the business or, more succinctly, *'organisational growth is ultimately dependent on satisfactory resolution of the crisis of knowing'* (Macpherson, 2005, p. 1138). In the deterministic approach the objective is to identify a stable set of explanatory variables, relating to the people, the firm, and its industry environment, that can explain a major proportion of the observed variation in business growth rates so the emphasis is on the systematic determinants of growth. The

deterministic approach remains the dominant empirical approach to the study of small business growth (Dobbs and Hamilton, 2007; Krasniqi *et al.*, 2008).

There has been significant empirical research on the determinants of small business growth with a number of conceptual frameworks attempting to capture its different aspects. Several critical success factors have been identified and established in the SME literature. However, the relative importance of each factor is found to vary with the business environment, that is the industry and country SMEs operate in due to economic, geographical and cultural differences (Benzing *et al.*, 2009; Chawla *et al.*, 2010; Mintzberg, 1994). Ghosh *et al.* (1998) in Singapore, April (2005) in Namibia, Pasanen (2003a) in Finland, Rose *et al.* (2006) in Malaysia, Ahmad (2009) in Australia and Malaysia, Al Mahrouq (2010) in Jordan, Chittithaworn (2011), Erickson and Li (2012) in Sweden and Ensaria and Karabay (2014) in Turkey similarly conclude that CSFs vary from one country to another, meaning that while one CSF maybe of great importance in one industry or country it may not necessarily be of equal importance in another. Ultimately, the argument is that a small firm is innately formed by and is an expression of its environment and further suggests that when the environment varies, as in nation, industrial sector or with time then the nature of firms and their success factors in that environment vary as well.

This research highlights some of the most important and influential studies in the area of small business growth in order to initially identify a range of critical success factors with a full bibliographical review following as the next step. These are based on a large number of prior studies, have been widely tested and validated in different business environments and encompass the work of numerous prior researchers. In detail, the works of Chawla *et al.* (1997a, 2010) in USA, Mexico and China, Dobbs and Hamilton (2007, based on a summary of 34 studies between mid-1990's and 2006), Lussier *et al.* (1995, 2001 and 2008; based on 25 prior studies) and Global Entrepreneurial Monitor (GEM) are discussed.

Chawla *et al.* (1997a) propose that there are eleven critical success factors subordinate to three categories. The first category, named 'Task Environment' comprises of seven factors: Supplier/Vendor Relations, Human Resources, Industry Trend, Location Issues, Competitor Analysis and Purchasing Inventory Control. A second category called 'General Environment' has Economic Environment assigned to it. A third category identified as 'Personal Characteristics' contains the factors Owner Experience and Goal Orientation. The search for a unifying theory of critical factors for small business led Keats and Bracker (1988) to propose a six factor small business performance model. These six factors are arrayed in three groupings: (i) General Environment, (ii) Task Environment and

(iii) Personal Characteristics (of the small business entrepreneur). Smallbone and Wyr (2000) categorise CSFs in four categories, namely, management strategies; characteristics of the entrepreneur, environmental and industry specific factors; and the characteristics of the firm.

Dobbs and Hamilton (2007), following a summary of 34 studies published since the mid-1990s, compile a list of more than thirty independent variables that tend to fall into the above identified categories by Smallbone and Wyr (2000). Under management strategies, the following variables are identified: growth objective, employee recruitment and development, product market development, financial resources, internationalisation and business collaboration and flexibility. Under the characteristics of the entrepreneur the following variables are identified: motivation, education, experience and size of the founding team. Under characteristics of the firm, the following variables are identified: age and size of company.

Lussier (1995) has also conducted extensive research in the area of CSFs for SMEs and has developed a non-financial business success versus failure prediction model that is designed to determine which variables are more and less important to the success and failure of SMEs. This model is based on 15 variables identified from 25 prior studies and has been tested with significant results in North America (Lussier, 1995), Central Eastern Europe (Lussier and Pfeifer, 2001) and South America (Lussier and Halabi, 2008). The model is in two forms. The full model includes variables with the most ones important being Capital; Record keeping and financial control; Planning; Professional Advisors; Staffing; Product/Service Timing; Economic environment; Industry and Management Experience; Marketing skills; Age and Education. The reduced model includes only four variables; planning, professional advice, education and staffing which are found to be statistically significant in the 3 above mentioned studies (Lussier, 1995; Lussier and Pfeifer, 2001; Lussier and Halabi, 2008). In detail, the full model incorporates the following variables:

Significant work in the area of entrepreneurial dynamics has also been conducted by the Global Entrepreneurial Monitor programme (GEM), a research initiative established in 1999 by a group of academic scholars. GEM is an assessment of the entrepreneurial activity, aspirations and attitudes of individuals on an annual basis across a wide range of countries. The program has three main objectives: to measure differences in the level of entrepreneurial activity between countries, to uncover factors leading to appropriate levels of entrepreneurship and to suggest policies that may enhance the national level of entrepreneurial activity (Amoros *et al.*, 2013).

With regards to the factors impacting national entrepreneurial activity, which is where the interest of this study lies, Global Entrepreneurship monitoring (GEM) established and has been monitoring a set of nine aspects of a country's socio-economic milieu, called Entrepreneurial Framework Conditions (EFCs) that are believed to have a significant impact on national entrepreneurship. Those aspects are measured through a survey, known as the National Experts Survey (NES) that is administered to a minimum of 36 'experts' in each GEM country. For each of these EFCs, Likert scale items are completed by selected experts; based on these results, factors are constructed that summarize the national perceptions of experts for each EFC (Reynolds *et al.*, 2005). These, as per Amoros *et al.* (2013), Levie and Autio (2008) and Levie and Hart (2014) are: Finance (availability of financial resources); Government policies (taxes and regulations) and programs (to assist new and growing firms at all levels of government); Commercial and professional infrastructure (the presence of commercial, accounting and other legal services and institutions that support SMEs); Physical infrastructure and services (ease of access to physical resources, utilities, communication, transportation, land or space); R&D transfer: The extent to which national research and development will lead to new commercial opportunities and is available to SMEs); Entry regulation (contains two components: (i) Market Dynamics: the level of change in markets from year to year, and (ii) Market Openness: the extent to which new firms are free to enter existing markets); Entrepreneurial education and training; and cultural and social norms (the extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income).

Overall, there is considerable research suggesting that the variables of small business success can be grouped into three broad categories: factors relating to the individual (personal or entrepreneurial), factors relating to the firm (enterprise) and factors relating to the external business environment (Andersson and Tell, 2009; Caca, 2010; Cragg and King, 1988; Gibb, 2000; Rutherford *et al.*, 2001; Simpson *et al.*, 2012; Smallbone and Wyer, 2000; Van de Van, 1993). Several previous studies investigating small business growth and success factors further conclude that success is directly influenced by individual determinants, external factors and firm characteristics (Adesua, 2006; Alfaadhel, 2010; Colin *et al.*, 2005; Dean *et al.*, 2000; Kader *et al.*, 2009; Karpak and Topcu, 2011; Krasniqi *et al.*, 2008; Lawal, 2005; Lin, 2006; Ogundele, 2007).

In more detail, Storey (1994) early on provides a framework for analysing small business growth that incorporates entrepreneurial characteristics, firm strategies and the external environment. Chawla *et al.* (1997) in their studies in China, the USA and Mexico propose eleven critical success factors for SMEs also grouped into three categories: 'task environment' relating to the firm

(incorporating supplier-vendor relations, human resources and industry trend), 'general environment' (including the economic environment) and 'personal characteristics' such as the owner/manager's experience and goal orientation. Similarly, Watson *et al.* (1998) categorise small business success factors into internal, consisting of the characteristics of the founder and the business, and external environment. Dobbs and Hamilton (2007) in their review of the business literature, group variables determining small business growth into four broad categories: management strategies, the characteristics of the entrepreneur, environmental/industry specific factors and the characteristics of the firm (as previously established by Smallbone and Wyer, 2000). More contemporary studies by Krasniqi *et al.* (2008), Korunka *et al.* (2010) and Simpson *et al.* (2012) identify three groups of factors considered to have an impact on small firm growth: the characteristics of the owner/manager (personal) i.e. age, gender, education, experience and motivation; the characteristics of the firm (resources), i.e. size, age, legal form, multi plant and separation of ownership from control and the business environment, i.e. factors related to different industrial sector and the growth of the sector in which the business operates.

Similarly, there are several studies in the field of entrepreneurship and venture creation where success factors appear to fall under two broad categories: personal (the entrepreneur's personal characteristics or features) and underlying factors (environment) such as economic, social, cultural and political (i.e. Mazzarol *et al.*, 1999; McPhee, 2000; Ostadzadeh, 2003; Schwarz *et al.*, 2009; Smith, 2008; Specht, 1993). Fini's *et al.* (2009) research in enterprise development in universities further establishes the importance of environmental and individual factors in an enterprise. Azimzadeh *et al.* (2013) in their study in entrepreneurship and new enterprise creation process propose a conceptual model wherein the individual (personality characteristics of entrepreneurs, skills and the individual's background dimensions), the environment (political, economic, sociocultural, technical) and financial (private resources, capital and equity and debt subdivisions) are equally important influencing factors. Last, the Vienna Entrepreneurship Studies (VES; i.e. Frank *et al.*, 2005 and 2007; Korunka *et al.*, 2003 and 2010) framework, also establishes personal characteristics, the start-up environment and resources and the start-up process as predictor dimensions for describing new venture creation.

On the basis of the above and for the purpose of this study, critical success factors are categorised into Entrepreneurial, Enterprise and Business Environment. In more detail, the entrepreneurial (personal) factors include those variables which are considered specifically related to the owners/managers of SMEs and consist of their personality traits, characteristics and features,

acquired skills, experience and background dimensions. For instance, the age and gender of owner/manager, education, motivation, personality traits and characteristics and any prior work experience and management skills. The enterprise factors are any factors relating to the business itself; that is the structural characteristics, policies and strategies of the firm. These are the age and size of company, business networks, customer relations management capabilities, financial and human resources, internationalisation, market and product development, marketing and strategic planning. The business environment factors include any external determinants reflecting the political, legal, economic, sociocultural, technological and ecological elements. This is in line with the PESTLE analysis framework comprising of political, economic, socio-cultural, technological, legal and regulatory, ecological and environmental factors.

Each of these factors is discussed in detail as follows, based on a more extensive and in depth review of the contemporary business literature. Utilising key business and management databases - for instance Business Source Premier, Emerald Insight, Fame, Key Note, Marketline Advantage, Mintel, Nexis, Sage Journals online, Science Direct, Web of Science and World Market Intelligence amongst others - the terms 'SMEs', 'small businesses', 'success factors', 'success' and 'growth' have been used as the main keywords for this study. Due to the size and breadth of the literature in the area of SMEs and success factors, a decision has been made to focus only on the factors that are supported by a satisfactory number of authors and disregard the ones mentioned very few times in the business literature. In addition, many factors relating to the same area have been deliberately grouped together for means of simplicity and efficiency; for instance 'market development' (MD) and 'product development' (PD) into 'market and product development' (MPD). The same consolidation process has been followed for certain success factors that appear to have multiple dimensions, with the most characteristic ones being personality, entrepreneurial orientation (EO) and prior work and management skills.

2.5.1 Entrepreneurial factors

Entrepreneurial factors are related to the individual and consist of the personality traits and characteristics, acquired skills, experience and background dimensions of the owner/manager. Based on the previously identified factors (see Chawla *et al.*, 2010; GEM, 2014; Dobbs and Hamilton, 2007; Lussier *et al.*, 1995) and through a more in depth analysis of the existing literature review, **age, gender, education, entrepreneurial orientation, personality, prior work experience and management skills** are recognised as the most critical entrepreneurial factors in SMEs success.

2.5.1.1 Age of owner/manager

Owners/managers' age varies as individuals may start a business in different stages of their life and for different reasons. Overall, there is research on the effect of the owner's age on business, concluding that age is widely accepted as an important socio-economic factor related to venture success (Ahl, 2006; Hellmann, 2007). Reynolds *et al.* (2000) research notes that individuals aged 25-44 are the most entrepreneurially active. Heck *et al.* (1995) argue that older entrepreneurs tend to be more educated, more experienced and also more likely to continue to operate the business as opposed to returning to be an employee to another company. Kautonen *et al.* (2008) also agree that older individuals are better suited to entrepreneurship than younger workers because of the human, financial and social capital they have accumulated over a long working career. Bruderl and Preisendörfer (1998) further argue that businesses where the founder enters an existing business (also known as 'follower' businesses), which is most likely to be an older individual, have a better survival rate than newcomer businesses largely because they are able to capitalise on previously established connections to customers or from internal routines that have proved useful. This is also in line with Disney *et al.* (2003) who conclude that failure rates fall with the age of the individual as starting a business without experience sharply increases business failure rates. Both Kristiansen's *et al.* (2003) and Kangasharju and Pekkala's (2002) research concurs that there is a significant correlation between the age of the entrepreneur and subsequent business success and suggest that older (over 25s) entrepreneurs are considered to be more successful than the younger ones. To further support this argument, Cressy and Storey's (1995) research shows that the survival rates of businesses established by older entrepreneurs are higher than those of younger ones.

2.5.1.2 Education level

Prior studies note that the education level of the owner has an effect on the success of the business and as such, it should be seen as a critical success factor for small firms (Alfaadhel, 2010; Busman *et al.*, 2004; Jennings and Beaver, 1997; Gideon *et al.*, 1997; Madsen *et al.*, 2003; Yusuf, 1995; Wijewardena and Cooray, 1996).

Higher educated individuals are more likely to grow their businesses (Kangasharju, 2000; Smallbone and Wyer, 2000), continue to operate them and as a result generate a greater net income (Heck *et al.*, 1995). Sinha's (1996) research, which focuses on the educational background of the entrepreneur, reveals that the majority of successful entrepreneurs have a minimum of a technical qualification, whereas most unsuccessful entrepreneurs do not have any technical background. The same author notes that entrepreneurs with business and technical educational backgrounds are in a

better position to appreciate and analyse the environment they operate in and to deal with it intuitively, which seems to play a critical role in entrepreneurial effectiveness. In fact, specific forms of knowledge-intensive education, such as engineering, computer science, and biochemistry, provide recipients with an advantage if they start a firm that is related to their area of expertise (Barringer and Jones, 2004). Bonet *et al.* (2011) are also in agreement that education has a positive impact on success, as imagination, inventiveness, flexibility, the capacity to adapt and a minimum amount of knowledge of the environment in which the entrepreneur moves can all be developed through training and education. Charney and Libecap (2000) further underline the importance of entrepreneurship education and state that not only it produces self-sufficient enterprising individuals but also increases the formation of new ventures, the likelihood of self-employment, of developing new products and of self-employed graduates owning a high-technology business. The same study also reveals that the entrepreneurship education of an employee increases the sales' growth rates of emerging firms and graduates' assets.

2.5.1.3 Entrepreneurial orientation

Entrepreneurial Orientation (EO) refers to the decision-making styles, practices, processes and behaviours that lead to entry into new or established markets with new or existing goods or services (Lumpkin and Dess, 1996; Walter *et al.*, 2006; Wiklund and Shepherd, 2003).

Many researchers have conducted studies in, among other places, Sweden (Wiklund and Shepherd, 2003 and 2005), Slovenia (Antoncic and Hisrich, 2004; Antoncic, 2006), South Africa (Goosen *et al.*, 2002), China (Chen *et al.*, 2005), Greece (Dimitratos *et al.*, 2004), Finland (Jantunen *et al.*, 2005), Germany (Walter *et al.*, 2006), Vietnam and Thailand (Swierczek and Ha, 2003), Netherlands (Kemelgor, 2002; Stam and Elfring, 2008), United Kingdom (Hughes and Morgan, 2007) and Turkey (Kaya, 2006) and identify a positive relationship between EO and business performance. Similarly, Rauch *et al.* (2009) in their study, which covers 51 journals, conclude that the entrepreneurial orientation of the owner/manager has a significant impact on business success. In further support, several authors (for instance, Balkenende, 2007; Dalmeijer, 2009; Zahra, 1991; Wiklund and Shepherd, 2005) argue that EO is an antecedent of growth, sustainable competitive advantage and excellence. This is found particularly true for enterprises operating in rapidly changing and competitive environments (Antoncic and Hisrich, 2001; Chandler *et al.*, 2000; Zahra and Covin, 1995) and 'hostile' environments (Covin and Slevin, 1989).

According to Heinonen *et al.* (2004) and Smallbone *et al.* (1995) the commitment of the firm's controller (owner/manager) is another contributing factor to achieving growth. However, it is very common in small firms for ownership and management to be combined in one or two individuals and as such, growth may not always be an objective. For instance, an owner's desire to retain control, as well as personal lifestyle and family factors may play a more important role in determining business goals than commercial considerations. Dobbs and Hamilton (2007), based on the alternative attitudes of owners toward business growth, suggest that this characteristic can be used to help distinguish between growth and non-growth firms. Based on research by Smallbone *et al.* (2010), an improvement in business performance is most likely to be experienced by those enterprises that have a specific growth objective. Barringer and Jones (2004) also agree that a growth-oriented vision helps crystallize the importance of growth in a business and therefore ensures that decisions are made with growth in mind. Andersson and Tell (2009), in their review of earlier research with a view to improve the understanding of the relationship between the manager and growth in small firms, conclude that there is a positive relationship between managerial intention to grow and small business growth.

A number of authors also argue that the owner's motivation for starting and running a business affects the growth of their firm. In fact, a business which has been set up to exploit an opportunity in the market is expected to have a higher propensity to grow than a business for which the main drivers are push factors such as unemployment, dissatisfaction with present employment or personal lifestyle reasons (Barth, 2004; Hamilton and Lawrence, 2001; Smallbone *et al.*, 1995; Smallbone and Wyr, 2000). Rose *et al.* (2006), in their study of CSFs for small businesses in Malaysia, also conclude that motivation and personal initiative are key factors to business success. In more detail, the same authors argue that entrepreneurs with high personal initiative naturally overcome difficulties, continuously improve enhance their management and operation skills and are open to further learning and development opportunities.

2.5.1.4 Gender

There are a number of studies that examine the effect of gender on small businesses and there is general agreement in the literature that the gender of the owner/manager affects firm growth. According to the social feminism theory (Carter and Williams, 2003; Fischer *et al.*, 1993; Johnsen and McMahon, 2005), men and women are different as they have different learning experiences and characteristics and that affects their levels of entrepreneurial activity and success (Arenius and Kovalainen, 2006; Boden and Nucci, 2000; Gonzalez-Alvarez and Solis-Rodriguez, 2011; Kennedy and Drennan, 2002; Langowitz and Minniti, 2007).

Even though women are undertaking more new business ventures (Carter and Jones-Evans, 2000; DeTienne and Chandler, 2007), the proportion of firms owned by men still far exceeds those owned by women (Chell, 2001; Reynolds *et al.*, 2002; Reynolds *et al.*, 2004; Spilling and Berg, 2000) and the first appear to be more entrepreneurially active than the latter (Chen *et al.*, 1998; Chowdhury and Endres, 2005; Gatewood *et al.*, 2002; Kourilsky and Walstad, 1998; Wilson *et al.*, 2007a). Cooper *et al.* (1994) report that female-owned businesses tend to be smaller and less likely to grow than male-owned businesses. Mazzarol *et al.* (1999) further supports the fact that females are generally less likely to be founders of new business than male. Similarly, both Kolvereid (1996) and Kennedy and Drennan (2002), report that males have significantly higher entrepreneurial intentions than their female counterparts. Cliff (1998) further advocates that female owned-managed businesses tend to have lower growth rate than male owned-managed businesses. Watson (2001) reports from his study on SMEs in Australia that failure rates for female controlled firms are likely to be higher than for male controlled firms.

More recent data from Global Entrepreneurship Monitoring (Amoros *et al.*, 2013; Levie and Hart, 2014) provides an excellent insight into entrepreneurship by gender. In more details, GEM (Amoros *et al.*, 2013) reports that men are more active in entrepreneurship than women in each country surveyed and in most high income countries, men are around twice as likely to be entrepreneurially active as women. In the UK specifically, in 2014, the male TEA rate rose substantially (from 8.7% in 2013 to 11.5% in 2014) whilst the female TEA rate remained stable (5.8% in 2013 and 5.7% in 2014) (Levie and Hart, 2014). Hence relative levels of female early-stage entrepreneurship fell to 50% of male early-stage entrepreneurial activity, marking a return to the long-run average when compared to 2011 (49%), 2010 (44%), 2009 (47%), 2008 (49%) and 2007 (48%). The same report also reveals that in 2014 males had more positive entrepreneurial attitudes than females, while fear of failure amongst females increased considerably (by 10%) and was consistently higher than males. This could potentially explain the differences found in the levels of entrepreneurial activity between the two sexes.

2.5.1.5 Personality

A number of authors agree that the owner's personality traits and qualities play an important role in small business success (Hill and McGowan, 1999; Hodgets and Kuratko, 1992; Man *et al.*, 2002; Nadram, 2002). McClelland (1961) recognises early on that entrepreneurs need certain psychological, sociological and personal qualities to succeed; these include creativity, being proactive (also defined as a high capacity for anticipating opportunities), goal orientation and solution seeking. A lot of

research has been conducted in this area and a large number of characteristics have been identified. In detail, these are: need for achievement (McClelland, 1961; Hsieh and Yen, 2005), individualistic behaviour and a willingness to take risks (Stearns and Hills, 1996), adaptability (Yang, 2008), boldness, leadership (Stearns and Hills, 1996), a capacity to learn (Guzman and Santos, 2001), organization and teamwork (Stearns and Hills, 1996). A more recent study on the characteristics of the entrepreneur by Bonet *et al.* (2011) argues that what stands out most as the entrepreneur's most characteristic attributes are self-confidence and initiative followed by dynamism and leadership, perseverance, creativity and energy, receptivity and an ability to get on with other people. Last but not least, Karpak and Topcu (2010), in their study of manufacturing SMEs in Turkey, also concluded that the entrepreneur's personality is one of the most influential factors to the performance of an SME.

2.5.1.6 Prior Work Experience and Management Skills

Further supporting the work of Lussier (1995) and Dobbs and Hamilton (2007), prior experience in business is seen as a critical success factor for small firms (Alfaadhel, 2000; Beam and Carey, 1989; Kolvereid, 1996; Singer, 1995; Yusuf, 1995; Wijewardena and Cooray, 1996) with a number of studies concurring that an owner/manager's entrepreneurial experience has a positive influence on business performance (Van Teeffelen and Uhlaner, 2013).

Gray (1998) argues that one of the greatest causes of new business failure is lack of owner/manager's experience. Considering how complex establishing a new venture can be, entrepreneurs with prior experience have a distinct advantage over those with no prior entrepreneurial experience, in the sense that they are more likely to avoid costly mistakes (Amaral and Baptista, 2007; Van Teeffelen, 2008). They are also more likely to have an established network of industry contacts (MacMillan and Day, 1987; Winter *et al.*, 2004) that further facilitates success. Several authors agree that owners/managers with a greater degree of experience in their given fields are more likely to continue to operate their businesses and therefore be more successful (De Tienne and Cardon 2012; Heck *et al.*, 1995; Wennberg *et al.*, 2010). Kolvereid (1996) also reports that individuals with prior entrepreneurial experience have significantly higher entrepreneurial intentions than those without such experience and thus increasing their chances for success. In addition, portfolio entrepreneurship, meaning entrepreneurs involved in a number of firms, is further considered to be associated with growth orientated firms (Rosa, 1999; Smallbone and Wyer, 2000). Harada's (2002) research further suggests that an entrepreneur's previous experience in the industry, previous knowledge of the market and related business experience have a positive effect on SMEs

turnover. Aldrich and Martinez (2001) are also in agreement that a certain amount of prior knowledge is required, either through training, experience or formal education.

Equally important to the success of a small business are the owner/manager's management skills. The fact that efficient management is crucial in the success of any type of organisation is widely recognised in the business literature (Chawla *et al.*, 1997; Dobbs and Hamilton, 2007; Lussier and Halabi, 2008). Therefore, the management skills of the owner/manager are a critical success factor for SME success. Poor management has been long established as a major cause of business failure (Bauer, 2003; Bruno *et al.*, 1987; Gaskill *et al.*, 1993; Zacharakis *et al.*, 1999) while efficient management has been proven to be the key to success (Ghosh *et al.*, 2001; Man *et al.*, 2002; Okpara and Wynn, 2007; Steiner and Solem, 1988; Yusuf, 1995). Management 'know how' embodied in the entrepreneur or through partners and/or advisers facilitates the adoption of better strategies and management methods, and is mainly acquired by significant investment of time in observing, studying and making business decisions (Cooper *et al.*, 1994). Management 'know how' also includes the willingness of the owner to delegate decisions to non-owning managers (Storey, 1998) and in turn affects the success of a small business.

2.5.2 Enterprise Factors

Enterprise factors are any factors incorporating the structural characteristics, policies and strategies of the firm. Based on the previously identified factors (see Chawla *et al.*, 2010; GEM, Dobbs and Hamilton, 2007 and Lussier *et al.*, 1995) and through a more in depth analysis of the existing literature review, the **age and size of company, business networks, customer relations management, financial resources, human capital, internationalisation, market and product development, marketing and strategic planning** are recognised as the most critical enterprise factors in SMEs success. Each of these factors is discussed in detail.

2.5.2.1 Age and Size of Company

With regards to company size, the general viewpoint is that increasing firm size leads to improved organisational learning, bureaucratisation and structural change which, in turn, impacts positively on the success of the business (Dobbs and Hamilton, 2007). However, this further implies that as a firm becomes larger, the antecedents of success are likely to change because the levels of sophistication are different to those of a smaller firm (Rutherford *et al.*, 2001).

Larger firms are known to have clear advantages such as economies of scale, bargaining power with suppliers and distributors, brand name recognition and access to key resources (Ettlie and Rubenstein, 1987; Fiengenbaum and Karnani, 1991; Raju *et al.*, 2011). In contrast, smaller firms often face many obstacles, termed 'liability of smallness' as described by Aldrich and Auster (1986). Additionally, smaller new ventures have the added burden of the 'liability of newness' leading to higher failure rate among these organizations (Raju *et al.*, 2011; Stinchcombe, 1965). In fact, previous research has shown that the size of a business has an impact on survival rates, with larger businesses showing higher rates, a fact which can mainly be attributed to better resources (Aldrich *et al.*, 1989; Bruderi and Schussler, 1990; Cooper *et al.*, 1989; McMahon, 2001).

Conversely, several authors argue that the rate of growth of a firm is independent from its size at the beginning of the measured period (Becchetti and Trovato, 2002; Hart and Oulton, 1999) while others have shown firm growth rates to decrease with firm size (Evans, 1987b; Hall, 1987). Holmes *et al.* (2010), in a UK-based study, provides evidence of a positive relationship between firm survival and plant size but, in contrast, a negative relationship for firms with fewer than 10 employees (micro-businesses). This could be due to the fact that larger SMEs are more likely to reach output that is close to the minimum efficiency levels needed to survive. Last, Disney *et al.* (2003) argue that size, becomes less important over time provided that businesses can grow fast.

Overall, empirical evidence shows that the relationship between small business growth and firm size is still inconclusive. A line of studies conclude that SMEs growth is independent of size as per Gibrat's Law or 'Law of Proportionate Effect' (Gibrat, 1931), suggesting that it is a random phenomenon (Das, 1995; Diaz-Hermelo and Vassolo, 2008; Lotti *et al.*, 1999; Piergiovanni *et al.*, 2002) while others argue the converse (Almus and Nerlinger, 2000; Audretsch *et al.*, 2004; Calvo, 2006; Cefis *et al.*, 2007; Farinas and Moreno, 2000; Hart, 2000; Yasuda, 2005).

According to Orser *et al.* (2000), the characteristic of age as a determinant of small business growth follows similar principles to those mentioned for size. Many authors (i.e. Heinonen *et al.*, 2004;

Smallbone and North, 1995; Smallbone and Wyer, 2000) argue that younger firms grow more rapidly as they attempt to accumulate sufficient resources in order to be able to withstand unforeseen external shocks. Storey (1998) also agrees that, in general, younger firms tend to grow more rapidly but he identifies sector differences. Disney *et al.* (2003) further concludes that the slowdown in growth in older SMEs is due to: (i) a slackening in entrepreneurial motivation, once the business owner has achieved a satisfactory level of income; (ii) the firm may have moved beyond its minimum efficiency level; (iii) diseconomies may have emerged with the need to employ and manage others. Regardless of the rates of growth, and as already discussed in section 2.4.2.1, SMEs exhibit high risks of failure in the first years of operation (Baldwin *et al.*, 2000; Disney *et al.*, 2003; Franco and Haase, 2009; Gray *et al.*, 2012; Ropega, 2011) supporting the argument that the younger the company is, the more likely it is to fail.

2.5.2.2 Business Networks

According to Chell and Baines (2000, p.196) business networking is *'the action by which an owner/manager develops and maintains contacts for trading and business development purposes'*. Business networks have a strong effect on firm performance and are generally accepted as an important strategy to help small businesses survive and prosper and to promote regional economic development (Bennett and Ramsden, 2007; Corolleur and Courlet, 2003; Flatten *et al.*, 2011; Greve and Salaff, 2003; Huggins, 1998; Islam *et al.*, 2011; Lee, 2007; Perry, 1999; Phillipson *et al.*, 2006; Witt, 2004). Karaev *et al.* (2007), in their review of the effect of a cluster approach on SMEs (based on 250 articles and 50 conference papers), also conclude that entering into cooperative relations with other SMEs and related partner institutions has a positive effect on competitiveness. Prior studies further suggest that business networks show their positive effects in the long term reinforcing their impact on long term survival (Baum and Locke, 2004; Chrisman and McMuJan, 2004; Ciavarella *et al.*, 2004; Frank *et al.*, 2007; Korunka *et al.*, 2004).

Besser and Miller (2011) distinguish between business networks based on contractual arrangements, such as joint ventures, alliances and supply chains and networks which are formal, membership organisations such as industry associations and regional business associations. Traditional trade associations, chambers of commerce and newer business groups such as business incubators, entrepreneurship clubs, ethnic business groups and industrial districts also fall under the latter category.

Participation in joint ventures, networks and alliances assists a firm's growth by providing access to a broader base of resources, managerial talent and intellectual capabilities (Dobbs and

Hamilton, 2007; Leiblein, 2011; Lippman and Rumelt, 2003). Collaborative inter-organisational relationships (IORs) through mergers and acquisitions, strategic alliances or outsourcing also provide SMEs with the capability to improve their strategic position, reduce and spread risks, focus on core business, enter international markets, reduce transaction costs, learn new skills and cope positively with rapid technological changes (Bhatti and Kumar, 2012; Islam *et al.*, 2011; Sheffi, 2007). Similarly, Heinonen *et al.* (2004) and Robson and Bennett (2000) support the fact that trade associations provide quick access to industry-related information, the opportunity to network with industry peers and collective lobbying.

Huggins (2000) further argues on the importance of business networking for entrepreneurs and concludes that new business must engage in networks to survive. In fact, the early formation of a business, networking provides a bridging function to the environment and attenuates unfavourable environmental influences on business development, thus having a positive effect on survival (Davidsson and Honig, 2003; Littunen, 2000). In addition, Aldrich and Zimmer (1986) also argue that networks reduce risks and transaction costs and also provide entrepreneurs with an opportunity to improve access to business ideas, knowledge and capital. Kristiansen (2002) further supports the importance of social networks as they represent channels through which entrepreneurs gain access to the necessary resources for business start-up, growth and success. Overall, the importance of networking to the new venture creation process is highlighted by a number of authors (Baron and Markman, 2003; De Carolis and Saporito, 2006; De Carolis *et al.*, 2009; Korunka *et al.*, 2010; Liao and Welsch, 2005).

2.5.2.3 Customer Relationship Management

Slater and Narver (1994) define customer satisfaction as an enterprise culture or philosophy which characterises an organisation's disposition in terms of continuously delivering superior value to its customers. Scholars consistently argue that in order to be successful, organisations must ascertain the customer's needs and wants and then produce quality products and services to satisfy them while creating and maintaining long-term relationships (Berthon *et al.*, 1999; Koy *et al.*, 2007; Reijonen and Komppula, 2007).

Generally, quality is perceived as a very important success factor in small businesses. Wijewardena and Cooray (1996) report that high-quality products are perceived by owners/managers as the second most important success factor in their business. Further supporting this finding, Reijonen and Komppula (2007) also argue that entrepreneurs measure their success primarily based on the quality of the product. McCormack (1989) further supports that one of the most important factors to a successful business is a commitment to quality which identifies it as the only absolute competitive edge. Last but not least, both Hitt and Ireland (2000) and Wiklund (1998) agree that products and services are the cornerstone of business success in small businesses.

Last, good customer relationships and customer service are also found to be very important factors contributing to SME success (Ghosh and Kwan, 1996). Koy *et al.* (2007), in their study of 265 small businesses in Pakistan, further support that customer service and attention to customer needs is critical to business success.

2.5.2.4 Financial resources

It is widely accepted in the small business literature that finance in general and cash flow in particular are critical issues for growing businesses (Barringer and Jones, 2004; Carpenter and Peterson, 2002; Locke, 2004; Sexton *et al.*, 1997). Taking into consideration the reluctance of financial organisations to lend to businesses with low levels of collateral, especially in times of recession (Harrison *et al.*, 2004; Rutherford *et al.*, 2001), it becomes evident that a lack of available cash flow or external finance can result in the firm being unable to adequately fund operations and pursue market opportunities (Locke, 2004; Carter and Van Auken, 2005). In fact, growing firms tend to have owners who share equity with external individuals or organisations rather than relying on short-term debt financing which tends to constrain business growth (O'Regan and Ghobadian, 2004). Bruderl and Preisendörfer (1998) also agree that businesses starting with low levels of capital have significantly higher failure rates. Cooper *et al.* (1994) concur that a high initial level of capitalisation influences performance through providing flexibility in 'buying time', changing course and undertaking more ambitious strategies. This argument is further supported by empirical evidence that firms with higher availability of external finance (high leverage firms) grow much faster than low leverage firms (Becchetti and Trovato, 2002). As a result, it is becoming clear that SMEs need to control cash flow and maintain an open dialogue with their banks and investors (Ma and Lin, 2010).

More recent data for the UK (Gray *et al.*, 2012) further support that successful SMEs proactively monitor their cash flow and liquidity and are likely to use more than one source of finance

to both start and sustain their business. According to the same authors, most SMEs only use one source of finance to start the business, the main source being personal or family savings with a smaller proportion using a bank loan. In more detail, while SMEs with a relatively small number of employees are significantly more likely to have funded the starting of their business using credit cards, personal/family savings, SMEs with a relatively large number of employees are more likely to use bank loans, re-mortgaging personal property, venture capital finance, grants, leasing, factoring and invoice discounting.

2.5.2.5 Human Capital

Overall, human capital, defined as the skills, knowledge and experience an individual acquires through investments in schooling, on-the-job training and other types of experience (Coff, 2002; Fletcher, 2004), is positively related to success (Bosma *et al.*, 2004; Cassar, 2006; Van der Sluis *et al.*, 2005). Researchers have long established that human capital plays an important role in organisations (Becker, 1983; Fisher and Govindarajan, 1992; Harris and Helfat, 1997; Mincer, 1974), and investments in training designed to build human capital have been consistently viewed as central drivers of strategy and performance (Bryan, 2006; Colombo and Grilli, 2005; Combs *et al.*, 2006; Gimeno *et al.*, 1997; Panagiotakopoulos, 2011). As a result, companies with higher human capital are potentially more effective, efficient and successful than ones with lower human capital.

Similarly, Unger *et al.* (2011) in their analysis of 70 studies in the area of human capital research in entrepreneurship provide a number of arguments on how human capital increases entrepreneurial success. According to the above authors, human capital increases the capability of owners to perform the generic entrepreneurial tasks of discovering and exploiting business opportunities; is positively related to planning and venture strategy, which in turn, positively impacts success; is helpful for acquiring other utilitarian resources such as financial and physical capital and is a prerequisite for further learning and assists in the accumulation of new knowledge and skills.

Furthermore, scholars generally agree that the ability of a firm to attract, develop and retain skilled and capable employees has a positive effect and helps the business maintain a growth-oriented strategy (Barringer and Jones, 2004; Ichniowski *et al.*, 1997; Pena, 2002). A firm's employees are a critical resource in the achievement and maintenance of rapid growth (Lin, 1998; Thakur, 1999; Robson and Bennett, 2000) and as result they need to manage their HRM practices accordingly. In fact, SMEs that have their own human resources department display a higher minimum cost output than that of the other firms (Bonet *et al.*, 2011). As soon as a business establishes a technically capable workforce, appropriate management of human resources is required to ensure superior

organisational performance, thus making management training also of particular importance. Owners/managers need to enhance their capabilities in carrying out contemporary management concepts such as satisfying employees' personal development needs, delegating responsibility and participative management (Chaganti *et al.*, 2002; Lin, 1998; Wood, 1999).

Another contributing factor of human capital is the size of the founding team as a business can be established either by one individual entrepreneur or by a group of people. Research in the size of the founding team suggests that firms founded by more than a single owner are more likely to grow faster than those founded by an individual (Almus and Nerlinger, 1999; Dobbs and Hamilton, 2007; Schutjens and Wever, 2000). This is based on the argument that larger teams possess more talent, knowledge, skills, credibility, experience and resources than a sole entrepreneur (Barringer and Jones, 2004; Pasanen, 2003b; Pasanen and Laukkanen, 2006; Storey, 1994).

Last, a further aspect of human capital is the availability of skilled employees in the market (Foley and Green 1989; Dobbs and Hamilton, 2007; Wijewardena and Cooray, 1996). Bennett (2006) provide empirical evidence of a positive association between employee skill level and firm growth with a number of authors further supporting that a lack of technically qualified and skilled people could potentially have a negative effect on business growth Chandler and Baueus, 1996; LeBrasseur and Zanibbi, 2003; Lin, 1998; Storey, 1994).

2.5.2.6 Internationalisation

Internationalisation is a firm's outward movement of the international operations during which the firm needs to adapt its operations to cope with the strategy, structure and resources of international environments (Calof and Beamish, 1995; Welch and Luostarinen, 1988). Lu and Beamish (2001) argue that exporting and foreign direct investment (FDI) are the two most important internationalisation strategies and many firms often employ both when expanding into new markets.

Overall, there is broad agreement that internationalisation has a positive impact on firm performance and has been previously identified as an important characteristic of firms experiencing

high growth (Lee *et al.*, 2012; Lu and Beamish, 2001; Mudambi and Zahra, 2007; O’Gorman, 2001; Pangarkar, 2008). Dobbs and Hamilton (2007) argue that selling directly or through sales agents to clients in new geographic markets, provides opportunities for firms to broaden their customer base. The same authors also mention that, even though the act of exporting cannot be considered part of an organisation’s product and market development, it has been singled out as a growth characteristic as an organisation’s export behaviour provides an objective measure of their desire and ability to achieve growth. Due to the key characteristics of small and medium-sized enterprises (SMEs), i.e. their liabilities of smallness and/or newness (Westhead *et al.*, 2001), cooperative internationalisation, i.e. cooperation with international partners, is becoming an increasingly attractive option for them (Brouthers, 2002). According to Swoboda *et al.* (2001), alliances generally allow firms to focus on their own competences while relying on their partner(s) in other areas, but international alliances are increasingly being used to provide firms with specific advantages, such as access to distant countries at reduced risk. International alliances are defined as joint ventures, licensing, distribution and/or production agreements (Bierly and Gallagher, 2007).

While internationalisation can be a source of growth in profitability for firms, it can also generate losses since it is very risky for firms to survive in the internationalised environment. The empirical evidence shows that success in the home countries does not guarantee success internationally (Bianchi and Ostale, 2006). Firms venturing into the foreign markets have to face uncertainty and risks which entail a process of learning and adaptation (Zhou *et al.*, 2007).

2.5.2.7 Market and Product Development

Market and Product Development (MPD), which is the ability for one company to detect and respond to competitive challenges, negative customer satisfaction information and changes in customer preferences by pursuing new markets and products, is seen to have a strong positive relationship with business performance (Barringer and Jones, 2004; Deeds *et al.*, 2000; Ghosh *et al.*, 2001; Pelham and Wilson, 1999; Raju *et al.*, 2011; Smallbone and Wyer, 2000). Dobbs and Hamilton (2007) identify market and product development critical for small business growth. Calantone *et al.* (1995) and Smallbone *et al.* (1995) further argue that SMEs engagement in the management of products and markets is important for achieving sustainable growth. MPD influences performance by stimulating forward planning and focus on implementation (Pelham and Wilson, 1996). Small

businesses tend to engage in a narrower range of activities, using a narrower range of materials, employing fewer skills and serving single markets (Carroll, 1984; Dobbs and Hamilton, 2007; Levy and Powell, 1998). Therefore, flexibility and the ability to anticipate and respond to market changes are essential prerequisites for their success and growth (Dobbs and Hamilton, 2007; Eirich, 2004; O’Gorman, 2001; Sadler-Smith *et al.*, 2001; Smallbone and Wyer, 2000). This is more important for high growth firms that choose to occupy particular segments or niches in the market, where the introduction of new products or services as a result of market changes, is usually vital for survival (Storey, 1998).

Businesses that are pursuing a strategy of market and product differentiation are more likely to experience growth (Ansoff, 1987; Kelley and Nakosteen, 2005; Littunen and Tohmo, 2003; North and Smallbone, 2000; Pena, 2002). In more detail, companies that able to develop new, unique products and services in existing markets, enter new markets with existing products and generally broaden their customer base are more likely to achieve growth and thus be successful (Avlonitis and Salavou, 2007; Barringer and Jones, 2004; Deeds *et al.*, 2000; Kelley and Nakosteen, 2005; Littunen and Tohmo, 2003; O’Gorman, 2001; Porter, 1998; Salavou, 2002). In order for a small business to successfully introduce new products into the market, a constant awareness of new technologies, markets and competition, as well as the ability to carry out research and development (R&D) are vital (Akgun *et al.*, 2004; Del Monte and Papagni, 2003; Porter, 1998; Yasuda, 2005). The more small business introduce new products and services into a market, the more they gain access to greater cash flow, enhance external visibility and legitimacy and improve market share; all necessary elements for their survival and growth (Barringer and Jones, 2004; Lin, 1998).

Finally, Akman and Yilmaz (2008) conclude that the customer development component of MPD impacts the innovative capability of SMEs. In fact, Low *et al.* (2007) and Demirbag *et al.* (2006) also report a positive correlation between MPD and innovation and between innovation and firm performance. Laforet's (2008, 2009) and Verhees and Meulenber’s (2004) findings further support the hypothesis that MPD is associated with innovation in SMEs.

2.5.2.8 Marketing

Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitably (Chartered Institute of Marketing - CIM, 2015). All organisations, including small businesses, operate in very competitive global markets and therefore need to proactively undertake market development to survive and succeed (Ghosh and Kwan, 1996; Smallbone *et al.*, 1995; Verhees and Meulenber, 2004). The marketing function becomes even more

important for small businesses as access to markets is one of the main problems faced by them (Swierczek and Ha, 2003). According to Smallbone *et al.* (1995), the vast majority of SMEs experiencing vast growth identify and respond to new market opportunities. These include finding new products or services to offer to existing customers and obtaining new customers for existing products or services. Kristiansen *et al.* (2003) also argue that market stability is significant when determining business success. Ghosh and Kwan (1996) further support the importance of marketing and state that the most frequent contributing factors for the success of small businesses are being close to the customers and identifying and focusing on a market niche.

A significant aspect of the marketing strategy is the location of the business. Location is identified as an important factor in small business success (Okpara and Wynn, 2007; Orser and Foster, 1992). Further supporting the work of Lussier *et al.* (1995) and Bradley (2000), Alfaadhel (2010) also argues that the location of a business can be critical to its survival. Business owners must carefully evaluate a location prior to making the decision to establish their business and a number of factors must be considered when making such a decision, such as its size, visibility, traffic flow and proximity to competitors. Both Foster (1992) and Heck *et al.* (1995) state that the net income for businesses in urban surroundings is higher than that of similar businesses in rural environments so businesses closer to urban centres have more chances to succeed.

2.5.2.9 Strategic Planning

All businesses start with an idea. However, considerable planning is required to progress from the idea stage to the actual business start-up stage. The fact that strategic planning is strongly linked with the performance of small businesses and is an important contributor to their growth is well documented in the business literature (French *et al.*, 2004; Kraus *et al.*, 2006; McMahon, 2001; Okpara and Wynn, 2007; Orser *et al.*, 2000; Richbell, 2006). Kraus *et al.* (2006), in their analysis of 24 empirical studies into the relationship between strategic planning and SME performance, also conclude that there is a positive relationship between the two. In addition, their research reveals that smaller enterprises not only plan but most of them plan in a formal way and use large time spans. However, several authors argue that the strategic planning process of SMEs is informal and is rarely supported by planning instruments with managers being too busy to plan and the market changing too fast (Chen

et al., 2008; Chen *et al.*, 2010; Stonehouse and Pemberton, 2002; Vodopivec, 2012). Sumantra (2008) concludes that formal planning is not a necessary condition for success but can yield benefits for all types of companies.

According to Kuratko and Hodgetts (2004), strategic planning contributes to performance by generating relevant information, creating a better understanding of the important environment and reducing uncertainty. Knowles and White (1995) argue that no one should start a business without a business plan and state that success for SMEs is achieved through planning, commitment, managing time, nurturing, financing and positioning to seize opportunities. Scholars (Hormozi *et al.*, 2002; Monk, 2000; Sauser, 2005; Woods and Joyce, 2003) concur that starting a business is a risky venture and warn that the chances of small-business making it past the five-year mark are very slim so they advise entrepreneurs to develop both long-term and short-term strategies to guard against failure. Crawford-Lucas (1992) also argues that strategic planning plays a very important role in determining the degree of success of new or small businesses and even though a good business plan does not necessarily guarantee success, it reduces the possibility of business failure.

2.5.3 Business Environment

According to Simpson *et al.* (2012, p.267), *'the business environment of SMEs is extremely difficult, dynamic and diverse and that even within the same industry different SMEs experience different trading conditions'*. Overall, scholars agree that environmental forces, in means of external constraints and opportunities, underpin small firm success and growth (Hawawini *et al.*, 2002; Hoogstra and van Dijk, 2004; O'Gorman, 2001; Wiklund and Shepherd, 2003). Based on this argument, success is viewed as a function of environmental and industry selection (Kangasharju, 2000) and as a result a number of authors argue that the choice of the environment is more critical to growth than strategic choices concerning behaviour within that environment (Hawawini *et al.*, 2002; O'Gorman, 2001). In fact, the industry structure, government policies, funding regimes, supporting agencies and

the infrastructure in place to support the industry automatically creates a set of factors required for success (Simpson *et al.*, 2012).

In order to address the critical success factors relating to the business environment that small businesses operate in, the PESTLE (political, economic, socio-cultural, technological, legal and environmental) factors model is utilised. This is a well-established analytical tool for depicting the business environment's influences and trends and uncovering industry specific factors (Azimzadeh *et al.*, 2013; Dobbs and Hamilton, 2007; Hawawini *et al.*, 2002; Mazzarol *et al.*, 1999; Ostadzadeh, 2003). Therefore, **Political, Economic, Socio-cultural, Technological, Legal and Regulatory** and **Ecological and Environmental** are the main aspects of the business environment impinging upon SMEs success.

2.5.3.1 Political environment

Overall, there are a number of aspects of the political environment that clearly impinge on business activity. These range from the nature of the political system, its institutions and processes to government involvement in the working of the economy and its attempts to influence market structure and behaviour (Worthington and Britton, 2009; Wetherly Otter, 2014).

Regarding the nature of the political system, political stability has come to be seen as a precondition for high industrialisation, innovation and business success (Allard *et al.*, 2012; Carlsson, 2006; Guo and Shi, 2012; Freeman, 1987). In the view of Cateora and Graham (2001), no company, national or international, large or small, can conduct its business without taking into account the influence of the political environment in which it operates. Politically stable countries are less likely to experience large-scale social unrests (i.e. civil wars, violence) that deter investors and inhibit economic growth and tend to demonstrate higher levels of industrialisation because of government support for industrial activity and technological development (Allard *et al.*, 2012; Feng, 1997; Ford and Suyker, 1990). In contrast, politically unstable countries are less capable of attracting investment and promoting the development of free enterprise (Allard *et al.*, 2012; Globerman and Shapiro, 2003). Busse and Hefeker (2005) also argue that government stability, the absence of internal conflict and ethnic tensions, basic democratic rights and ensuring law and order are highly significant determinants of foreign investment inflows.

Government involvement refers to government projects and information services provided to SMEs, which are often central to government policy (North, 1990; Peng, 2003; Worthington and Britton, 2009; Wetherly and Otter, 2014; Yusuf, 1995). Government activities, both directly and

indirectly, influence business activity and are a crucial resource to small businesses (Fan, 2003; Hanlon and Saunders, 2007; Peng and Luo, 2000). The impact of government policies on the performance of small businesses is well documented and there is general agreement that government support is a necessary condition to successfully foster SME development and success (Adesua, 2006; Bridge *et al.*, 2003; Castel-Branco, 2003; Hart *et al.*, 2000; Okpara and Wynn, 2007; Parker, 2000; Storey, 2000; Westall and Cowling, 1999; Yusuf 1995). According to Smallbone and Welter (2001a), government policies underpin the development of the sector and influence the role that SMEs perform in the broader economy. Further supporting this, Young (1993) argues that government policies demonstrate the directions, intentions and commitments of the government to SMEs development. Reynolds *et al.* (2001) in their study on small businesses identify Government regulations as one of the top problems UK SMEs face. Similarly, Swierczek and Ha (2003) identify the lack of institutional support as another hindrance in SME development. Yusuf's (1995) study also states that government support is one of the CSFs for small businesses in the South Pacific. Last, Alfaadhel (2010) in his study of CSFs for SMEs in Saudi Arabia concludes that the Chamber of Commerce plays a very important role in developing the SME sector, as it is the link between the Government and the entrepreneur.

Many researchers highlight the role of government in facilitating entrepreneurial activity and creating new enterprises (Azimzadeh *et al.*, 2013; Calcagnini and Favaretto, 2012; Fini *et al.*, 2009; McPhee, 2000; Schwarz *et al.*, 2009; Smith, 2008; Specht, 1993). Some of the most important government policies and programs for development of entrepreneurship include formulation of relevant laws and regulations, tax policies, simplicity of administrative procedures, financial support and loans, promoting entrepreneurship and education, information and advice to entrepreneurs and creating the necessary infrastructure (Azimzadeh *et al.*, 2013; Calcagnini and Favaretto, 2012; Fini *et al.*, 2009; Lundstrom and Stevenson, 2001).

The Global Entrepreneurship Monitor (GEM) further recognises government policies and support as very important factors that impact on national entrepreneurial activity. In fact GEM, through a National experts survey (NES) regularly monitors key Entrepreneurial Framework Conditions (EFCs) and reports on the presence and quality of direct programs to assist new and growing firms at all levels of government; the extent to which training in creating or managing SMEs is incorporated within the education and training system at all levels; the presence of property rights and commercial, accounting, and other legal services and institutions that support or promote SMEs; the ease of access to physical resources - communication, utilities, transportation, land or space- at a price that does not

discriminate against SMEs and the extent to which taxes or regulations are either size-neutral or encourage SMEs (Amoros *et al.*, 2013; Levie and Autio, 2008; Levie *et al.*, 2014.)

Another aspect of the political environment and part of the existing government policies is the availability of advisory services. Advisory services, in the form of business consultants, accountants, solicitors and any other type of business advisors and support personnel who work with small business owners to improve their business, are well established, have a positive effect on business performance and growth (Bennett, 2006; Larsson *et al.*, 2003; McLarty, 2005) and are considered important for success (Duchesneau and Gartner, 1990; Kent, 1994; Storey, 1998). More specifically, Kent (1994) reports that when profit and sales growth are used as indicators of performance, the financial performance of small businesses is positively related to the use of external advice. Larsson *et al.* (2003), when focusing on the owners' desire for business expansion for SMEs in Sweden, also argues that there is a positive relationship between the use of expert advisors and expansion goals.

Overall, a large number of small businesses fail due to limited management-related knowledge and skills on behalf of the owner, for instance lack of planning or marketing knowledge and absence of overall managerial skills (Beresford and Saunders, 2005). Dyer and Ross (2008) argue that this tendency for small businesses to fail stimulates the growth of business advising even further. More specifically, in the case of established SMEs in the UK, Robson and Bennett (2000) found that 95% of firms use at least one source of external advice and fastest growing firms use more.

The sources of advice can either be formal (i.e. professional advisors, accountants, lawyers) or informal (business friends, customers, suppliers). Furthermore, in the UK, there are number of initiatives to provide advice and facilitate sharing knowledge and ideas such as Local Enterprise Partnerships (LEPs) and UK Trade and Investment (UKTI). LEPs are partnerships between local authorities and businesses deciding what the priorities should be for investment in roads, buildings and facilities in the area (Gov.uk, 2015). UKTI offers guidance and support to UK based businesses who are interested in developing their overseas trade (UKTI, 2015). Robson and Bennett (2000) suggest that customers are the source of advice with the most impact followed by accountants, business friends, solicitors and bank managers and further argue that business friends and informal sources of advice are more important to smaller firms than formal sources. The same authors also state that, as firm size increases, firms reduce their dependence on business friends for advice leaning towards more formal sources of advice. However, there are still a number of companies that do not use any

support services as many SME owners/managers fail to take advantage of these available resources and use them accordingly. Curran and Blackburn (2001) put forward five reasons for the low take-up those services: (1) SMEs are unaware of them, (2) services are over-priced, (3) services are poorly delivered, (4) lack of confidence in support agencies, and (5) Government agencies do not meet SME needs.

2.5.3.2 Economic environment

Similarly to the political, the economic environment has a significant impact on business activity. Economic factors determine an economy's performance that directly impinges on how businesses operate and make decisions (Cateora and Graham, 2001; Worthington and Britton, 2009). Economic factors include inflation rates, interest rates, foreign exchange rates, economic growth patterns and foreign direct investments (FDIs) (Worthington and Britton, 2009; Wetherly and Otter, 2014).

Government plays a major role in the economy at both national and local level with its activities influencing both the demand and supply side and its actions having resonating long term effects (Calcagnini and Favaretto, 2012; Cateora and Graham, 2001; Wetherly and Otter, 2014). For instance, interest rates affect a firm's cost of capital and therefore the extent to which it grows and expands; exchange rates affect the costs of exporting goods and the supply and price of imported goods in an economy (Cateora and Graham, 2001). In fact, a wide range of policy schemes, such as direct loans, interest subsidies and loan guarantees have long been established to alleviate finance rationing of SMEs and increase their competitiveness level through the provision of access to capital (Cressy, 1996 and 2002; Cressy and Olofsson, 1997; De Maeseneire and Claeys, 2012; European Commission, 2003a).

However, in times of recession, access to finance can be more difficult. This is due to the fact that small businesses come with a high level of uncertainty and low levels of collateral, making it difficult for lenders to assess the risk of an investment and thus reluctant to lend (De Maeseneire and Claeys, 2012; Harrison *et al.*, 2004; Rutherford *et al.*, 2001). Due to a lack of available cash flow or external finance many firms are unable to fund their operations and pursue market opportunities (Carter and Van Auken, 2005; Locke, 2004). Medina *et al.* (2005) agree that the different channels and ways of financing of various countries and regions have different effects on the growth of small businesses, meaning that the more perfect a capital market is, the more financing channels are available, the greater access to financial resources, the more favourable this market will be to SMEs'

growth and innovation (Guo and Shi, 2012). GEM also recognises the importance of the availability of financial resources in a market -equity and debt- for small and medium enterprises (SMEs) including grants and subsidies available by the government (Amoros *et al.*, 2013; Levie *et al.*, 2014).

During the 2008-2009 recession, emergency policy responses were tailored to remedy the deterioration in SMEs finance (Calcagnini and Favaretto, 2012; OECD, 2010b and 2012). These included increased amount government loan guarantees; special guarantees and loans for start-ups; increased government export guarantees; government co-financing; increased direct lending to SMEs; subsidised interest rates; venture capital, equity funding and guarantees; new programmes: business advice; tax exemptions, deferments and credit mediation (Calcagnini and Favaretto, 2012; OECD, 2010b and 2012). Therefore, it can be argued that the single most important aspect of the economic environment for small businesses is access to finance (Calcagnini and Favaretto, 2012; Korunka *et al.*, 2010).

Financial support, in means of access to capital and credit schemes, is established as one of the most important obstacles to starting up of new businesses and a cause of slower growth and poor performance in all phases of business development (Alsos *et al.*, 2006; Bates, 1990; De Maeseneire and Claeys, 2012; Dobbs and Hamilton, 2007; Evans and Jovanovic, 1989; Holtz-Eakin *et al.*, 1994; Korunka *et al.*, 2010; Lussier and Halabi, 2010). Alfaro *et al.* (2004) also argue that that a lack of well-functioning financial markets hinders export activities. The Global Entrepreneurship Monitor reports that around half of both non-entrepreneurs and entrepreneurs considered getting finance for their businesses as one of their biggest barriers or difficulties (Amoros *et al.*, 2013).

There are a number of empirical studies concluding that restricted access to capital, and hence undercapitalisation, is the main hindrance to business innovation and success in developing economies. In detail, Swierczek and Ha (2003), in their study amongst Vietnamese SMEs identify capital shortage as being one of the main internal limitations that hinders SMEs' chance to succeed. Klein *et al.* (2002) reports that unequal access to credit by Japanese firms and imperfect capital markets results in declining Japanese FDI in the 1990s. Kristiansen *et al.* (2003) also argues that capital flexibility is a factor determining business success. Similarly, Ghosh and Kwan (1996) state that the availability of financial resources is ranked as one of the top five important success factors for SMEs in Singapore.

With regards to financing growth, business owners/entrepreneurs have a number of ways of raising capital but the most important decision is whether or not to accept external equity finance in

return for part ownership of the business (Dobbs and Hamilton, 2007). If business owners accept external equity finance, they inevitably relinquish part of their control to either a financial institution or other individuals, and many owners may be opposed to this as this decision may be contradictory to their growth orientation and desire to retain control of the business (Carter and Van Auken, 2005; McMahon, 2000). In fact, in the UK, many business owners are found to be raising money through family or other networks while approximately 50% were borrowing from traditional suppliers of credit through current accounts (Gray *et al.*, 2012).

Last, variations in the size, scope and buoyancy of a firm's local market are also identified as influential economic factors (Dobbs and Hamilton, 2007). Research suggests that periods of high demand conditions, for instance industry growth and industry maturity, increases the chances for small business to survive and grow (O'Gorman, 2001). In addition, any variations in the cost and availability of resources may also have an influence on their performance (Smallbone and Wyer, 2000) as is the level of competition within the market place (Nickell, 1996).

2.5.3.3 Socio-cultural environment

The sociocultural environment has a significant impact on the market SMEs operate in while it directly impacts upon business creation and entrepreneurial activity (Aggarwal and Goodel, 2014; Hardy and McGuire, 2008; Kalantaridis, 2007; Kreiser *et al.*, 2010; Stephen *et al.*, 2009; Thornton *et al.*, 2011; Urbano, 2006). Organisations -national or international, large or small- exist and operate in society and are therefore subject to a variety of societal (i.e. population size, structure, growth rate and age distribution, employment levels, income, education and career trends) and cultural influences (i.e. basic attitudes, values, beliefs, perceptions, preferences and behaviour) (Capon, 2009; Hofstede and Bond, 1988; Palmer and Hartley, 2012; Wetherly and Otter, 2014; Worthington and Britton, 2009). In fact, it has long been established that societies vary in their ability to create and sustain small business and entrepreneurial activity (Carter and Wilton, 2006; Chrisman *et al.*, 2002; McGrath *et al.*, 1992). Kreiser *et al.* (2010) stresses the need for businesses to take into account the sociocultural values of the society in which their competitors are operating and the institutions that legitimize or constrain behaviour. Several authors further highlight the fact that social factors and cultural influences change over time and urge businesses to be sensitive to and prepared to deal with such changes, with flexibility being paramount to survival (Capon, 2009; Palmer and Hartley, 2012; Wetherly and Otter, 2014). In fact, given the strong globalisation and international trade trends, those changes have an international as well as a national dimension for a growing number of trading organisations (Worthington and Britton, 2009).

Overall, businesses are constituted by culture and social relations while human, social and cultural capital are often antecedents to acquiring financial capital and other resources needed to start a business (Ahlstrom and Bruton, 2002; Aidis, 2005; Dickson, 2004; Lerner and Haber, 2001; Thornton *et al.*, 2011; Wai-Chung, 2002; Welter, 2005). Scholars argue that entrepreneurial variations are much better understood when the social environment in which the firm is created is taken into consideration because entrepreneurship is embedded in a social context (Aldrich and Zimmer, 1986; Berger, 1991; Drakopoulou and Anderson, 2007; Hayton *et al.*, 2002; Steyaert, 2007).

According to Thornton *et al.* (2011), the sociocultural environment also entails the notion of social capital - defined as the tangible and virtual resources that facilitate actors' attainment of goals and that accrue to actors through social structure (Portes, 1999) - and social networks which are the relationships through which one receives opportunities to use financial and human capital – relationships in which ownership is not solely the property of an individual, but is jointly held among the members of a network (Burt, 1992). The argument is that, although entrepreneurs already possess some of the resources needed to create a business (i.e. ideas, knowledge and competence to run the business), they also require complementary resources which they obtain through their contacts (i.e. information, financial capital, labour) to produce and deliver their goods or services (Greve and Salaff, 2003; Ribeiro-Soriano and Urbano, 2009). Global Entrepreneurship Monitoring (GEM) also addresses the significant impact of cultural and social norms on entrepreneurial activity and measures the extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income (Amoros *et al.*, 2013; Levie and Autio, 2008; Levie *et al.*, 2014).

Past empirical studies further establish culture as a factor that determines the success or failure of a firm and affects entrepreneurial activity (Blackman, 2003; Dean *et al.*, 2000; Kuratko and Hodgetts, 2004; Lucky, 2012; Minai *et al.*, 2011; Van de Ven, 1993). In detail, several authors document the effect of cultural factors on financing options and capital structure (Chui *et al.*, 2002; Erik *et al.*, 2007; Ramirez and Kwok, 2009; Zheng *et al.*, 2012). Aggarwal and Goodel (2014) argue that greater access to financing is positively associated with greater national wealth, better investor protection, a financial architecture that favours equity financing over debt financing and greater government favouritism toward selected firms. Lopez-Duarte and Vidal-Suarez (2010) further establish that culture affects foreign direct investment (FDI) in a country, thus impacting on business activity and the internationalisation process of firms. Hui and Idris (2009) argue that organisational culture moderates

the relationship between knowledge acquisition and organisation innovation. In a similar dimension, Marino *et al.* (2002) establish the moderating effect of national culture on the relationship between entrepreneurial orientation and strategic alliance portfolio extensiveness. According to Guo and Shi (2012), in the case of innovative SMEs where growth is dependent upon continuous innovation, the presence of a strong cultural environment is crucial to business success. The same authors further argue that innovation, the pursuit for novelty, advocate science and focus on the traditional values are all cultural elements that affect the creative thought and behaviour of this particular type of SMEs and should be applied to product development.

2.5.3.4 Technological environment

Technology is considered an input and output of business organisations as well as an important environmental influence (Palmer and Hartley, 2012; Wetherly and Otter, 2014). Inevitably, technology has grown to become an integral part of the daily operations of many businesses (Capon, 2009; Worthington and Britton, 2009). In fact, many common processes which were previously performed by an employee are now performed in a more efficient, simplified and less time consuming way by new technologies (Brooks *et al.*, 2011). As a result, SMEs are now called on to respond to rapid technological changes in their business environment by deploying new process and new growth methods in order to sustain their competitive advantage (Capon, 2009; Brooks *et al.*, 2011). These changes enable small businesses to grasp new and ever-changing core competencies which are providing them with a competitive advantage in their particular field (Hamilton and Webster, 2012; Wetherly and Otter, 2014).

Technological advances also influence and/or create opportunities for an entrepreneurial environment (Palmer and Hartley, 2012; Wetherly and Otter, 2014). Research by Audretsch (1995 and 2004) suggests that a highly innovative environment exerts a contrasting effect on the performance of new entrants. In more detail, firms that are able to adjust and offer a viable product, experience higher rates of growth and are more likely to survive. Any firms that are not able to adjust and produce a viable product are confronted by a lower likelihood of survival in highly innovative environments. Guo and Shi (2012) also argue that technological innovation is the key to the survival and development of SMEs, especially ones that are fuelled by innovation and refer to niche markets. As a result, technological innovation inevitably creates opportunities and challenges for innovative SMEs. Conversely, lack of new technology hinders new product development resulting in loss of growth momentum and competitive advantage (Guo and Shi, 2012; Audretsch, 2004).

Investment in technology and innovation is frequently seen as a key to the success of an enterprise and is used to explain differences in the relative competitiveness of different countries (Wetherly and Otter, 2014; Worthington and Britton, 2009). According to the Global Entrepreneurship Monitor (GEM) another factor that affects SME performance is R&D transfer; this is the extent to which national research and development lead to new commercial opportunities and is available to SMEs. The more R&D activities are commercialised and the more these become available to SMEs, the more profound effect they are going to have on their performance and success (Amoros et al., 2013; Levie and Autio, 2008).

Gundry *et al.* (2003) also argue that technological change innovations have a significant relationship with market growth. Gibbons and O'Connor (2003) research suggests that technological posture, automation and process innovation are all significantly linked to satisfaction and on return on investment (ROI). Ariss *et al.* (2000) conclude that the increased adoption of various beneficial technologies could increase both productivity and performance in several ways such as reducing the amount of skilled labour required, multiplying existing workers' productivity, improving safety (thus reducing accidents and work stoppages), reducing lead-time and cycle time and both inventories and capacity requirements.

One of the most important aspects of the technological environment is Information and Communications Technologies (ICT), which is defined as the convergence of telecommunications and computing (Gibbs and Tanner, 1997). ICT has long been established as an effective instrument for small businesses to achieve growth and competitiveness in today's rapidly changing and hyper-competitive business environment (Higón, 2011; Jorgenson and Stiroh, 2000; Majors, 2010; Maier, 2010; Morgan *et al.*, 2006; Oliner and Sichel, 2000). In fact, the current knowledge economy demands that organisations integrate their activities, processes and systems to exploit their resources more efficiently and subsequently gain economies of scale and access to and from new market (Higon, 2011; Majors, 2010). As such, Parker and Castelman (2007) argue that the adoption and use of ICT represents a fundamental basis for the survival of SMEs. Consoli (2012) and Hartono (2012) further support that ICT affects many aspects of small businesses and brings many benefits in terms of efficiency, effectiveness, innovation, growth, new product development and gaining a competitive advantage.

Overall, embracing and utilising ICT in small businesses improves their efficiency, effectiveness and competitiveness (Hamilton and Asundi, 2008; Johnston *et al.*, 2007; Southwood, 2004; Mahmood and Mann, 2000), boosts innovation (Zhu and Kraemer, 2003; Levy *et al.*, 2001) and produces many

intangible benefits (Mueller-Falcke, 2002; Weil and Olson, 1989). ICT also impacts positively on small business growth, through an increase in productivity (Bassanini and Scarpetta, 2002; Black and Lynch, 2001; Matteucci *et al.*, 2005; Timmer and van Ark, 2005) and sales (Maguire *et al.*, 2007; Ordanini, 2006; Raymond, 2005; Qiang *et al.*, 2006). New technologies also facilitate organisational expansion (Bernadas and Verville, 2005; Matthews, 2007), improve international communications (Raymond *et al.*, 2005) and lead to supply chain improvements (Bayo-Moriones and Lera; Macpherson *et al.*, 2002; Wen *et al.*, 2009). Last, ICT is seen to lead to increased customer satisfaction (Bernadas and Verville, 2005; Yadav and Varadarajan, 2005), improve product quality (Boca and Daraba, 2010) and facilitate the introduction of new products and services (Becchetti *et al.*, 2003; Carlsson, 2004; Hollenstein, 2004).

The importance of ICT for small businesses is also reflected in a shift in the focus of SME's usage of ICT from support function to core of business processes (Morgan *et al.*, 2006; Nevo and Chan, 2007; Raghu and Vinze, 2007). However, Consoli (2012) and Hartono (2012) report a low diffusion of ICT in SMEs that seem not to fully exploit the full potential of Information and Communications technologies unlike large companies. Al-Qirim (2004) argues that this has been partly due to the fact that small businesses have limited resources, technology and capabilities. Consoli (2012) further argues that the most important inhibiting factors to investments in ICT for small businesses are financial (high initial investment and difficulty in the access to credit), infrastructural (power, bandwidth and reliable Internet connection), organisational (lack of skilled staff and coherent strategy) and technological (evolution of technology without adequate training) in nature.

2.5.3.5 Legal and Regulatory

All businesses exist and operate within a framework of law - a diverse set of rules and regulations through which governments set requirements on enterprises and citizens (BRTF, 2003; OECD, 1994) - best described as the legal and regulatory environment (Wetherly and Otter, 2014; Worthington and Britton, 2009). This environment has a dual purpose: to constrain and regulate a firm's operations but also to provide an enabling mechanism through which it is able to pursue its objectives, particularly the achievement of profits through entrepreneurial activity (Palmer and Hartley, 2012; Worthington and Britton, 2009). Similar to the political and economic environment with which it is intertwined, the legal environment is an important part of the external environment and a key influence on organisations (Capon, 2009; Wetherly and Otter, 2014). In fact, businesses, regardless of their size, are subject to a number of regulations including taxation and financial reporting, employment and health and safety, trading standards and consumer rights, environmental protection, intellectual property, premises and planning rules, data protection and transport (Capon, 2009; Palmer and Hartley, 2012).

However, there is general agreement amongst scholars that the legal and regulatory environment impacts more heavily on SMEs than large organisations. Even though regulation is a catalyst in providing stable trading conditions and developing levels of business trust which benefit SME development (Atherton *et al.*, 2008; Oludele and Kinack, 2012; Welter and Smallbone, 2006), small businesses are disadvantaged against their larger counterparts (Kadiyala and Kumar, 2007; Vickres, 2008; Warfield and Stark-Jones, 2012; Wilson *et al.*, 2012). In more detail, SMEs are less resilient to regulatory shocks, miscalculations and uncertainties; they lack regulation specialists; their need to grow can be badly affected by regulation; they face large costs of administration as well as regulatory burdens and they often need the assistance of government to comply with regulations (Atherton *et al.*, 2008; Edwards *et al.*, 2003; Harris, 2000; Oludele and Kinack, 2012; Welter and Smallbone, 2006). Above all, though, is the fact that the costs of regulation for small businesses far outweigh that for large businesses with the majority accounting for environmental compliance (Ebbage, 2009; SBS, 2007; Wilson *et al.*, 2011; Williamson *et al.*, 2006a) and with many SMES struggling to keep up with the costs and reporting lower profits (Baldwin, 2004; Kadiyala and Kumar, 2007; Warfield and Stark-Jones, 2012; Wilson *et al.*, 2012). Consequently, many experts believe that the nature of the regulatory burden affects SMEs competitiveness and productivity, restricts business start-up, impedes successful performance and growth and contributes to business failure (Ainley, 1995; Chittenden *et al.*, 2002; Edwards *et al.*, 2003; Guo and Shi 2012; Harris, 2002; SBRC, 2005; Stuart, 2000; White and Parasher, 2007; Wilson *et al.*, 2012).

A further distinct difference between SMEs and larger organisations is that small businesses exhibit lower levels of compliance, especially to environmental regulations (Bland *et al.*, 2004; Daddi *et al.*, 2010; Fairman and Yapp, 2005c; Vickers, 2008; Wilson *et al.*, 2007, 2009, 2010, 2011; Wilson and Williams, 2008). Business literature attributes the non-compliance to the fact that SMEs have limited resources - in particular financial resources for investment in new plant, equipment, training and external compliance advice - and limited management time and skills for identifying and addressing hazards and risks (Chittenden *et al.*, 2002; Lancaster *et al.*, 2003; Walters, 2001). Research further shows that low or non-compliance is linked to the lack of knowledge of regulatory requirements and low awareness and understanding of environmental issues among such firms (Atkins, 2007; Fairman and Yapp 2005a, b; Hillary, 2000; Taylor/YouGov, 2007; Vickers *et al.*, 2005). In fact, small businesses which are connected to external organisations and are receptive to external influences - for instance trade and industry associations memberships, supply chain agreements, health and safety courses - have been noted to fair better on compliance and adopting compliance-related improvements (Baldock *et al.*, 2006; Hutter and Jones, 2006; Nichols *et al.*, 2004).

2.5.3.6 Ecological and Environmental

Ecological and environmental encompass all environmental concerns for any industry, with environmental protection, climate change, reduction in emissions of pollutants and sustainable development being some of the most important ones (Worthington and Britton, 2009). Scholars agree that businesses have a duty to fulfil objectives that go beyond the simple well-being of the organisation to the promotion of greater corporate social responsibility (CSR), particularly with regard to the impact of business operations and decisions on the natural environment (Capon, 2009; Lynch-Wood and Williamson, 2014; Palmer and Hartley, 2012). CSR is the idea that organisations should be held accountable for the effects of their actions on people, communities and the environment and has become an important consideration for modern businesses, alongside profitability and growth (Wetherly and Otter, 2014).

Business literature acknowledges that different businesses respond to ecological and environmental pressures in different ways, with their responses ranging from reactive stances through to more proactive approaches going beyond compliance with regulatory demands (Palmer and Hartley, 2012; Wetherly and Otter, 2014). Small businesses (SMEs), in particular, differ from large organisations in the way they perceive and practice corporate social responsibility due to differences in the amount of resources available, their strategies and key drivers, the importance of managerial values, the level of involvement and stakeholder prioritization (Coppa and Sriramesh, 2013). In fact, scholars concur that the ecological and environmental awareness of the small business sector is not yet as developed as that of large firms (Angel Del Brio and Junquera, 2003; Lynch-Wood and Williamson, 2014; Nulkar, 2014; Raar, 2011). SMEs are less responsive to environmental issues (Lynch-Wood and Williamson, 2013; Patton and Worthington, 2003; Revell and Rutherford, 2003; Thornton *et al.*, 2009; Williamson *et al.*, 2006; Williamson and Lynch-Wood, 2001) and tend to adopt reactive strategies which focus on compliance rather than sustainability (Hobbs, 2000). This lack of responsiveness has been attributed to the size of the firm itself (Baylis *et al.*, 1998; Lepoutre and Heene 2006; Rutherford *et al.*, 2000; EIM and Oxford Research for DG Environment, 2011). In further support, Bianchi and Noci (1996) and the MIT Sloan Sustainability Dashboard (2012), having both identified firm size as one of the major determinants of a firm's green strategy, conclude that environmental actions undertaken are inversely proportional to the company size; meaning that the smaller the firm, the less environmental actions are undertaken.

Overall, in the EU and UK, SMEs account for 99% of all enterprises (European Union, 2013; SBS, 2012) and therefore, have a significant, collective impact on the environment (Daddi *et al.*, 2010; Nulkar, 2014; Wilson *et al.*, 2012). Small businesses have considerably more environmental health risks than larger companies and have been found to generate a great deal of the environmental contamination (Angel del Brio and Junquera, 2003; Bagur-Femenias *et al.*, 2013). In more detail, the small business sector produces 64% of industrial pollution (Teknologist Institut, 2010), 60% of commercial waste and 80% of pollution incidents (NetRegs, 2009) in the European Union. Similarly, in the UK, SMEs are responsible for as much as 60% of carbon dioxide emissions (Marshall Report, 1998), 60% of commercial waste and up to 80% of the environmental incidents in the UK (Environment Agency, 2003; Fairman and Yapp, 2005; Hillary, 2000; Williamson *et al.*, 2006; Wilson *et al.*, 2011). Therefore, Berends' *et al.* (2000) recommendation that the requisites demanded of companies need to be related to the nature and magnitude of the environmental contamination and not to the company's size, is a valid point. Furthermore, because of their large numbers, varying characteristics and size, it becomes very difficult for the already resource-starved enforcement agencies to enforce the law and further allocate resources to encourage compliance and adoption of good practice (Gunningham 2002; Vickers, 2008).

In general, SMEs are characterised by a lack of awareness of their environmental impact and current regulations and the ways in which they can be effectively managed to ensure compliance (Daddi *et al.*, 2010; Vickres, 2008). They also tend to have low levels of engagement with environmental agendas (Hillary, 2000a; Wilson *et al.*, 2012 and 2014) and have continuously underperformed in the use of environmental audits, knowledge of environmental legislation and the publication of environmental reports (Raar, 2011; Revell and Blackburn, 2007; Revell and Rutherford, 2003). Several studies concerned with attitudes to environmental quality have found that even though SMEs show positive attitudes to the environment, this is not reflected in their behaviour (McKeiver and Gadenne 2005; Petts *et al.*, 1998; Redmond *et al.*, 2006; Schaper and Raar 2000; Williams *et al.*, 2000).

Business literature identifies several barriers faced by SMEs when adopting sustainable business practices. First of all, small businesses lack the financial and human resources to address environmental challenges with the administrative and financial burden of compliance being significant (Biondi and Iraldo, 2002; Collins, 2007; Daddi *et al.*, 2010; Pimenova and van der Vorst, 2004; Rutherford, 2000; Tilley, 1999; Willard, 2005). In fact, several authors argue that small firms are not able to spread the cost of environmental initiatives over a large product range thus having a very high

compliance cost per unit (Biondi *et al.*, 2000; Capon, 2009; Hillary 2004; Wetherly and Otter, 2014). The availability of management time and the adequacy of human resources, for instance personnel with proper skills, expertise and technical background, are also highlighted as an important issue (Biondi *et al.*, 2000; Gunningham, 2002; Hillary, 2000; Lepoutre and Heene, 2006).

Adding to that, there is a distinct lack of knowledge and experience with environmental issues (Biondi and Iraldo, 2002; Groundwork, 1995; Perez-Sanchez *et al.*, 2003; Willard, 2005). SMEs simply do not know enough about environmental legislation to ensure that they are compliant (Daddi *et al.*, 2010) and tend to be ignorant of their own environmental impact (Friedman and Miles, 2001; Hilary, 2000; NetRegs, 2002 and 2005). SME owners/managers, for instance, often claim that their firms have only limited environmental impacts (Lynch-Wood and Williamson, 2013; Netregs 2009; Revell and Blackburn, 2007; Simpson *et al.*, 2004b) and, consequently, don't feel there is a clear justification for making investments to improve environmental performance (Revell and Rutherford 2003). Partly this is due to the fact that they have an underdeveloped organisational environmental culture (Biondi and Iraldo, 2002; Gerstenfeld and Roberts, 2000; Kerr, 2006; Petts *et al.*, 1998) not believing that sustainability benefits their company (Baylis *et al.*, 1998; European Observatory, 2002; Revell, 2007; Shearlock *et al.*, 2002; Schape, 2002). A further reason is the fact that many tools and processes are aimed at large businesses and are not adjusted for SMEs (Willard, 2005; Le Pochat *et al.*, 2007; Lefebvre *et al.*, 2001). Last, the fact that small businesses do not benefit significantly from the improved public relations often generated by environmental good practice tends to minimise its importance (Daddi *et al.*, 2010; Revell, 2007).

Concluding, it appears that new and imaginative initiatives are needed to create greater interest within the small-firm sector to improve its environmental practices (Bagur-Femenias *et al.*, 2013; Worthington and Britton, 2009). With increasing pressure from customers (Pimenova and van der Vorst, 2004; Studer *et al.*, 2005), larger organisations (Williamson *et al.*, 2006), external stakeholders i.e. banks, insurers (Fernandez-Vine *et al.*, 2010; Simpson *et al.*, 2004) and obvious benefits such as cost reductions and potential new opportunities (Anglada, 2000; Gombault and Versteeg, 1999; Petts *et al.*, 1999; Studer *et al.*, 2005), managing existing and future legislative requirements becomes imperative for SMEs. Nulkar (2014) argues that simply tweaking existing products and improving operational efficiencies is no longer be enough for SMEs and this must give way to a leadership focused green strategic approach towards the environment. However, it is equally important that the markets reward SMEs environmental efforts and thus facilitate environmental innovation (Lynch-Wood and Williamson, 2014; Raar, 2011; Spence *et al.*, 2000).

2.6 SMEs Critical Success factors overview

Overall, it is evident that, even though SMEs is an area well researched, there is neither a unifying theory on small businesses success (Chawla *et al.*, 2010; Smallbone *et al.*, 2010) nor a universally accepted SME definition yet, with many variations existing from country to country (Dobbs and Hamilton, 2007; Unger *et al.*, 2011). Similarly, there is no single agreed-upon definition of business success or business failure; the most prevailing one defines success as sales growth (increase in sales turnover) and/or increase in profitability (Rogoff *et al.*, 2000). What is well established though is that SMEs success factors can be classified into entrepreneurial, enterprise and business environment factors (i.e. Cragg and King, 1988; Rutherford *et al.*, 2001; Gibb, 2000; Simpson *et al.*, 2012).

Following an extensive review of the small business literature and having taken into consideration several well-established and validated models and studies (see Chawla *et al.*, 2010; Dobbs and Hamilton, 2007, GEM, Lussier *et al.*, 1995), it is concluded that there are a number of factors contributory to SMEs success and sustainable growth. These factors - whose importance vary with the firm's environment and therefore need to be validated for the each industry/country - are categorised into entrepreneurial, enterprise and business environment factors and are presented in Figures 2.1 and 2.2 below. Figure 2.1 presents the categorisation of the factors and Figure 2.2 provides the full list of success factors whose impact is to be investigated for SMEs in the UK chemical distribution Industry.

Figure 2.1: Success factors categorisation

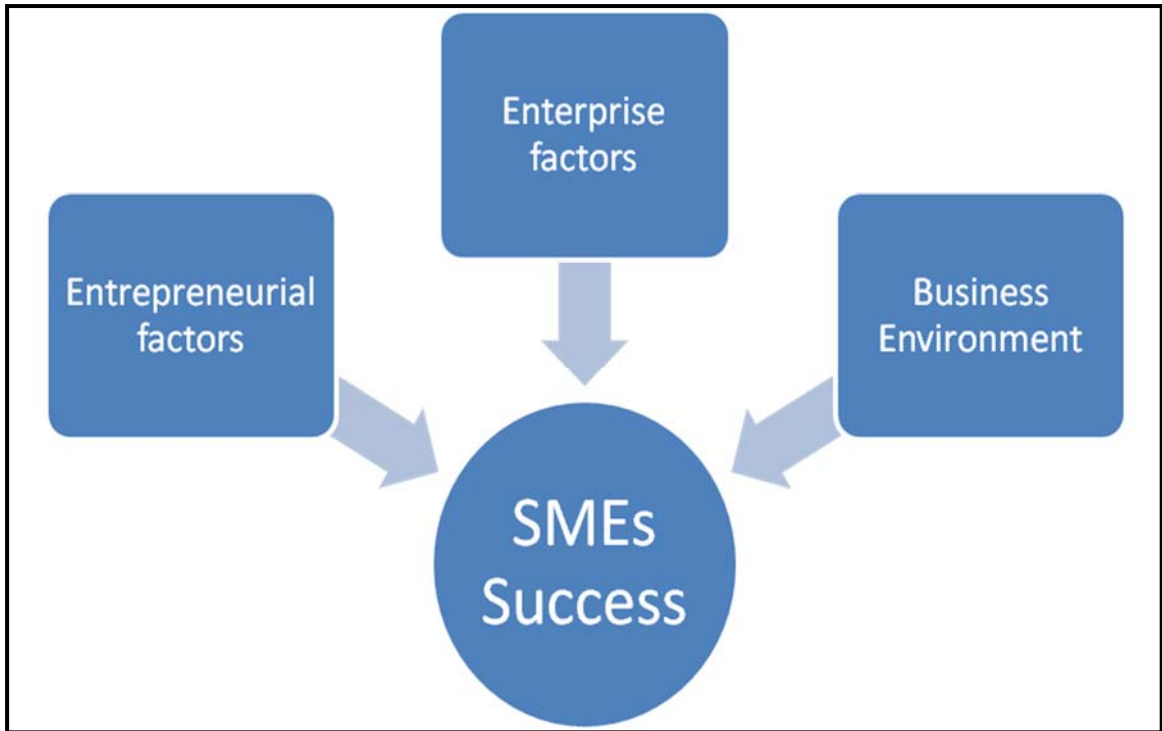


Figure 2.2: Success Factors for SMEs

Entrepreneurial Factors	Enterprise Factors	Business Environment
<ul style="list-style-type: none"> • Age • Education Level • Entrepreneurial Orientation • Gender • Personality • Prior Work Experience and Management Skills 	<ul style="list-style-type: none"> • Age and size of company • Business Networks • Customer Relations Management • Financial resources • Internationalisation • Human Capital • Market and Product Development • Marketing • Strategic Planning 	<ul style="list-style-type: none"> • Political • Economic • Socio-cultural • Technological • Legal and Regulatory • Ecological and Environmental

2.7 Summary

This chapter begins by outlining the vital role of SMEs in the economy and the society in general, stressing their importance in employment creation and economic regeneration and recognising the characteristics that distinguish them from larger firms. Even though the small business area is well researched, there is still no universally accepted definition for SMEs and many variations exist depending on the country. Based on a number of studies attempting to identify the determinants of small business growth (see Chawla *et al.*, 2010; Dobbs and Hamilton, 2007; GEM, Lussier *et al.*, 1995) and following an in depth literature review, the most prevailing SMEs success factors are identified. Similarly, factors leading to business failure are also reviewed in order to inform the list with the factors that could contribute to business success and thus make it more complete. These factors are grouped into entrepreneurial, enterprise and business environment. The age of owner/manager, education level, entrepreneurial orientation, gender, personality and prior work experience and management skills are established as the most important entrepreneurial factors. The age and size of company, business networks, customer relations management, financial resources, human capital, internationalisation, market and product development, marketing and strategic planning are established as the most important enterprise factors. The main aspects of the business environment are political, economic, socio-cultural, technological, legal and regulatory and ecological and environmental. Based on the above, a list of factors is developed and empirically tested to identify the CSFs for SMEs in the UK chemical distribution industry.

CHAPTER 3

**THE EUROPEAN AND UK CHEMICAL AND
CHEMICAL DISTRIBUTION INDUSTRY**

3. The European and UK chemical and chemical distribution industry

The aim of this study is to identify the critical success factors (CSFs) for small and medium-sized enterprises (SMEs) in the UK chemical distribution industry. In Chapter 2, the success factors for small businesses in general -without an industry or geographical focus- are identified and discussed. This chapter further investigates and identifies the success factors more relevant to the chosen industry (chemical distribution) and country (UK).

Even though there is extensive literature on SMEs and success factors in a wide range of settings, i.e. different countries and industries, there is very limited bibliography and research regarding the UK chemical distribution industry, further reinforcing the need for this study. Following a review of the existing literature and utilising key business and management databases - Business Source Premier, Emerald Insight, Fame, Key Note, Marketline Advantage, Mintel, Nexis, Sage Journals online, Science Direct, Web of Science and World Market Intelligence - no academic research is found when the terms 'SMEs', 'success factors' and 'UK chemical distribution industry' are used as the main keywords. Similar results are obtained even when the search is expanded to include the 'European chemical distribution industry' (which is the immediate setting for this study) and the 'European chemical industry' (which is the wider setting for the industry under investigation). Therefore, the literature review has been further extended to include industry sources both for the European chemical and the chemical distribution industry.

In detail, business, industry and government associations: the British Association of Chemical Specialties (BACS), the Chemical Business Association (CBA), the Chemistry Growth Strategy Group (CGSG), the Chemical Industries Association (CIA), the European Association of Chemical Distributors (FECC), the European Chemical Industry Council (CEFIC), the European Chemical Agency (ECHA), the German Chemical Industry Association (VCI), the Health and Safety Executive (HSE), the International Council of Chemical Associations (ICCA), the National Association of Chemical Distributors (NACD), the North East Process Industry cluster (NEPIC), the Royal Society of Chemistry, the UK Trade and investment (UKTI), private consultants: Camelot Management Consultants, Chemagility, Neil A Burns LLC, Dstriconsult, Boston consulting group, Grosse-Hornke Private Consult, KPMG, Technofunc, PriceWaterhouseCooper, industry specific reports: Chemagility (UK Chemical distributor market report) and Plimsoll (UK Chemical wholesalers and distributors: an industry overview), industry publications and internet sources: the Journal of Business Chemistry, the Chemagility online database of chemical distributors, ICIS and Chemanager website and magazines are utilised.

Once again, limited information is uncovered with a few references made to SMEs success in the European and UK chemical and chemical distribution industry and with only one consultancy

study, conducted in 2011 and based on a small number of companies (62 in total), investigating the success factors for small chemical distributors operating in Germany, Austria and Switzerland (Hornke, 2012). However, a wealth of information is collected on the industries and more importantly on their driving forces and underlying trends. Coping successfully with and adapting to the aforementioned driving forces and trends can be considered a prerequisite to success. On that account, this chapter critically discusses the European chemical and chemical distribution industry and its driving forces, from a small business perspective, in order to identify factors critical to the success of small and medium-sized European chemical distributors. Following this analysis, a number of success factors are identified and then each factor is individually presented and further established through the available industry literature.

The first part of this chapter provides an introduction to the European chemical industry, its importance and details the most salient current trends and driving forces. Then, a reference to the UK chemical industry is made, as this is the setting of this research, while the presence of SMEs in the UK chemical industry is also discussed. The second part of this chapter concentrates on the European chemical distribution industry. First, an introduction into this industry and its importance is made, followed by the definition, classification and services offered by chemical distributors. An overview of the UK chemical distribution is also given, followed by a detailed analysis of the driving forces of the European chemical distribution industry. The chapter concludes with the critical success factors for SMEs as identified in the European chemical distribution business literature.

3.1 European chemical industry

This part offers an overview of the European chemical industry discussing its importance and contribution to society alongside a more in depth view into current trends and driving forces. The impact of the economic, ecological and legal environment, the need for innovation, the rising costs and limited availability of raw materials are thoroughly discussed. This chapter concludes with a brief but detailed introduction to the UK chemical industry as well as a mention to the SMEs presence in this particular industry.

The chemical industry, in general, is engaged in the development, optimisation and monitoring of fundamental chemical processes used for converting raw materials such as water, oil, natural gas, air, metals, minerals and precursors into useful, more valuable commercial products for the society (CEFIC, 2012). According to the International Council of Chemical Associations (ICCA) (2014), the chemical industry is important for global economic and social development; it is a science and technology, knowledge-based industry that is essential to a sustainable world economy and

improved health and nutrition. The chemical industry is one of the world's most international, competitive and successful industries, embracing a wide field of processing and manufacturing activities and is critical for the economic development of any country, providing products and enabling technical solutions in almost all sectors of the economy (CEFIC, 2012; NEPIC, 2013; Keynote, 2013). The chemical industry is a very diverse sector with a wide range of processes and products which are highly interlinked (RSC, 2010). Given this role in society, it becomes a complex and multi-tiered system, supplying many downstream processes and products and having a large variety of users and end-consumers (CEFIC, 2012; NEPIC, 2013; RSC, 2010). Arora *et al.* (1998) give three reasons why the chemical industry is so important: (i) chemicals were the first science-based high-technology industry and are involved in almost every industrial process; (ii) the sheer size of the industry and (iii) its role in providing products and technologies that support other industrial sectors.

The chemical industry becomes even more significant when considering that it has to face and overcome many of the challenges of the 21st century such as improving health protection and care, reducing the energy demand of domestic living, countering the depletion of natural resources and helping to manage water resources effectively (Royal Society of Chemistry, 2014).

The European chemical industry is highly competitive and there is great pressure on chemical companies to perform (Keynote, 2013; CEFIC, 2013). The European Chemical Industry Council (CEFIC 2011, 2012, 2013 and 2014) provides a very detailed overview. The European chemicals industry, including the European Union and the rest of Europe, is still in a strong position, posting sales of EUR 673 billion in 2012, 21.5 per cent of world chemicals sales in value terms. Overall, Europe, Asia and the North American Free Trade Area account for 92.5 per cent of world chemicals turnover. However, the contribution of the EU to the world chemicals sales declined by 12.7% between 2002 and 2012. Developments during the previous 20 years from 1992 to 2012 indicate that the European Union was in a much stronger position than today, posting sales of EUR 290 billion in 1992, 35.2 per cent of world chemicals sales in value terms. Chemicals sales have been growing continuously during that period, increasing in value terms by 92 per cent. However, the level of world chemicals sales increased four-fold in 2012 compared to 10 years ago, posting sales of EUR 826 billion in 1992 to €3,127 billion in 2012. As a consequence, the EU chemicals market share nearly halved in 20 years, from 35.2 per cent in 1991 to 17.8 per cent in 2012, while EU chemical sales almost doubled. Therefore, any research on the success and sustainable growth of companies in this sector becomes of importance.

In addition, the latest chemical sales in 2013 reported by CEFIC indicate that the global trade competitiveness of the EU chemicals industry is at risk. The Trade Competitiveness Indicator (TCI) -an

indicator that compares the trade balance to total trade activity of a region - reveals deteriorating competitiveness of the overall EU chemical industry. This means that total chemicals imports are growing faster than total chemicals exports. Worldwide competition is getting fiercer, witnessed by the European Union losing its top ranking in terms of sales to China for the fourth consecutive year. Chemicals sales in Asia are more than double that of the European Union.

International trade is vital for growth and employment of the European chemicals industry as the industry has placed itself at the centre of global trade and thus depends on the smooth functioning of open markets. As the most rapid growth is concentrated in the emerging economies, favourable access to these markets is highly important. (Marketline, 2013; CEFIC, 2013 and 2012; KPMG, 2010)

The output of the European chemical industry, which includes all 27 EU member states, underpins virtually all sectors of the economy and its strategies impact directly on downstream chemicals users. The big industrial customers of chemicals are rubber and plastics, construction, pulp and paper, and the automotive industry. Nearly two-thirds of chemicals are supplied to EU industrial sectors, including construction. More than one-third of chemicals are supplied to the other branches of the EU economy such as agriculture, health and social work, services, and other business activities. (CEFIC, 2013 and 2012)

The chemicals industry's contribution to EU gross domestic product (GDP) amounts to 1.1 per cent. This may seem small at first, but should be reassessed taking into consideration the shrinking GDP contribution by manufacturing in advanced economies coupled with a rise in service sector output. Regarding the output of individual member states, eight countries accounted for 90 per cent of European chemicals production. Germany remains the largest chemicals producer in Europe, followed by France, Netherlands and Italy. Together, these four countries generated in 2011 64.4 per cent of EU chemicals sales, valued at EUR 347.2 billion. The share rises to nearly 90 per cent, or EUR 480.3 billion, when including the United Kingdom, Spain, Belgium and Poland. The other 19 EU countries in 2011 generated 10% of EU chemicals sales, valued at EUR 58.8 billion, half of which was attributable to four EU countries – Sweden, Austria, Czech Republic and Finland. (Marketline, 2013; CEFIC, 2012 and 2011)

The chemical industry is also a large contributor to employment. Chemicals companies in the European Union employed in 2012 a total staff of about 1.19 million. The chemicals industry also generates additional indirect jobs via the value chain, which is three times higher than through direct

employment. However, direct employment in the EU chemicals industry decreased by an average annual rate of 1.9 per cent from 2002 to 2012. Historical data show that due to the economic crisis, employment in the EU chemicals industry fell in 2010 by 2.1 per cent compared with 2009. Despite that, a significant recovery was registered in 2011 compared with 2010, resulting in employment increasing by 3.2 per cent in 2011 (CEFIC, 2012). Quarterly data shows that direct employment has been stabilised since the first quarter of 2010, and the level of employment in the second quarter of 2013 is nearly 10 per cent below the pre-crisis (Q3-2007) peak level (CEFIC, 2013).

The industry also provides a significant contribution to EU net exports. In fact, The European Union was the world's top exporter and importer of chemicals in 2011 accounting for nearly 40 per cent of global trade, defined as the total value of exports plus imports. The most important trading regions in 2011 were the European Union, Asia - including China and Japan - and the market comprising North American Free Trade Agreement countries. (CEFIC, 2013; Marketline, 2014)

After experiencing poor growth through the 2008-2012 period with a compound annual growth rate (CAGR) of 2%, the European chemicals market is forecast to accelerate with an anticipated CAGR of 4.3% for the five-year period 2012- 2017. This growth is expected to drive the market to a value of \$1,152.3 billion by the end of 2016. The commodity chemicals segment was the most lucrative part of the market in 2012, with total revenues of USD 518.7 billion, equivalent to 55.6% of the market's overall value. The speciality chemicals segment contributed revenues of USD 208.9 billion in 2012, equating to 22.4% of the market's aggregate value. Overall, the chemicals market has been relatively resilient in most countries during the global economic downturn, with the majority of countries that did experience a decline in the chemicals market in 2007-2011 expected to return to growth during 2011-2016. (Marketline 2014; CEFIC 2013; Berger, 2011)

According to Cussler and Moggridge (2012), the modern chemical industry has expanded its focus on process to include products and as such the question is no longer just how but which product to manufacture. The new product-oriented chemical industry has three categories of products with different key characteristics: base/commodity, speciality and consumer chemicals (CEFIC, 2012, 2013 and 2014; Cussler and Moddridge, 2012; Chemagility, 2008).

Base/commodity chemicals are also called basic chemicals, are typically inexpensive and include polymers, bulk petrochemicals, basic industrial chemicals, inorganic chemicals, and fertilizers (Chemagility, 2008; Cussler and Moddridge, 2012). Polymers make up the largest segment of this

sector. Commodity chemicals are generally produced in large volumes and are sold within the chemicals industry itself or to other industries (CEFIC, 2012 and 2013). Commodity chemicals are manufactured by many different companies however the end product is generally the same with very little variation; the issue is who can produce larger quantities at the lowest possible price (Cussler and Moddridge, 2012; Hornke, 2012). In 2012, base chemicals represented 63.1 per cent of total EU chemicals sales (CEFIC, 2013).

Speciality chemicals are a category of very high valued chemical products and are rapidly growing due to scientific research and technology advances. Speciality chemicals are typically made to suit the needs of a specific customer and are generally only available from a few suppliers (Chemagility, 2008; Cussler and Moddridge, 2012). They are also called fine chemicals; these include industrial gases, adhesives, sealants, industrial cleaning chemicals, coatings and electronic chemicals (Chemagility, 2008; Hornke, 2012). They are produced in smaller volumes than bulk chemicals but nevertheless represented 25.4 per cent of total EU chemicals sales in 2012 (CEFIC, 2013). Speciality chemicals are further classified into Life Science Chemicals and Science and Technology Chemicals (Chemagility, 2008; Cussler and Moddridge, 2012; Technofunc, 2013). Life Science Chemicals are differentiated biological and chemical substances used to induce specific outcomes in humans, animals, plants and other life forms. The major products of this segment include agrochemicals, pharmaceuticals, diagnostics, animal health products, vitamins, and pesticides. Life science products are usually produced with very high specifications and are closely scrutinized by government agencies such as the Food and Drug Administration (FDA). The key to the production of these materials is not cost, but time to market, that is, the speed of their discovery and production. Science and Technology Chemicals include advanced materials that transform current technologies. These enhance the characteristics of traditional specialty chemical products. The key to the success of these products is their function (CEFIC, 2013; Cussler and Moddridge, 2012; Chemagility, 2008; Technofunc, 2013).

Consumer chemicals are products directly sold to the customers like soap, detergents and cosmetics (Chemagility, 2008; Cussler and Moddridge, 2012). Together, they represented 11.5 per cent of total EU chemicals sales in 2012 (CEFIC, 2013).

Based on the fierce global competition and the ever increasing complexity of the products, a further challenge for the product-oriented chemical manufacturers is successfully reaching their end customers and marketing their products (Chemagility, 2008; Cussler and Moddridge, 2012; Hornke, 2012). That inevitably creates the need for a chemical 'middleman' or a chemical distributor; a need that is discussed in detail later in this chapter.

3.1.1 Driving forces of the European chemical industry

In order to obtain a more comprehensive and deeper understanding of the European chemical industry, its underlying key trends and driving forces are investigated. Following an extensive literature review, Environmental and Regulatory, Economic, the Need for Innovation and Raw material costs and availability are identified as the main driving forces.

3.1.1.1 Environmental and Regulatory

Environmental and Regulatory trends are identified as one of the most important driving forces and challenges in the European chemical industry (Keynote, 2013; CEFIC, 2013; NEPIC, 2013; RSC, 2010; ECHA, 2014; Maxim and Spangenberg, 2009; Mendivil *et al.*, 2005; Jerrentrup, 2009).

Matus (2010) states that one of the foremost challenges confronting the world nowadays is the ability to sustain improvements in quality of life without permanently compromising the human and natural systems on which we rely; this is the underlying goal of sustainable development. Hiller (2013) also argues that, even though the key driver of all business is financial returns, for the chemistry-using industries this is intertwined with sustainability. In more detail, raw materials are becoming scarcer and therefore more expensive, the cost of polluting is going up and consumers are demanding more environmentally-friendly products. All of this means that the chemistry-using industry is being heavily driven to make its processes more sustainable and to reduce the carbon footprints of its products (CEFIC, 2013; Hiller, 2013).

Foerstl *et al.* (2010), use the term 'sustainability' to refer to the pursuit of the tripartite of economic, environmental, and social performance, also known as the triple-bottom line of the organization (Carter and Rogers, 2008; Kleindorfer *et al.*, 2005). Scholars in the field state that firms which are able to accommodate the changing attributes of sustainability, obtain a competitive advantage (Russo and Fouts, 1997; Campbell, 2007). Against this, Maxim and Spangenberg (2009) and Mendivil *et al.*, (2005) both argue that the focus on competitiveness through economies of scale and progressive reduction of manufacturing costs has had two effects on the chemicals industry: the prevalence of technologically competitive processes and the reduction of its capability to deal with external influences such as social acceptance and regulatory measures resulting in lack of flexibility. However, within this economic scenario and with significant climate change negative effects, social and environmental issues are too high on the political agenda to be ignored (Wagner, 2007; Vachon and Klassen, 2006). In a study performed by Harwood and Humby (2008), 20% of the firms viewed

sustainability issues as their largest supply chain risk and 25% of the firms required suppliers to adhere to social and ecological standards in order to mitigate supply chain risks.

Regarding sustainability in the chemical sector, companies are recognising that green, clean and lean production can offer competitive advantages and that green product design principals may help top and bottom line growth (Niskanen, 2012; Sun and Stueb, 2013). According to the KPMG report (2010), sustainability is an extraordinary opportunity as the new focus on climate change and greener supply chains opens up a whole range of new prospects for UK manufacturing; for example in the design and production of clean technologies and renewable energy generation. These trends gradually change the face of the chemicals sector, particularly as new technologies at the quantum scale enable increasingly cleaner modes of production which may yield fundamentally safer products over the very long-term (Chemical Industries Association, 2009, KPMG, 2010; NEPIC, 2013).

With reference to the regulatory trends, the chemical industry has long been aware that the production and use of chemicals can have an adverse impact on both human health and the environment (European Chemical Agency, 2014). Chemicals affect all aspects of natural resources: atmosphere, water, soil, and biodiversity and many of them are well known environmental contaminants in developed countries. There is increasing recognition among governments, non-governmental organisations and the public that human health and the environment are being compromised by the current arrangements for managing chemicals and hazardous wastes (Jerrentrup, 2009; Keynote, 2013). As a result, there has been a host of initiatives in recent years aimed at developing industry-wide support for best-practice standards on the use, production, transportation and safe disposal of chemicals. The most important regulations in Europe, as identified in the literature, are REACH, CLP, Biocidal products and Prior informed consent.

i. REACH

REACH is the European Community Regulation on chemicals and their safe use. It deals with the **R**egistration, **E**valuation, **A**uthorisation and **R**estriction of **C**hemical substances. The law entered into force on 1st June 2007. The aim of REACH is to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances (Knight, 2012; Williams *et al.*, 2009). At the same time, REACH aims to enhance innovation and competitiveness of the EU chemicals industry (Prichystalova *et al.*, 2013).

One of the main reasons for developing and adopting the REACH Regulation was that a large number of substances have been manufactured and placed on the market in Europe for many years,

sometimes in very high amounts, and yet there was insufficient information on the hazards that they posed to human health and the environment. There was a need to fill these information gaps to ensure that industry was able to assess hazards and risks of the substances and to identify and implement the risk management measures to protect humans and the environment (Prichystalova *et al.*, 2013; Rudé and Hansson, 2010; Williams *et al.*, 2009). Rudén and Hansson (2010) argue that REACH has 3 goals: (i) to improve knowledge of the properties and uses of individual chemical substances, (ii) to increase the speed and efficiency of the risk assessment process and (iii) to make producers and importers responsible for this process.

The REACH regulation places greater responsibility on industry to manage the risks from chemicals and to provide safety information on the substances. Manufacturers and importers are required to gather information on the properties of their chemical substances -which allow their safe handling- and register the information in a central database run by the European Chemicals Agency (ECHA) in Helsinki (Knight, 2012; Williams *et al.*, 2009). The agency acts as the central point in the REACH system by managing the databases necessary to operate the system, coordinating the in-depth evaluation of suspicious chemicals and building up/updating a public database in which consumers and professionals can find hazard information (Pistolese, 2011). The regulation also calls for the progressive substitution of the most dangerous chemicals when suitable alternatives have been identified.

ii. CLP

CLP stands for Classification, Labelling and Packaging. The CLP Regulation entered into force in January 2009. The method of classifying and labelling chemicals is based on the United Nations' Globally Harmonised System (GHS). The CLP Regulation ensures that the hazards presented by chemicals are clearly communicated to workers and consumers in the European Union through classification and labelling. Suppliers must label a substance or mixture contained in packaging according to CLP before placing it on the market either when a substance is classified as hazardous or when a mixture contains one or more substances classified as hazardous above a certain threshold. Before placing chemicals on the market, the industry must establish the potential risks to human health and the environment of such substances and mixtures, classifying them in line with the identified hazards. The hazardous chemicals also have to be labelled according to a standardised system so that workers and consumers know about their effects before they handle them. (Fanghella and Catone, 2011; European Chemicals Agency, 2014)

iii. Biocidal Products Regulation

The Biocidal Product Regulation (BPR, Regulation (EU) 528/2012) concerns the placing on the market and use of biocidal products, which are used to protect humans, animals, materials or articles against harmful organisms, like pests or bacteria, by the action of the active substances contained in the biocidal product (Frantzas and Valk, 2012; European Chemicals Agency, 2014).

iv. Prior Informed Consent Regulation

The Prior Informed Consent Regulation (PIC, Regulation (EU) 649/2012) administers the import and export of certain hazardous chemicals and places obligations on companies who wish to export these chemicals to non-EU countries (European Chemicals Agency, 2014). It implements, within the European Union, the Rotterdam Convention on prior informed consent procedure for certain hazardous chemicals and pesticides in international trade (Kummer, 1999).

3.1.1.2 Economic Forces

Business literature highlights globalisation leading to increased competition and high Mergers and Acquisitions (M&A) activity as the most important contemporary economic forces in the chemical industry.

The chemicals industry, including both commodities and specialities, is evolving into a truly globalised industry in which companies are competing on a global platform where the operations of any chemical firm are now spread over a wide geographic area and spanning continents (Burgess *et al.*, 2002; Jerrentrup, 2009). Companies that want to expand are looking towards growing regional markets around the world. The increased capacity in developing countries, combined with a decrease in demand in developed countries, means that many companies in developed countries are selling off or shutting down capacity (Cussler and Moggridge, 2012). As a result, the chemicals industry is experiencing slower growth in developed markets and increasing growth in developing markets. This has resulted in the emergence of multinational chemical companies that are driving the worldwide expansion of the chemicals industry and as a consequence, the majority of global investment in chemical plants is occurring in the developing world (Jerrentrup, 2009; KPMG, 2010; Technofunc, 2014). Marketline (2013) also states that there are a relatively small number of very large multinational corporations and numerous medium-to-large companies active in the chemicals market. In terms of rivalry, the large size of a majority of market players is offset by the small number of chemical manufacturers. However, as manufacturers of chemicals produce commoditized products, it is often difficult for players to differentiate and offer strong incentives for their customers not to switch to rival companies, thus increasing rivalry (Marketline, 2013). According to KPMG (2010), this trend is set

to continue and as European chemical companies recover from the recession, they face even greater challenges from increased competition overseas. Although most of this competition comes from the Middle East and China, the relative importance of these regions is best understood as part of a larger transition in economic strength from developed to emerging markets.

Overall, the chemical industry is a very competitive arena and there is increasing pressure on companies to perform (Keynote, 2013; CEFIC, 2013). The cost pressures on the industry are increasingly causing chemical companies to achieve their business objectives, such as economies of scale, increasing market share, sustaining growth and reducing costs through mergers and acquisitions (KPMG, 2010; Camelot Management Consultants, 2012). Keynote (2013) reports strong consolidation trends and very high mergers and acquisitions activity as the industry seeks to limit exposure to volatile and unmanageable costs while maintaining growth. As consolidation occurs, competition becomes ever stronger. Increasingly business units are being run on a global basis (Cussler and Moggridge, 2012; Frost and Sullivan, 2000). Another element of the consolidation trend is that private-equity groups have been particularly active in the chemical market, lured by the fact that chemical companies are attractive on account of their cash positions and assets being cheap compared with other sectors (Flavell-While, 2012).

In more detail, European chemical companies take advantage of lower costs in developing economies by merging with or acquiring companies based in those countries (Jerrentrup, 2009). Smaller companies in emerging economies benefit by integrating with larger companies and by getting access to the capital which can help fund activities such as research and development and make them better equipped to move higher in the chemicals industry value chain and become more competitive (CEFIC 2013; Cussler and Moggridge, 2012; Technofunc, 2013).

The high pressure on companies to perform also results in the industry becoming more specialised (Keynote 2013; VCI, 2013). In fact, most of the major global players, nearly all of which have a representation in the UK, now focus on 'core' activities, such as specialised synthesis or the final formulation of products and tend to buy specialist chemicals from external suppliers rather than producing the materials themselves (Chemical Industries Association, 2009; Flavell-While, 2012; VCI, 2013). Production of basic chemicals, on the other hand, is shifting from the West towards the developing world, particularly Asia, the Middle East and Latin America, where production costs are lower or where there is an abundant supply of cheap raw materials (Flavell-While, 2012; Keynote 2011 and 2013).

Another emerging issue with this recent trend of business consolidation is that small and medium-sized independent companies are finding it increasingly difficult to survive in this restructured industry (Jerrentrup, 2009; KPMG, 2012; VCI, 2013). The trend is for such companies to be taken over by larger groups who strive for global reach of the markets but need to have local touch in their business practices and services to be successful in different regions (Cussler and Moggridge, 2012).

Regarding the future, the high consolidation and increased competition trends are bound to continue (Keynote, 2013). However, with acquisitions and mergers certain to play a prominent role in the chemical industry, particularly for expanding operations in developing and emerging nations, the industry's biggest challenge has to do with the effective post-merger integration and the need to devise strategies so that post-merger operations can continue seamlessly (Camelot, 2012; Jerrentrup, 2009; Technofunc, 2013).

3.1.1.3 Need for Innovation

Innovation is the key to economic growth, and research and development (R&D) is the key to innovation (Lozowski, 2010; Jerrentrup, 2009; Fortune and Shelton, 2012). After all, the European chemical industry is a technology-based global industry with a substantial amount of technology licensing and patenting (Achilladelis *et al.*, 1990; Arora *et al.*, 1999; Arora, 1997). Main characteristics are high R&D intensity and a very strong presence of specialised engineering firms (SEFs) indicating that the industry relies heavily on engineers and technologists (Albach *et al.*, 1996; Arora, 1997; Arora *et al.*, 1998; Burgess *et al.*, 2002). While industry recognizes that R&D is vital to long term success, it focuses, of course, on marketable results from research as it is an expensive exercise and costs without any foreseeable return is not good business (Lozowski, 2010). According to Kawashi (2004), the driving force to create high functional or high performance materials is nothing but R&D, with the main challenges being: (1) to discover chemicals or materials which demonstrate such functions as are exactly required; (2) to discover manufacturing processes that makes it possible to supply a newly invented product consistently at a reasonable price; (3) to put these products on the market before the competition. Heinzlbecker (2005) also argues that product innovation is important for chemical firms to keep their competitive advantage and thus many well-respected firms in the industry have articulated product innovation strategies. Smits *et al.* (2011) and Sheremata (2000) both argue that product innovation can be described as initiating a new product idea and bringing it to the market and consists of a collection of tasks that have to be performed by employees from multiple departments

such as research, marketing and manufacturing. In fact, it becomes clear that innovation is much more than just R&D activities; it is rather a company-wide strategic thrust driven by a culture that encourages and rewards new ideas in all aspects of the business, from design to marketing, from manufacturing to talent development and supported by highly visible leadership commitment for innovation (Fortune and Shelton, 2012; Smits *et al.*, 2011; Technofunc, 2013).

A successful innovation strategy is based on insightful knowledge about what customers need and want, along with a process for using this information to lead market-back product development (Fortune and Shelton, 2012; Technofunc, 2013). In other words, companies have to stay in touch with their customers and the market in general as a precondition for successful product innovation (Fortune and Shelton, 2012; Smits *et al.*, 2011). Moreover, direct exposure of business managers, including the CEOs (Chief Executive Officers), to markets and customers is critical, as it is establishing application development and production facilities and customer relations centres in the areas where market growth is expected to be strongest and where proximity to customers can be a significant advantage (Roberts and Bellotti, 2002; Smits *et al.*, 2011).

Innovation is also an essential tool for change in the raw materials base and for further increasing resource efficiency (Cussler and Moggridge, 2012; KPMG, 2010; VCI, 2013). Innovation in the chemicals industry is resulting in new products that increase energy efficiency, enhance environmental protection and reduce reliance on oil-based products (Fortune and Shelton, 2012). In the commodities segment, strong rivalry pushes firms for cost reduction; in specialties, new processes and products are a requirement for entry; overall, stricter environmental or health standards demand product and process redesign (Fortune and Shelton, 2012; Smits *et al.*, 2011).

As the European chemical industry becomes more challenging due to global developments, innovation as a core capability is the key differentiator and a key determinant of success (Fortune and Shelton, 2012; Jerrentrup, 2009; Smits *et al.*, 2011; Technofunc, 2013). According to KPMG (2010), the key to survival for European chemical companies is based on innovation at three different levels: (1) moving from bulk chemical production to the specialty end of the value chain; (2) leveraging their traditional advantage in technology and (3) establishing closer customer and competitor relationships through joint development agreements, acquisitions, value-adding services and other strategic initiatives.

3.1.1.4 Raw Material Costs and Availability

Raw material costs and availability are very important driving forces for the chemical sector and largely determine where new production arises (CEFIC, 2013; Keynote, 2013). Raw materials comprise a high proportion of the production costs (CEFIC, 2013 and 2012). The industry converts basic raw materials (oil, natural gas, air, water, metals, and minerals) to chemicals that have commercial value to consumers and other industries. Most of these products require further processing before reaching the end users and are used in the manufacture of other items, although a smaller number are used directly by consumers (Berger, 2011; Heinzlbecker, 2005; Technofunc, 2013).

Currently the European industry is highly dependent on the global natural gas and oil supply as these are important feedstock materials. According to KPMG (2009), chemical producers on the US Gulf coast have a distinct advantage over Europe since they are primarily fed by lower-cost ethane rather than the more expensive heavy feeds that supply Europe, with the same applying to producers in the Middle East that are based mainly on cheap oil feedstock. CEFIC (2013) also notes that the issue of access to raw materials and availability remains highly important for the European industry and there is a growing concern not only about pricing but also availability. In fact, a growing trend is that countries rich in resources are increasingly impairing market access by introducing discriminatory practices, limiting the availability of their raw materials to other markets in order to support their domestic downstream industries (CEFIC, 2014; Price Waterhouse Coopers, 2009; VCI, 2013). The European chemical industry is particularly and increasingly hit by practices such as dual pricing (different prices for domestic consumption and exports), export restrictions, tariffs and export taxes for feedstock (such as ethylene, gas, palm oil) and key minerals (CEFIC, 2013; VCI, 2013). However, as Cussler and Moggridge (2012) note, this has forced the European chemical industry into managing resources and processing raw materials more efficiently, optimizing its production processes and integrated structures and avoiding or recovering wastes, wherever possible.

Data from the Camelot Management Consultants' (2012) survey indicate that most chemical companies are strongly concerned about future raw material prices and are faced with a negative impact on operating margins due to the rising prices of raw materials. In fact, rising prices and the availability of sufficient resources is seen as the greatest threat to further growth, especially in the specialty chemical industry. CEFIC (2000) have long noted that the sourcing of materials in the speciality industry is a key issue, leading to some complex and recursive relationships within the industry value streams.

3.1.2 UK Chemical Industry

The chemical industry is one of the largest manufacturing sectors in the UK and one of the country's key export earners with the main share of export coming from pharmaceutical products (Flavell-While, 2012; RSC, 2010; Oxford Economics, 2010). According to UK Trade and Investment (2009), chemical manufacturing has a leading position in terms of output, productivity and innovation. In 2011, the UK chemical sector employed half a million people and had an annual turnover of GBP 58 billion (Keynote, 2013). The chemistry using industries in the UK contribute over GBP 600 billion in annual revenue and GBP 195 billion in gross value added (GVA) (NEPIC, 2013).

Closely following Germany, France and Italy, the UK is ranked fourth largest chemical industry in Europe (Eastwood, 2012) and tenth in the world regarding its worldwide influence and reference (Flavell-While, 2012). The UK Chemical industry has a long history which is mainly associated with the rise and fall of the national firm Imperial Chemical industries (ICI) founded in 1926. According to the Chemical Industries Association (2013) and UKTI (2009), even though chemical manufacturing firms are spread across the country, the biggest concentration is in the North East, North West, Yorkshire, Humber and Scotland regions. Witcoff and Reuben (1996), in Burgess *et al.* (2002), argue that the main reasons why the UK chemical industry is attractive, because it is a global industry allowing the development of international trade; it exhibits significant economies of scale; there is high research and development activity leading to new product and technologies; there is a high diffusion of products; market entry is relatively easy and free and it is appropriately regulated especially regarding environmental and safety issues.

The chemical industry, like virtually every other industry in the UK, was significantly impacted by the economic downturn in 2008. In 2009, UK manufacturers' total sales of chemicals, chemical products and man-made fibres fell by 12.4%. The market did, however, recover in the following years and recorded a rise of 9.5% and 5.7% in 2010 and 2011, respectively. Basic chemicals is the UK chemical industry's largest sector, accounting for 39.5% of manufacturers' sales in 2011, followed by the basic pharmaceutical products and pharmaceutical preparations sector, which accounted for 30.2% of total sales of chemicals in the same year. (Keynote 2013)

The European Union Economic Forecast (2012) reported that growth in the UK was weak and uneven in 2011, with GDP growth of 0.7% for the year as a whole. The main cause of this weakness in 2011 was household consumption, which contracted for four consecutive quarters between the final quarter of 2010 and the third quarter of 2011. Investment, which had been expected to contribute positively to growth, actually fell by 0.6% in the final quarter of 2011 and by 1.2% over the year. Net exports were the main source of growth in 2011, contributing 1% to GDP growth. Output in the

production industries fell by 1.2% in 2011, whereas both construction and services output increased, by 2.8% and 1.6%, respectively. Most recent data from the Chemical Business Association's (CBA) Supply Chain Trends Survey in 2015 (CBA, 2015) reports that sales momentum is faltering following a decline in the volume of orders. Similarly, sales margins are under pressure with more than one third (34%) of respondents experiencing lower sales margins and with almost two-thirds of respondents forecasting no growth in margins. However, CBA members continue to forecast higher employment levels with a positive balance of 19% indicating that new jobs are going to be created in the near future.

Regarding the future, the performance of the market is forecasted to accelerate, with an anticipated CAGR of 4.9% for the five year period 2010-2015, which is expected to drive the market to a value of USD 122.4 billion by the end of 2015 (Datamonitor, 2011; European Union, 2012). Keynote (2013) forecasts that the UK chemical industry is expected to grow by an estimated 16.3% between 2012 and 2016. Companies that are focused on export markets, particularly those in strong emerging economies, are likely to fare best over the forecast period. The ageing of the UK's population is expected to drive long-term demand in the pharmaceuticals sector, while new product innovation remains one of the key drivers for growth in the market in future years.

Overall, the industry is thriving but it has to face a number of challenges with the most important ones being the changing international scene, increased global competition and adapting to new environmental regulations (CEFIC, 2012; Keynote, 2013; UKTI, 2009). These challenges are in line with the previously mentioned challenges for the European Chemical industry.

The UK chemical industry is also subject to a great deal of merger and acquisition activity. Most of the major chemical companies in the UK are global players that focus on core activities and tend to buy specialist chemicals from external suppliers rather than producing the materials themselves. With regards to global competition, the industry is struggling competitively in bulk manufacture from with the Middle East and the US due to the lower costs of energy and chemical feed stocks and with the Far East due to rising demand and cheap labour (Chemistry Growth Strategy Group, 2014; UKTI, 2009). However, development and innovation still remain relatively strong with the centres for innovation and development remaining in Great Britain. The medium to long-term trend is a decline in the manufacture of large volume-low margin chemicals and specialisation within the manufacturing sector (Chemistry Growth Strategy Group, 2014). This is going to be accompanied by an increase in the importation of bulk chemicals and fuels and associated storage and distribution (Health and Safety Executive, 2014). In addition to this, the industry is also facing increasing

competition from developing economies throughout the value chain such as China, India and Brazil (NEPIC, 2013). On the other hand, the rapid growth of these economies creates huge new markets for chemical and pharmaceutical companies, which should play to the industry's advantage in the long term (Keynote, 2013).

The industry, in line with the European chemical industry, also needs to face and adapt to new environmental regulations. NEPIC (2013) identifies a number of environmental pressures, such as a requirement for substantial reductions in emissions to satisfy UK climate targets -especially as the UK's carbon footprint associated with chemicals is increasing-, reducing the carbon intensity of high grade heat requirements and waste management. Keynote (2011) further expects chemical manufacturers to be disadvantaged by the new carbon price plans.

Concluding, there is a need for the UK chemical sector to survive, not only because of its importance in its own right, but because it supports so many businesses in the services sector (Camelot Management Consultants, 2012; Chemistry Growth Strategy Group, 2014; KPMG, 2010). Indeed, the distinction between 'manufacturers' and 'service providers' is becoming increasingly blurred, as products and services are increasingly put together to provide differentiated value-added solutions (Camelot Management Consultants, 2012). If chemical manufacturing disappears, a large element of the service sector is also at risk (Camelot Management Consultants, 2012; KPMG 2010).

3.1.3 SMEs in the UK chemical industry

The UK chemical industry contributes to national growth opportunities in all regions of the country including small businesses (Chemistry Growth Strategy Group, 2014; Gilbert *et al.*, 2013). SMEs are vital to the UK economy and have a very strong presence in the UK chemical industry (Chemical Industries Association, 2009; Gilbert *et al.*, 2013). Overall, 99.7% of UK companies are small businesses with them employing 53% of the UK workforce; representing 44% of turnover and 50% of

value added (NEPIC, 2013). Particularly in the chemicals industry (including pharmaceuticals), 95.6% of UK companies are SMEs employing 42% of the total workforce, accounting for 29% of turnover and 23% of value added (Chemical Industries Association, 2009; NEPIC, 2013). Additionally, SMEs tend to be highly innovative and academically well connected (NEPIC 2013, Chemistry Growth Strategy Group, 2014).

The UK's SMEs have a critical role to play in the national drive for sustained growth (Chemical Industries Association, 2009; Chemistry Growth Strategy Group, 2014). In the value chains of all the UK's priority growth sectors -aerospace, automotive, construction, energy generation and supply, life sciences, consumer products- chemical SMEs provide essential product and service links in a complex web of supply and demand production (Chemistry Growth Strategy Group, 2014). In the chemical sector there are large numbers of SMEs on which the sector as a whole is dependent (Chemical Business Association, 2013; Gilbert *et al.*, 2013). These companies are often the most innovative, providing many of the ideas, products and technologies for the future but often lack the capacity to manage skills development (Chemistry Growth Strategy Group, 2014; Chemical Industries Association, 2009). Providing support and easy access to the right skills solutions is necessary to support SME growth, sustainability and, in some instances, survival (Chemistry Growth Strategy Group, 2014; PriceWaterhouseCoopers, 2009; Chemical Industries Association, 2009; Tunnicliffe, 2013).

3.2 European chemical distribution industry

As discussed earlier in this chapter, chemical manufacturers face many challenges with the main ones being environmental and regulatory pressures, increased competition through globalisation, high mergers and acquisitions activity, a need for innovation and raw materials availability and costs. At the same time, they are required to supply a wide range of products in differing quantities to a hugely diverse customer base. The varied degree of customer fragmentation, the strong presence of small customers in many markets and the differences in the composition of the

customer and industry by country are also a particular challenge for chemical companies that may lack the infrastructure and processes to handle low volumes or a high diversity of products (BCG, 2010; Hornke, 2012). As a result, there is a clear need for 'middlemen' in the chemical distribution who can match supply and demand; these are known as 'chemical distributors' (Chemagility, 2008; FECC, 2013). In fact, the chemical distribution industry is a rapidly developing, well-established, significant part of the chemical industry (Burns, 2010; Brenntag, 2010; Chemagility, 2008; Districonsult, 2009; Hornke, 2013). However, let it be noted that, it is an area insufficiently researched on an academic level further stressing the importance of this study.

3.2.1 Rationale and Importance

Chemical distribution companies are an integral part of the European chemical industry, positioned between chemical producers and their customers (FECC, 2015; Brenntag, 2010). Distributors are a vital, well-established sector of the chemical industry helping manufacturers accessing local customers and markets while adding value by reducing complexity, trade-related risks and costs and providing financing and support (BCG, 2010; Chemagility, 2008; Districonsult, 2009). The chemical manufacturing industry is supported by a large, diverse and highly specialised distribution network (Chemagility, 2008; FECC, 2013; Hornke, 2012). Chemical companies increasingly realise the value of chemical distributors as value chain partners and implement structured distributor management functionalities in their organisations (CEFIC, 2012; Hornke, 2012). In fact, every sector of the manufacturing base relies on chemical distributors for prompt availability of chemicals in a variety of grades and package sizes to produce their products (Burns, 2010; Chemagility, 2008; FECC, 2013).

The chemical distribution sector is of crucial importance to the European and the UK economy (Chemagility, 2008; Districonsult, 2010; FECC, 2013). Chemical distributors are a fragmented network and it is estimated that there are about 10,000 distributors, big and small servicing the end-users for their chemical needs (Brenntag, 2010; Boston Consulting Group, 2013). One way to 'structure' the chemical distribution industry is in terms of 'tiers' with Tier 1 being global, Tier 2 Pan-European and Tier 3 national or niche applications (Districonsult, 2011). The chemical distributors are often small and medium enterprises with local and regional coverage (Bee and Chelliah, 2013; Brenntag, 2010; Chemagility, 2008). According to the European Federation of Chemical distributors (FECC), FECC members - mainly SMEs - create value in the chemical supply chain by meeting the demands of over 1 million downstream users ranging from over all branches of the Industry, with their specific needs and diverse purchase volumes. About 9-10 per cent of the overall output of chemical producers is distributed via independent chemical distributors. In fact, FECC represents over 1,700 companies with

over 31,000 employees at more than 1,400 sites handling six million shipments and 31 million tonnes shipped with an industry turnover of €27 billion every year (FECC, 2015). This means that there is a wide variety of organisations involved in the distribution and value chain between chemical producing companies and the industries using chemicals. Therefore, the chemical distribution industry does not only include chemical manufacturers and their distributors, but also chemical traders, agents, export/import houses and a number of other suppliers providing these companies with added value products or services; for instance warehousing, logistics, plant and equipment (Chemical Business Association, 2014; CEFIC 2012). Overall, it is evident that SMEs have a strong presence in the chemical distribution industry and play an important role in its overall growth and performance (CEFIC, 2012; FECC, 2013).

In more detail, the European chemical industry was a EUR 2.3 trillion business in 2007 and is expected to reach EUR 4 trillion by 2020 (CEFIC, 2010). Chemical distributors account for about EUR 142 billion per annum of the total value of business transacted using similar assumptions as that in the Boston Consulting Group (2010) report. The Boston Consulting Group report in 2014, states that, between 2008 and 2013, the global chemical distribution market grew approximately 9 per cent annually in nominal terms (or 7 percent excluding inflation) and was worth roughly EUR168 billion in 2013, corresponding to approximately 10 percent of the market value of all distributable chemicals. The overall market growth rate is driven mainly by the underlying growth of chemical consumption, which averaged 4.4 percent during the same period (BCG, 2014). Furthermore, the share outsourced to third-party distributors grew from 9.1 percent in 2008 to 9.7 percent in 2013 (BCG, 2014). Regarding the European chemical distribution industry, Eberhard (2014) reports that over the period 2008-2013 growth has been around 1.8 % per year in Western Europe and 10% in Central and Eastern Europe with the industry growing at an average of 3.8 % per annum from 38bn EUR to 44bn EUR in 2013. The top seven European chemical distributors based on sales turnover are Brenntag, Univar, Helm, Nexeo Solutions (previously Ashland), ICC Chemicals, Azelis and IMCD (ICIS, 2010a). In fact, the top ten chemical distributors controlled only 23 per cent of the market further supporting the fragmented nature of the market (Boston Consulting Group, 2010; Bee and Chelliah; 2013).

Regarding the future, BCG (2013) expects the European chemical distribution market to slow and stabilise at 6 per cent per year within the 2014-2018 period mainly due to economic conditions. Similarly, Eberhard (2014) forecasts that the rate of growth will be slightly lower at around 5.6% per annum, still above the rate forecast for GDP growth. The higher share of future growth for distributors is expected to come from increased value-adding services such as packaging, blending, product

formulation, technical experts, lab support and formulation (BCG, 2013; FECC, 2013). Other additional services that distributors are beginning to offer include next-day service, off-hour delivery times, and smaller quantities, since customers are keeping inventories at a very low level to manage cash flow (BCG, 2013). The intensity of competition within the distribution industry is expected to increase but distributors are going to continue gaining overall share as manufacturers reduce complexity by outsourcing distribution to small customers and subcritical markets (BCG 2013; Hornke, 2013). Specific market expertise and knowledge also increase the potential for distributors to expand into new segments of the producer's value chain (Hornke, 2013). Emerging markets continue to play an important role and international distributors are seen to most likely gain a bigger share of the growth in these markets (FECC, 2013; Hornke, 2012).

3.2.2 Chemical distributors' definition

Despite the importance of chemical distributors, there seems to be no universally agreed definition of what a chemical distributor is. This is mainly because of the wide variety of functions they perform and confusion with other types of trading in the industry (Chemagility, 2008). However, chemical distributors have a number of distinct characteristics. According to the Health and Safety Executive, a distributor is any natural or legal person established within the community including a retailer, who only stores and places on the market a substance, on its own or in a preparation for third parties (Health and Safety Executive, 2015). Generally speaking, chemical distributors buy and sell chemicals from producers and they take title to the goods, responsibility for stocking and warehousing, before selling the products on to their customers under their own name (Chemagility, 2008; Districonsult, 2009; Hornke, 2012). Chemical distributors need to be differentiated from logistics only companies that typically do not take ownership of products and from trading companies that typically do not repackage and assemble product portfolios according to customer needs (BCG, 2010). There is often a formal, long-term agreement between the distributor and the chemical manufacturer - the 'Principal' - whom they represent. A 'Principal' is term used by to describe a chemical manufacturer who has a long-term agreement with a chemical distributor who represents them. The term has evolved to highlight the difference in the nature of this relationship from a traditional buy-sell arrangement (Chemagility, 2013). A chemical distributor (or wholesaler), as defined by National Association of Chemical Distributors (NACD), is a company that takes title to bulk and/or non-bulk chemicals from a chemical manufacturer or supplier and re-sells the chemicals to an end-user. Typically, all types own or lease warehouses in which to temporarily store or repackage chemicals (NACD, 2005). A distributor is not an agent; agents do not take title to or stock goods, but receive a commission for their contribution in helping a manufacturer complete a sale (Chemagility, 2008;

NACD, 2005). 'Chemical trader' is another term that is sometimes incorrectly used to describe chemical distributors; these are involved with the purchase and resale of commodities and buy from the producer or supplier offering them the best deal at the time. There is no close, long-term relationship with the manufacturer and most rely on their suppliers' logistics to serve their customers (CBA, 2015; Chemagility, 2008; FECC, 2013).

3.2.3 Chemical distributors' classification

For the purpose of describing chemical distribution, products are commonly classified as either commodity (or industrial) chemicals or speciality chemicals, as these two types differ substantially in traded volumes, pricing mechanism, type of services offered, capital intensity of the business, outsourcing of logistics and applicable regulations on safety and environment (Chemagility, 2008; Districonsult, 2009). Commodities are low-value, high-volume products for which transport is a major cost factor. Keys to success in commodity markets are therefore competitive pricing, operational excellence and sites located nearby customer centres. Specialities comprise a countless number of products and are best characterized by their industry of application (Chemanager 2013; Districonsult, 2009; Mortelmans and Reniers, 2012). Typically, chemical distributors are classified in terms of the type of operation/function they perform or by their geographical or market coverage (Chemagility, 2008; Districonsult 2009; BCG, 2013). The main types are commodity, speciality, full range, multi-national and regional distributors:

Commodity chemical distributors buy chemicals in bulk (sometimes from several suppliers like traders), then process, blend and repack to customer requirements - often selling under their 'own-label' (Chemagility, 2008 and 2013; FECC, 2013). Their operations are geared around breaking up bulk and logistics. They are more logistic driven and asset intensive and the scope of services is focus on local and/or national market, relationship with competing suppliers and warehouse function (Districonsult, 2013). As such, they typically have a high investment in tank storage, drumming, blending and formulation capabilities.

Speciality chemical distributors purchase pre-packaged products and sell on a technical basis, usually under a manufacturer's own brand (Chemagility, 2013). Operations are built on sales and marketing skills, as opposed to logistical know-how and they rarely have any involvement with the breaking of bulk and generally outsource their logistical requirements and as such have limited fixed assets (Chemagility, 2008; FECC, 2013; Districonsult, 2013). The key differentiators are industry expertise and the quality of product/supplier portfolios. Many small and large distributors are involved in this segment.

Full range chemical distributor is a term sometimes used to describe the very small number of distributors globally who cover both the commodity and speciality distribution segments; for instance Brenntag and Univar (Chemagility, 2008; FECC, 2013; Hornke 2012; Corporate Finance in Europe, 2015).

Multi-national distributors are usually speciality chemical distributors covering many industrial sectors across national boundaries (many countries). They typically offer their principals a wider geographical coverage for the industry sectors they serve than traditional, national distributors (Chemagility, 2008; Corporate Finance in Europe, 2015; FECC, 2013; Hornke 2012). They have local sales teams and offices but many manage industry sectors on a multinational basis. European specialty distributors include Azelis, BTC, Caldic, Helm, IMCD and Omya Distribution (BCG, 2013; Chemagility, 2008; Districonsult, 2013; FECC, 2013).

Regional or national distributors are chemical distribution companies whose activities are restricted to a specific region, country or state (Chemagility, 2008; Corporate Finance in Europe, 2013 and 2015; FECC, 2013). They typically offer multi-market industry or single industry coverage. In North America there are a number of distributors that offer coverage of a group of states with some offering coast to coast coverage of the US market, for instance Univar, Brenntag, Chemcentral and Ashland Distribution (BCG, 2013; Hornke 2012).

3.2.4 Services offered by chemical distributors

Overall, chemical distributors help producers lower the complexity of product distribution and customer management (Brenntag, 2010; FECC, 2013). Manufacturers rely on distributors to ensure the safe delivery of bulk and non-bulk chemicals to downstream end-users as well as to handle logistical needs of end-users, such as custom blending and non-bulk repackaging, which are operations not primary among manufacturing operations yet met by distributors (Chemagility, 2008; Hornke, 2012). Thus, chemical distribution originates in the gap between producers who wish to sell large lots

without regulatory or logistical complications and customers demanding small volumes and who have very specific needs on technical, regulatory and logistical level; in essence, chemical distributors allow their principals to profitably reach smaller customers in many industries and countries (Mortelmans and Reniers, 2012). However, genuine chemical distributors, rather than simply selling chemicals, add value through an extensive range of services to both customers and suppliers (Hornke, 2012; Mortelmans and Reniers, 2012).

Chemical distributors offer a wide and varied range of services to both customers and suppliers. The typical offering to customers incorporates a broad product portfolio with complementary products; access to reputable suppliers; competitive (and stable) pricing; stock management and Just In Time (JIT) deliveries; competent and knowledgeable sales team; technical support and problem solving skills; product expertise for formulation purposes; value-added services, for instance, custom blending, repackaging); sample management; financing and credit in line with local terms; safety training and hazardous waste removal (BCG, 2013; Burns, 2010; Chemagility, 2008 and 2015; Chemanager, 2013; Districonsult, 2009 and 2012; FECC, 2013; Hornke, 2012; Jung *et al.*, 2014; Mortelmans and Reniers, 2012; NACD, 2005). Equally, their offering to suppliers includes services such as market share and penetration; logistics services including storage and packaging; in-depth market intelligence and assist with the implementation of marketing strategies; demand forecasting and planning; market development capabilities; new product approvals; conforming to local regulations and language; repackaging and relabelling; arrangement of import authorizations; trainable staff with good technical knowledge; modern IT infrastructure allowing automated information exchange (BCG, 2013; Burns, 2010; Chemagility, 2008; Chemanager, 2013; Districonsult, 2009 and 2012; FECC, 2013; Hornke, 2012; Jung *et al.*, 2014; Mortelmans and Reniers, 2012; NACD, 2005).

3.2.5 UK chemical distribution

Chemical distributors are an integral part of the UK chemical industry positioned between chemical producers and their customers (CBA, 2015; Chemagility, 2008; FECC, 2013). Even though chemical distribution is a well-established practise in the UK, it is an understudied part of the chemical industry, both on an academic and business level with the majority of information originating from the study of the European chemical distribution industry (Burns, 2010; Brenntag, 2010; Chemagility, 2008; Districonsult, 2009, 2011 and 2012; Jung *et al.*, 2014; Hornke, 2013). As a result, in the literature

review stage, this study acknowledges that any trends, challenges and success factors identified in the academic and business literature for the European chemical distribution industry apply, affect and are reflected on the UK industry as well. This further supports the importance of this study and the need to investigate the UK chemical distribution industry.

On a similar note, there are limited statistical data available on the industry and information such as turnover, sales and margin growth, performance and future trends are drawn from the Chemagility (2008 and 2015), Keynote (2011) and Plimsoll (2013) reports. The latest Keynote report in 2015 does not give an overview of the industry and reports data only on selected companies.

The Keynote report (2011) on the industry analyses company and industry performance for the period 2007-2010. It must be noted that this report focuses only on the leading 137 companies operating as chemical distributors and does not reflect the whole industry and specifically the smaller businesses. During the reported period, the average company experienced a 0.7 per cent increase in turnover with sales rising from GBP 28.6 million in 2007-2008 to £28.8 million in 2009-2010. Pre-tax profits rose from GBP 408,000 in the first year of review to £575,000 in the third year, an improvement of 40.9 per cent overall. Return on capital (the percentage return on the funds invested in a company) rose from 5.0 per cent in 2007-2008 to 6.7 per cent in 2009-2010. Following this positive trend the pre-tax profit margin also rose from 1.4 per cent in 2007-2008 to 2.1 per cent in 2009-2010. However, sales growth declined from 11 per cent between 2007-2008 and 2008-2009 to a contraction of 9 per cent between 2008-2009 and 2009-2010, resulting in a compound growth of 0 per cent. Growth in pre-tax profits deteriorated from 125 per cent in the first half of the analysis period to a contraction of 32 per cent in the second half, producing a compound growth of 24 per cent overall.

According to supplementary data from Plimsoll (2013), an average company in the UK chemical distribution industry increased sales by 6.4 per cent in 2012. However, the larger companies grew at 8.5 per cent, compared to the smaller companies who grew at 1.9 per cent meaning that SMEs are not growing as fast. As such, research in the area of small business growth and specifically in success factors, would be most beneficial and critical for the industry.

According to the latest data available from Chemagility, in 2014 the UK chemical distribution market was worth GBP 4.42 billion (EUR 5.44 billion), employing circa 6,800 employees and representing 10% of the total European chemical distribution market worth EUR 52 billion. The total number of chemical distributors in the UK was 280 and with over 75% of them being small or micro-sized enterprises (210 companies if subsidiaries of larger international groups are excluded), it is

evident that SMEs have a very strong presence in the industry. Despite major challenges due to increasing compliance costs, reduced margins, global competition and uncertainty, the UK distribution market achieved a 6% annual growth rate between 2005 and 2010, a 5% growth between 2011 (GBP 4.16 billion) and 2014 (GBP 4.5 billion) and is anticipated to grow further to GBP 5.6 billion by 2020 at a rate of 3.6%, which is higher than expected the GDP growth (Chemagility, 2015). According to Chemagility (2008 and 2015), the UK chemical distribution industry has experienced a high rate of growth that can be attributed to globalisation and international trade, the market entry of Asian producers, the reduced product and service offerings from chemical producers and downsizing by manufacturers that led to higher utilisation of distributors. However, the industry, like the rest of Europe has also experienced significant industry consolidation resulting in the overall reduction of the number of companies present and increasing even more the pressure on the survival of SMEs (Chemagility, 2008 and 2012; Keynote, 2011; Plimsoll, 2013). It is worth noting that in 2014 large enterprises and multinationals held 67% (GBP 2.95 billion) of the total UK chemical distribution market value, leaving a smaller share of 23% (GBP 1.47 billion) to all other small businesses (Chemagility, 2015).

Overall, there is general agreement in the current business literature that SMEs have a strong presence in the UK chemical distribution industry and that their performance therefore greatly affects the industry (Plimsoll, 2013; Chemagility, 2008; Keynote, 2011; British Association of Chemical Specialties (BACS), 2014; Chemical Business Association, 2014; European Association of Chemical Distributors (FECC), 2013). Once again, it becomes evident that identifying the success factors for SMEs operating in this industry is necessary and of great importance and interest.

3.2.6 Driving forces of the European chemical distribution industry

In order to identify the factors that affect the success of SMEs in the chemical distribution industry it is important to understand the main driving forces of the industry and thus the challenges that small-medium sized distributors are facing. Only when a small business is able to cope with the driving forces of the industry, adapt to market changes and overcome the challenges, can it be successful and thrive in the business environment. Overall, there is general agreement in the literature that the main driving forces in the European chemical distribution industry are Consolidation and

Regulatory compliance (BCG, 2013; Berger, 2011; Districonsult, 2013; Eberhard, 2014; Fermont, 2007; Honrke, 2013; Kronimuns *et al.*, 2009; Mortelmans and Reniers, 2012).

3.2.6.1 Consolidation

The chemical distribution market is characterised by high fragmentation, with a number of top companies dominating specific markets but only a few global powerhouses and very strong trends of consolidation (BCG, 2013; FECC, 2013; Hornke, 2013; Kronimuns *et al.*, 2009; Mortelmans and Reniers, 2012; Jung *et al.*, 2014). According to the Federation of European Chemical distributors (in Young, 2012b), the industry has been steadily consolidating over the last 10 years and in 2010 the top 10 chemical distributors had a combined 23 per cent share of the global market - much higher than a decade ago - making distribution a global industry present in every region worldwide. However, at that time, there were only three truly global chemical distributors: Brenntag, Univar, and Helm, defined as having a top-20 position in three or more markets. As of 2011, which is the most recent year for which full company data were available, the three largest global distributors held a combined global market share of 12.5 percent with Brenntag at 5.9 percent, Univar at 4.7 percent and Nexeo Solutions at 1.9 percent (BCG, 2013; FECC, 2013). Research and Markets (2013) -in their most recent report on the global chemical distribution market for the period 2012-2016- further support that Brenntag, Helm, Nexeo Solutions and Univar are going to be the key vendors dominating the industry. It also appears that there are significant regional differences depending on the maturity of the market. North America and Europe, both being mature markets, are the most consolidated markets where the top three distributors hold 30 to 40 percent and 15 to 20 percent of the market respectively while in the Middle East and Africa and the Asia-Pacific region, the top three players collectively hold 6 to 10 percent of the market (BCG 2013; Districonsult, 2012; Elser, 2012; Jung *et al.*, 2014). It is also worth noting that Asia is not only the largest distribution market but also the most fragmented (BCG 2013; Districonsult, 2012). Regarding the future, there is agreement that, as consolidation continues and the market grows, more global distributors are likely to emerge (BCG, 2013; Eberhard, 2014; FECC, 2013; Young, 2012b; Jung *et al.*, 2014).

The main drivers for the ongoing consolidation trend in chemical distribution as identified by key industry authors (Burns 2010; Chemagility, 2008; Eberhard, 2014; Fermont, 2007; Districonsult, 2009; BCG, 2013; Hornke, 2013; Kronimuns *et al.*, 2009; Mortelmans and Reniers, 2012) are identified. Mergers and acquisitions and partnerships; the strong presence of private equity firms (PEFs); the need for value-adding services and deeper integration; increasing regulatory compliance costs; customer internationalisation and the need for critical mass; manufacturers' growing support to larger companies and unsolved succession issues in privately owned companies are the most salient ones.

i. Mergers and acquisitions and partnerships

Distributors have identified acquisitions as a key element of their growth strategy and as a result, the mergers and acquisitions (M&A) activity in the chemical distribution sector has been strong for a number of years (Chemagility, 2008; Districonsult, 2010, 2011 and 2012; Eberhard, 2014; FECC, 2011; Young, 2012a). This trend is set to continue as these transactions are a major growth driver for many companies with the rationale appearing to be expansion of industry and/or geographic coverage (BCG, 2013; Districonsult, 2013).

In more detail, large international distributors have always been seeking to increase their global footprint through acquisitions particularly in the emerging markets, with a scope to build up sufficient market expertise and become legitimate alternatives to local players (BCG, 2013). Having standardised procedures in place and available resources and funding, facilitates the acquisition process (Elsner, 2012; Hornke, 2013). However, in the more recent years, a number of medium-sized, privately owned distributors have also identified acquisitions as a key part of their growth strategy, realising that a certain geographic reach is required in order to be successful (Districonsult, 2012; Mortelmans and Reniers, 2012; Young, 2012b). In fact, in the period 2013-2014, in Europe, the majority of M&A activity was due to smaller or medium-sized privately held distributors (BCG, 2013). Likely acquisition targets for these companies will be distributors generating sales between EUR 10 million per year and EUR 50 million per year (Hornke, 2013; Valk, 2012). Consequently, SMEs operating in the chemical distribution industry require careful strategic planning with a well-defined, focused and forward-looking strategy alongside access to finance and solid financial resources to be able to grow and become successful in the market.

However, as the M&A activity continues to be strong, the obvious stumbling block is the lack of available targets with sufficient quality, size, and market knowledge as there are not many willing sellers left in the market (Chemagility, 2008; Kronimuns *et al.*, 2009; Research and Markets, 2013). Consequently, M&A activity is now shifting to reflect more clearly the distributors' priorities (Research and Markets, 2013; Mortelmans and Reniers, 2012). In mature markets such as the United States and Europe, large and medium-sized players are acquiring smaller companies with specific industry expertise while in emerging markets large distributors are seeking companies that can help them expand their geographic reach (BCG, 2010 and 2013; Frost, 2013; Hornke 2013; Mortelmans and Reniers, 2012).

An alternative to mergers and acquisitions and a more viable growth solution for smaller or medium-sized distributors is the formation of international partnerships with distributors in different countries (BCG, 2013; Frost, 2013; Research and Markets, 2013). This allows smaller companies to compete with larger players on an international basis while reducing the risk of being dependent on the domestic market (Intel, 2005; BCG, 2010). As this trend is set to continue (BCG, 2013; Frost, 2013; Research and Markets, 2013), a well-thought internationalisation and collaboration plan is required. In other words, internationalisation becomes of great importance in growing outside home markets.

ii. Strong presence of Private Equity Firms (PEFs)

In recent years, Private Equity Firms (PEFs) have been very active in the European chemical distribution industry acquiring chemical distributors (Bee and Chelliah, 2013). In fact, in 2010, among the top six European distributors, four were owned by private equity investors (ICIS, 2010). Private equity owners are primarily focusing on cash flow generation and tend to favour the reduction of working capital, namely inventory, customer credit and staff costs (Burns, 2010; Fermont, 2007). They are keen buyers of distribution companies to reduce competition and to increase the value of the companies they own with their preferred targets being high cash flow generating and asset rich distributors who offer good synergies with their existing assets (Chemagility 2008; Fermont, 2007; Valk, 2012).

Kamakura (2006) explores the factors that attract PEFs to the chemical industry and even though his research focuses on the chemical manufacturing industry, its dynamics are considered similar to the chemical distribution (Bee and Chelliah, 2013). In conjunction with Fermont's (2007) and Burns' (2010) research that specifically focuses on the European chemical distribution industry, PEFs are keen to invest in this industry as it benefits from economies of scale, is characterised by high cash flows, limited financial risks and profitable exit prospects, is highly fragmented and thus there is still significant room for consolidation. However, only strong and focussed companies with a forward-looking strategy and mind-set are going to thrive (Districonsult, 2011; Hornke, 2013).

iii. Need for value-adding services and deeper integration

Generally, the chemical industry used to drive growth by inventing breakthrough molecules and new products that manufacturing and distribution companies were able to develop into large sales and profit generators (Camelot Management Consultants, 2012; CEFIC, 2010; RSC, 2014). However, the ability to drive growth from new molecules seems to be at a plateau, yielding

increasingly marginal and incremental growth rather than the breakthroughs seen in previous decades (Berger, 2011; Eastwood, 2012; Elser, 2012). At the same time, chemical distributors are facing yet another challenge known as disintermediation, where producers deal directly with consumers (Bee and Chelliah, 2013; Rowley, 2002). Chemical producers are going directly to end-users, eliminating chemical distributors and reducing their costs so as to offer a better proposition (Tay and Chelliah, 2010). In fact, Boston Consulting Group (2010) research reveals that 79 per cent of the chemical producers only outsource their distribution to companies which buy less than EUR 100,000, effectively meaning that many of the large customers are eventually buying directly from producers. As a result, it is becoming imperative for distributors to add new services and achieve a deeper integration across the value chain by shaping new product and service propositions for producers and customers, adopting new approaches to integration of end-to-end distribution and marketing capabilities in order to generate value (BCG, 2013; Chemagility 2008; Mortelmans and Reniers, 2012).

According to BCG (2013), the value-adding services that chemical distributors offer varies with the geographical region and the maturity of the market. For instance, in early emerging markets such as Africa, distributors are likely to offer a very basic model that is oriented around reliable logistics; in more advanced markets, such as Asia, there is a strong need for 'logistics-plus' services, such as simple packaging, filling, mixing, and vendor-managed inventories; in mature markets such as the United States and Europe, distributors are increasingly becoming full-service partners of chemical producers, offering advanced technical and formulation services (BCG, 2013; Districonsult, 2010; Mortelmans and Reniers, 2012). Further value-adding services include speed and precise timing of delivery, additional information including digital support and customized interactions (Chemanager, 2012; Elser, 2012; Mortelmans and Reniers, 2012).

With regards to disintermediation, chemical distributors can back integrate their activities and adopt the role of 'pseudo-manufacturer', creating the perception that they are also chemical producers (BCG, 2013; Burns, 2010). That is achieved by buying products in bulk, re-packaging and re-selling them under their own brand, getting products to be produced under their own specification and brand name and requiring chemical formulators to come up with blended products (Bee and Chelliah, 2013; Districonsult, 2013; Frost, 2013).

There is general agreement that this trend is set to continue for the foreseeable future and opportunities for value-adding services are expected to increase in all markets (BCG, 2013; Districonsult, 2010; Elser, 2012; Hornke, 2013; Mortelmans and Reniers, 2012). As a result, it becomes

evident that if a company wants to be successful in the chemical distribution industry it needs to continuously enlarge, diversify and specialise its portfolio, enhance and back integrate its services to its customers and choose its markets wisely. In other words, excellent customer service, market and product development (MPD) and strategic planning are of the utmost importance and are considered as critical success factors.

In addition, the requirement to constantly adapt and change continues to drive strategies in a highly competitive environment (BCG, 2013; Berger, 2011; Fermont, 2007). The need to provide additional services, either to grow the business as such or to differentiate companies from competitors requires significant investments and capital expenditures (Districonsult, 2011; Valk, 2012). Moreover, the business must be able to carry the financial burden over a reasonable time period, meaning that access to finance and good financial resources are once again required for success (BCG, 2013; Jung *et al.*, 2014; Mortelmans and Reniers, 2012).

Furthermore, the increasing emphasis on value-adding services brings human resources challenges to many distributors, who experience difficulty finding employees with the required technical expertise (BCG, 2013 and 2010; BurrIDGE, 2014a; Hornke, 2013). If restrictions in attracting and retaining talent and the increasing competition from other industrial sectors are taken into consideration (i.e. the banking and finance sectors), it explains why recruitment and retention has become a top priority for many chemical distributors (BurrIDGE, 2014b and 2013; Chemagility, 2008; Fermont, 2007; FECC 2013). In fact, the European federation of chemical distributors (FECC, 2013) already reports that human resources are becoming a challenge for chemical distributors in Europe and note that there has been increasing focus on employee qualification and retentions programs alongside increased activity on employer branding. According to Richard Northcote, Chief Sustainability office at Bayer Material Science, (in BurrIDGE, 2014b, p.45) '*attracting and retaining talent will be a critical element of ensuring a sustainable business in the future*'. Hornke (2012) and Mortelmans and Reniers (2012) support the ever growing shortage of highly skilled workers and further argue that getting the right people and keeping them is becoming more of a challenge for small and medium-sized chemical distribution companies as they lack the resources to compete with larger distributors and offer less secure employment. As a result, human resources are considered a critical success factor for SMEs in this industry.

iv. Increasing regulatory compliance costs

Even though the effect of regulatory compliance is discussed in more detail under the 'Regulatory compliance' part of this chapter (section 3.2.6.2), it is worth mentioning that the existing regulatory framework has a significant cost impact on chemical distributors (ECHA, 2014; BCG, 2013; Whyte, 2012). Smaller businesses are now facing steep increases in costs due to the implementation of Reach legislation, the new initiatives on classification, labelling and packaging (CLP) of substances and competition laws (Bishop and Walker, 2010; Flavell-While, 2012; Health and Safety Authority, 2011; Pistolese, 2011). Apart from the direct implementation cost, there are also indirect costs due to the extra workload generated and the need for more manpower and expertise (Whyte, 2012; Hornke, 2013). Districonsult (2011) further supports that regulation along with quality and service related requirements lead to an increasing need for in-house expertise regarding technologies and management methodologies. All that requires cash, financial capabilities and a long-term outlook and access to or lack of these resources is going to determine whether mainly smaller distributors can stay in the business or be forced to exit the market (Districonsult, 2013; Young, 2012b; Whyte, 2012). Also, small companies heavily dependent on non-EU suppliers are looking to divest, merge or acquire complimentary business to reduce the financial impacts of legislation (Chemagility, 2008). As a result, strategic planning is required to set the company's strategy alongside careful planning of the required financial and human resources.

v. Customer internationalisation and the need for critical mass

The current strong globalisation trends impose a greater need for distributors to achieve critical mass in order to service their customers that increasingly expand their operations in wider geographic areas (Chemagility, 2008; BCG, 2013; FECC, 2013; Jung *et al.*, 2014). Furthermore, due to the increased competition, smaller distributors can easily be driven out of the market by more aggressive, financially strong competitors (Eberhard, 2014; BCG, 2013). The fact that they also have to cope with an ever-increasing fixed cost burden, is inevitably stimulating the growth of larger distribution companies at the expense of smaller ones (BCG, 2013; Districonsult, 2013; FECC, 2013). The future outlook is also in favour of medium-sized local champions and large international players, reporting increasingly challenging conditions for small distributors (BCG, 2013; Districonsult, 2013).

Based on the above, it seems that company size is an important factor in chemical distribution and could potentially affect business success. There is agreement in the literature that chemical distribution companies must either be big enough to cover large geographical areas and large parts of core industrial areas or they must concentrate and specialise in certain industries that allows them an expert approach with high focus (BCG, 2010 and 2013; Burns, 2010; Chemagility, 2008; Jung *et al.*,

2014; Districonsult, 2010). Eberhard (2014) argue that chemical distributors need to ensure that they maintain the critical mass that is required to have a broad enough presence in the market or be confined in small niche markets. As a result, the only way for smaller companies to remain competitive and on the leading edge of the industry is to focus on a few selected applications, in order to avoid dilution of their efforts and to add depth (Districonsult 2011 and 2013; Young, 2012b). BCG (2013) further argues that the small distributor model works best in two situations: speciality chemicals with a high need for technical knowledge and regions in which outsiders do not yet have any local insights or where access and reach are difficult.

Following customer internationalisation, Mortelmans and Reniers (2012), Honrke (2013) and Young (2012b) argue that some small and medium-sized enterprises (SMEs) operating in the distribution industry need to extend their networks and forecast that in the future the most important SMEs are going to be the international ones. These companies are more likely to gain a higher share of the growth in emerging market as a result of the accumulated local knowledge, existing networks and expertise on quality standards (BCG, 2013; Burns, 2010; Hornke, 2013). As a result, internationalisation becomes of great importance to the success or failure of these businesses.

However, international distributors, unless they acquire or do a joint venture with a local distributor, are not going to be able to completely replace small and medium-sized local champions, especially those with strong relationships in place and the means to continue building their local networks with industry-specific service offerings (BCG, 2010; Chemanager, 2013; Chemagility, 2008; Hornke, 2013). Therefore, it becomes evident that business networks and customer relationship management are also critical factors for the survival and success of local SMEs.

vi. Manufacturers' growing support to larger companies

Overall, there is a trend for larger producers to reduce the number of distributor relationships in favour of preferred partnerships and offer more support, resources and services in a smaller number of carefully selected distribution companies (BCG, 2013; Districonsult, 2013; Mortelmans and Reniers, 2012). At the same time, global producers, especially in emerging markets, tend to outsource distribution to established international players further reducing the number of local distributors they deal with (BCG, 2010; Elser, 2012; Fermont, 2007).

As a result of the ongoing market consolidation, the number of bulk chemical distributors has been reduced and the available channel options for bulk chemical producers is limited in each European country to a maximum of five or six distributors who together hold more than eighty percent

of the relevant bulk chemical markets (BCG, 2010; Hornke, 2013; Mintel, 2005). For speciality chemicals, the options are wider and the existence of 'oligopoly' or reduced market options may only occur on some niche industry segments where the number of specialist distributors is limited (Hornke, 2013; Districonsult, 2011 and 2012).

Most importantly, as manufacturers seek to improve productivity and reduce production costs, a rationalisation of production is inevitable (BCG, 2013; Burns, 2010). In fact, reductions in sales growth and margins in the recent years intensify this process of rationalisation, restructuring the product portfolio, with companies focusing on higher value sectors such as pharmaceuticals and speciality chemicals for which demand is less sensitive to variations in the business cycle (CEFIC, 2012; Chemagility, 2008; Marketline, 2013; Mintel, 2005; VCI, 2013). The concentration on speciality chemicals is particularly evident in the UK industry (Chemical Industries Association, 2009; Mintel 2005).

This continuing consolidation trend inevitably reduces the supply options for distributors who find it increasingly difficult to find new suppliers to compensate for loss of old principals (Fermont, 2007; Hornke, 2013; Mortelmans and Reniers, 2012). In addition, it potentially reduces competition between suppliers and restricts the availability of products to distributors (BCG, 2013; Chemagility, 2008; Hornke, 2013; Valk, 2012). Therefore, maintaining good relationships with both suppliers and customers (customer relationship management), continuous geographical expansion (Internationalisation), product diversification (Market and Product development) and strategic planning become essential factors for success for every chemical distributor.

vii. Unsolved succession issues in privately owned companies

Many small, privately owned UK distributors were set up in the 1970s and 1980s by their entrepreneurial owners who are now approaching retirement (Chemagility, 2008). Succession planning involve handing the business over to new management, but other options include selling the business and liquidating the value built up to fund retirement costs (Burns, 2010; Chemagility, 2008). Unsolved succession issues further drives consolidation in the market. Strategic planning is required to manage the process and sustain the business.

3.2.6.2 Regulatory Compliance

Similar to the chemical industry, the chemical distribution industry - which plays a crucial role in the chemical supply chain - is also subject to strong regulatory trends (European Chemicals Agency,

2014; FECC, 2014; Jensen-Korte, 2013). The main regulatory challenges that the European distribution industry faces are REACH and CLP compliance and implementation and the EU competition rules regarding information exchange between suppliers and distributors (Eacott, 2013; Fermont, 2007; Jensen-Korte, 2013; Whyte, 2012).

Contributing to the supply of chemicals, chemical distributors are affected by REACH and CLP regulatory requirements pertaining to chemicals and transport (Jensen-Korte, 2013; Valk, 2012). According to FECC (2013), under REACH and CLP, chemical distributors can be classified as Importers (a company who buys chemicals from outside the EU and then distributes them within the EU is an importer under REACH and CLP and so may have registration or notification obligations), Downstream users (a company who buys chemicals within the EU and then blends them with other chemicals or re-fills or decants them into new containers, before supplying them on, is a downstream user under REACH and CLP and will have additional duties along with their distributor duties) and manufacturers.

As chemical manufacturers have been increasingly focusing on their core activities, the operating environment of the distribution sector has been shifting, requiring from distributors to provide additional services; as a result repackaging, mixing, compounding and blending are services now more commonly being provided (Jensen-Korte, 2013). However, by offering such services, distributors are, in the context of REACH and CLP, being considered as downstream users (Pistolese, 2011). Since distributors are also often importers they face similar problems as manufacturers in terms of REACH and CLP compliance issues (Flavell-While, 2012).

Overall, distributors play a key role in ensuring proper supply chain communication as they are in the middle of the supply chain with obligations to pass information up and down accordingly while handling large volumes of chemicals (Districonsult, 2013; Pistolese, 2011). According to the Health and Safety Authority (2011), distributors of chemicals have several duties under EU chemical legislation such as passing vital health and safety information on the hazards and risks of the chemicals they distribute along the supply chain; ensuring that the substances they place on the market have been pre-registered or registered by their suppliers; and keeping all information required to carry out duties under REACH for a period of at least 10 years after last supply of a chemical.

During the earlier stages on REACH and CLP implementation, it had been mainly larger companies (manufacturers and distributors) that were mostly affected (Eacott, 2012; Whyte, 2013). However, all chemical distributors have to eventually register themselves, their imported chemicals and any 'in house' blends and formulations (Fermont, 2007). In fact, as the majority of the chemical distributors are SMEs, the regulatory impact on the industry becomes even more important (Boston

Consulting Group, 2010; Bee and Chelliah; 2013; FECC, 2013) and any further studies in this area would be of great value.

As the market is moving towards the 2018 registration deadlines for chemical substances placed on the EU market, SMEs are going to be affected by the regulatory and financial impact of REACH compliance (Eacott 2014). Jensen-Korte (2013) argues that for the 2018 registration deadline, the involvement of more distributors is expected, of which an increasing number are going to be SMEs that are more difficult to reach. In more detail, until May 2018 (which is the end of the phase-in period by which all relevant pre-registered substances must have been registered), companies need to undertake the huge task of registrations, authorisations, implementing restrictions and communicating the results of chemical safety assessments via chemical safety reports and exposure scenarios (Flavell-While, 2012; Whyte, 2012). Distributors of commodities face additional challenges as they receive diverse information from different suppliers of the same substance which they will have to aggregate in order to provide their customers with a unique and consistent set of information (Districonsult, 2013).

Eventually, this will result in small businesses either using external expertise (i.e. advisory services) or employing additional staff to cope with the increased work load and expertise required (Young, 2012b; Whyte, 2012). This is mainly due to the fact that SMEs do not usually have in-house regulatory specialists to deal with the many volumes of official REACH guidance which exist and are thus making them more vulnerable to regulatory changes (Hornke, 2013; Whyte, 2012). At the same time, they are also more likely to make mistakes than large companies when attempting to comply with REACH with a few cases of 'do-it-yourself' attempts at compliance have resulted in very damaging effects on businesses (Eacott, 2012; Chemanager, 2013). More importantly, as the 2018 deadline requires the registration of substances produced or imported in lower volumes, data generation and data access costs for small businesses becomes a major issue which could lead to potential interruptions in the supply chain (Berger, 2011; Districonsult, 2013).

Whyte (2012) also argues that SMEs are going to be significantly affected by and have to bear both direct costs - such as Pre-registration, Chemical Safety Assessments, Registration, Product testing, evaluation and authorisation - and internal or indirect costs - such as adapting Safety Data sheets and literature, communication to customers, confidentiality issues - with these costs potentially being as high as 20 per cent of the company annual turnover.

Overall, many authors (BCG, 2013; Chemagility, 2008; Districonsult, 2013; Flavell-While, 2012; Hornke, 2012; Whyte, 2012) predict that regulatory compliance is going to have an adverse impact on the industry and players leading to increases in products and raw material prices; an increase in the operating costs of the distributors involved in those sectors; increased reformulation, re-approval, substitution, or even product withdrawals activity; loss of intellectual development; an increased risk that suppliers may deal direct with customers reducing many distributor SMEs to agents and further consolidation in the industry. In fact, a number of producers have already discontinued the marketing and sales of certain products in Europe as the cost for registration and subsequent collection and evaluation of information is not economically viable or recoverable (Districonsult, 2013). If this trend continues, this will lead to product rationalisation and a reduction of product variety which in turn will potentially have an over-proportional effect on distribution, as the smaller-volume products which will be affected are the realm of the indirect channel (Districonsult, 2013; Fermont, 2007; Hornke, 2013).

Districonsult (2013) also reports that regulatory compliance is absorbing an increasing amount of management time at distributors. In a survey conducted by the same company among a number of companies from EU and non-EU countries, 69 per cent of the participants said that they have assigned accountability for the respective strategy and its implementation to a member of their management team and have allocated a specific budget position for regulatory compliance. Regarding information on the subject, suppliers are normally seen as important sources of information, followed by trade associations. Regulatory compliance is seen as critical to business success but not as something that would create a competitive advantage and a means of differentiation.

Despite all the above, there are also reports that, even though REACH has been in force for several years and enforcement action by the authorities is beginning to impact heavily on EU businesses, many SMEs still believe they can avoid REACH by keeping a low profile (Hornke, 2013; Whyte, 2013). Another reported problem is the '*just say yes*' compliance approach as SMEs feel overwhelmed by compliance obligations and are tempted to provide minimal information to their customers, which may be inaccurate or misleading (Flavell-While, 2012).

Apart from REACH and CLP compliance, companies also have to comply with rules on information exchange between suppliers and distributors as the EU competition rules which were introduced in 2001, are now being fully implemented (Bishop and Walker, 2010; BCG, 2013; Fermont, 2007; Young, 2012b). FECC (2012), reports that the chemical distribution sector still remains under

scrutiny by Europe's antitrust authorities, following several high-profile cases in recent years. From a legal standpoint, distributors operate and compete on the same markets with their suppliers. Consequently, producers are not allowed to exchange pricing and customer information with their distributors and have to operate commercially independently from one another (Flavell-While, 2012; Whyte, 2012). The guidelines also state that all recommendations by producers on resale prices by distributors must be legally and, in practice, non-binding and distributors must be free to set their own prices (Bishop and Walker, 2010; BCG, 2013). Suppliers are not allowed to restrict sale territories or to impose supply exclusivity (Bishop and Walker, 2010; Fermont, 2007).

In the near future, it is expected that an additional set of rules will be introduced in order to prevent vertical and horizontal competitive restraints with a scope to make chemical markets more open and more competitive for the benefits of both suppliers and customers (Bishop and Walker, 2010; Eacott, 2012). In addition, all distributors will have to implement stricter governance guidelines to ensure full legal compliance within their organisations (Frost, 2013; Valk, 2012). Overall, the trend towards increased regulation is expected to continue (BCG 2013; Burns, 2010; Frost, 2013; Hornke, 2013; Whyte, 2012). While REACH and CLP are implemented in Europe, similar regulations are likely to be introduced in the United States, along with rules calling for an upgrading of facilities, such as in Brazil, and stronger environmental regulations, such as in China (BCG, 2013). Even though there are some markets that still remain largely unregulated -including Africa and the Middle East- those seem to be the exceptions. Undeniably, increased regulatory pressures do not only affect mid-size and larger operators but also smaller distributors that do not currently comply in many cases and cannot justify the investments needed to do so (Districonsult, 2013; Eacott, 2012; Flavell-While, 2012). Small-scale distributors have to fully implement the measures necessary to comply with applicable regulations otherwise they will not be able to operate in these markets (Burns, 2010; Chemagility, 2008; Frost, 2013). Small and medium-sized distributors will need to ensure their survival by complying with local regulations (BCG, 2013). In conclusion, regulatory compliance becomes critical to the survival and success of small businesses in the chemical distribution industry.

Based on the above main driving forces of the European chemical distribution industry and the challenges that SMEs chemical distributors are facing within, the following section provides an overview of the already identified success factors for the European chemical distribution SMEs. Due to the lack of academic research in the UK, these are to be incorporated into the variables identified in chapter 2 and all together to be used as the basis for this study.

3.2.7 Success factors for SMEs in the European chemical distribution industry

Overall, small and medium-sized companies in the European chemical distribution industry are subject to strong consolidation forces and regulatory compliance requirements. Surviving and thriving in an environment characterised by high mergers and acquisition activity, strong presence of Private Equity Firms (PEFs), a continuous need for value added services and deeper integration due to customers' requirements, customer internationalisation, intense global competition and increasing costs due to more complex health, safety and environmental legislation depends upon a number of factors. In summary and as already identified in the previous section, the critical success factors for SMEs in the chemical distribution industry are presented below.

Business networks: one of the key advantages of small businesses in the distribution industry are the strong relationships they have developed with customers and the good local networks they have built up allowing them to concentrate on niche markets and applications that larger companies find difficult to service (BCG, 2010; Chemanager, 2013; Chemagility, 2008; Hornke, 2013). Especially in the specialty distribution, a well-established sales network that facilitates the distribution of goods to local customers while reducing cost and complexity offers SMEs a strong differentiation point (Jung *et al.*, 2014).

Company size: according to BCG (2013) and Districonsult (2013), the future favours medium-sized local champions and large international players, while small distributors face increasingly challenging conditions. In order to survive and thrive, companies must either be big enough to cover large geographical areas and large parts of core industrial areas or they must concentrate and specialise in certain industries that allows them an expert approach with high focus (Districonsult, 2010; BCG, 2010 and 2013; Chemagility, 2008; Burns, 2010). Any distribution companies lacking the required critical mass and sufficient volume must either partner with competitors or seek an acquisition or merger (BCG, 2013; Burns, 2010; Chemagility, 2008; Eberhard, 2014). Jung *et al.* (2014) further argue that speciality distributors need to target both organic and inorganic growth in order to address regional and product gaps in their portfolios. Therefore, the size of the company is an important factor in chemical distribution and potentially affects business success.

Customer Relationship Management (customer service): Satisfying customer needs, offering a good service and expanding one's services is the cornerstone of success for chemical distributors, especially as customers' demand for reliability, speed and flexibility has increased significantly (BCG, 2013; Chang, 2013; DistriConsult, 2012 and 2011; Horke, 2012). Distributors have to build up a trusting atmosphere and a close relationship to get problems solved and challenges managed (Chemanager,

2012 and 2013). Customer relationship management also includes supplier management as this is a central business factor. Finding and securing new suppliers is a difficult task and as a result, it is important to install and develop relationship management across hierarchy levels and build up a network within the supplier organization (Chemanager, 2012 and 2013; Fermont, 2007; Foerstl *et al.*, 2010; Research and Markets, 2013). Equally important in the success of SMEs in the distribution industry is managing and maintaining a close relationship with current suppliers and establishing platforms to provide regular feedback, market and product intelligence to them (Jung *et al.*, 2014).

Financial Resources (access to finance): SMEs operating in the chemical distribution industry require significant investments and capital expenditures to remain financially sound, maintain their current position in the market, cope with increasing regulatory compliance costs, strengthen against acquisitions, acquire companies and finance their expansion into new markets (Bee and Chellia, 2013; Burns, 2010; Jung *et al.*, 2014; Hornke, 2012; Mortelmans and Reniers, 2012). BCG (2013) argues that small and medium-sized distributors need to ensure their survival by establishing financial stability first. Once their viability is assured, they can differentiate themselves and build market share through specialisation; for instance developing a differentiated offering in a specific niche, with local expertise, value-adding services, and real adaptation to supplier needs (BCG, 2013; Bee and Chellia, 2013; Chemagility, 2008; Hornke, 2012; Mortelmans and Reniers, 2012; Jung *et al.*, 2014).

Human Resources: human capital is becoming a challenge for chemical distributors in Europe and there has been increasing focus on employee qualification and retentions programmes (Burrige, 2013; FECC, 2013). A strong expertise regarding products and applications is essential to drive market development and is viewed as a success factor (Jung *et al.*, 2014). In fact, distributors that truly understand their products and formulations are in a position to provide better technical sales support and establish stronger relationship with their customers (Burrige, 2013; Jung *et al.*, 2014). There is also a well-documented growing shortage of highly skilled workers (Burrige, 2014; Hornke, 2012; Mortelmans and Reniers, 2012). Thus, getting the right people and keeping them is becoming a challenge and a critical success factor for small-medium sized chemical distribution companies as they lack the resources to compete with larger distributors and offer less secure employment (Burrige, 2013; Hornke, 2012).

Internationalisation: SMEs above all companies have to expand to other markets to grow and thrive and as such a well thought internationalisation plan is required (Chemagility, 2008; Hornke, 2012; Districonsult, 2012 and 2011). Smaller distributors also need to extend their networks as a result of customer internationalisation (Mortelmans and Reniers, 2012; Young, 2012b). Another viable

growth solution for smaller or medium-sized distributors is the formation of international partnerships and collaborations with distributors in different countries (BCG, 2013; Frost, 2013; Research and Markets, 2013).

Market and product development (MPD): choosing the right product portfolio that reflects market trends and customer needs and marketing those in carefully selected markets and industries is imperative to the success of any distributor and is widely recognised as a critical success factor (BCG, 2010 and 2013; Chang, 2013; Chemagility, 2008; Chemanager, 2013; Jung *et al.*, 2014; Mortelmans and Reniers, 2012). Focusing on product categories, industries and applications provides good prospects to small-medium sized distribution companies (Hornke, 2012). Distributors with deep knowledge of local-market demands are more likely to excel at category management and develop a full portfolio of the chemicals needed to establish a strong presence in related market segments (Jung *et al.*, 2014). The need for value-adding services remains strong in the future and successful companies have to continuously enlarge, diversify and specialise their portfolio and choose markets wisely (BCG, 2013; Districonsult, 2010; Elser, 2012; Mortelmans and Reniers, 2012).

Strategic planning: Chemical distribution is a very attractive industry but only strong and focussed companies with a forward-looking strategy and mind-set will thrive (Districonsult, 2011). Distribution companies must actively plan to address current and future challenges, for instance achieving growth, acquisition planning, succession planning, suppliers management, so as to compete effectively and survive in the market (Bee and Chellia, 2013; Chemagility, 2008; Mortelmans and Reniers, 2012). Also, strategic planning should be used to anticipate new trends and handling challenges, as it is indispensable to know the development of society, needs and infrastructure in a market; for instance, in light of an aging society, distributors need to react to an increasing requirement for health, cosmetics, nutraceuticals and pharmaceuticals (BCG, 2013). Last, process quality and IT excellence is also seen as an integral part of strategic planning and critical to the success of chemical distributors (Jung *et al.*, 2014; BCG, 2013). The use of technology streamlines logistics, reduces overheads, provides a cost advantage and further enables distributors to share commercial and marketing data with their suppliers (Jung *et al.*, 2014).

An extensive review of the literature reveals that there are no studies investigating success factors for SMES in the UK chemical distribution industry both on an academic and a professional level (CBA, 2015; Chemagility, 2012; FECC, 2015). Similarly, there is very little academic research on a European level with some attempts being made by industry consultants such as Districonsult and the Boston consulting group. This further reinforces the need for a study in the UK chemical distribution

industry. Notably, the only known study on SMEs and success factors in the European chemical distribution industry is that of Matthias Hornke of Grosse-Hornke Private Consult. Hornke (2012) investigated the success factors for SMEs operating in the chemical distribution industry in Germany, Austria and Switzerland. This study, which was conducted in 2011 and based on 62 participating companies, identified very similar success factors to the ones already discussed. In more detail, these are: employees and employer qualifications (relating to owner/manager's education level and human capital); enlargement, diversification and specialisation of portfolio (market and product development and strategic planning); enhancement of services (customer relationship management); focusing on specific regions (internationalisation and market and product development) and expansion to international sales (internationalisation, marketing, strategic planning).

Overall, chemical distribution SMEs in the UK have to rise to the challenges of the industry to be able to survive and thrive. The business literature on the European chemical distribution industry further supports and is in line with the previously identified success factors for SMEs in a generic context (without a country or industry focus), as presented in Chapter 2. The following factors have been identified as contributory to the success of SMEs in the European chemical distribution industry and are therefore used as the basis of this study to research the UK chemical distribution industry: Business Networks, Company size, Customer Relations Management, Financial Resources, Internationalisation, Human Capital, Market and Product development, Marketing, Regulatory compliance and Strategic Planning.

3.3 Summary

This chapter presented an overview of the chemical and chemical distribution industry with a view to identify success factors for Small-Medium Enterprises (SMEs). The first part of the chapter referred to the European chemical industry, an integral part of which is the chemical distribution industry, giving a brief introduction and discussing its overall importance. The most prevalent driving forces of the industry - environmental, regulatory and economic forces, the need for innovation and the costs and availability of raw material - were identified and presented followed by a brief mention to the UK chemical industry, as this is the setting of this study. The strong presence of SMEs in this industry and their importance was also discussed.

The second part of this chapter focused mainly on the European chemical distribution industry as limited literature and research is available for the UK. An overview of the industry is given, incorporating the rationale and importance of the industry, the definition and classification of

chemical distributors and the services they offer alongside any available information on the UK market. It is worth noting that there is still no universally agreed definition of a chemical distributor because of the wide variety of functions performed by these companies and confusion with other types of trading in the industry. The two main driving forces of the industry, consolidation and regulatory compliance, are discussed in detail so as to identify any critical success factors for SMEs operating in the specific industry. Further literature review reveals that Business Networks, Company size, Customer Relations Management, Financial Resources, Internationalisation, Human Capital, Market and Product development, Marketing, Regulatory compliance and Strategic Planning are critical to the success of SMEs in the European chemical distribution industry. These factors have been presented in last part of this chapter and are the basis of this study.

CHAPTER 4

METHODOLOGY

4. Methodology

The aim of this chapter is to outline the various methodological considerations and rationale of the methods deployed in this study. It further concentrates on the development and deployment of the research survey and outlines the research design adopted. Initially, the aims and objectives of this study and the research process (section 4.1 and 4.2) are presented, followed by a discussion of the broad research philosophies and approaches to enable an understanding of the context of this research (section 4.3 and 4.4). The various research methods and strategies in the light of the research philosophies (Section 4.5 and 4.6) are also considered and presented. The chapter further outlines the methods of data collection and analysis used in the study (Section 4.7 and 4.8) and discusses validity and reliability (section 4.9). Last, the ethical aspects of this research are presented and any ethical concerns are addressed (section 4.10).

4.1 Aims and Objectives

An extensive review of the business literature, as presented in chapter 2, reveals that success factors for SMEs vary with the business environment, that is the industry and country they operate in, meaning that while one factor may be of great importance in one industry and/or country, it may not necessarily be of equal importance in another (Alfaadhel, 2010; Colin *et al.*, 2005; Cragg and King, 1988; Dean *et al.*, 2000; Gibb, 2000; Kader *et al.*, 2009; Krasniqi *et al.*, 2008; Lawal, 2005; Lin, 2006; Ogundele, 2007; Rutherford *et al.*, 2001; Simpson *et al.*, 2012; Smallbone and Wyer, 2000; Van de Van, 1993). The catalytic effect of SMEs is further established and the most prevailing factors critical to

their success are identified in the business literature in a general context, without an industry or country focus. In turn, chapter 3 argues the importance of the UK chemical distribution industry, stressing the significant role that small businesses play in it and establishes the fact that this is a severely understudied area on both an academic and professional level with very limited information available on small business success (CBA, 2015; Chemagility, 2012; FECC, 2014). Due to lack of data, this study expands and further draws upon the European chemical and chemical distribution industry and identifies any success factors for SMEs relevant to these industries, where, once again, very few studies have been conducted. Based on this clear and well-established gap in the business literature, this research aims to:

- Identify the critical success factors (CSFs) for SMEs in the UK chemical distribution industry.
- Establish the most important entrepreneurial, enterprise and environmental factor
- Identify the challenges small businesses face in the UK chemical distribution industry.
- Make recommendations for SMEs success and sustainable growth in the UK chemical distribution industry.

As there is an agreement in literature that all of the variables of business success can be classified into three categories: factors relating to the owner/manager, factors relating to the enterprise and factors relating to the environment (Gibb, 2000; Simpson *et al.*, 2012; Kader *et al.*, 2009; Krasniqi *et al.*, 2008; Smallbone and Wyer, 2000), the identified factors in this research are categorised into entrepreneurial, enterprise and business environment. This study intends to uncover the relationship between those business factors towards business success and sustainable growth in the UK chemical distribution industry. From the above, the following hypotheses are developed:

Entrepreneurial

H1: The success and sustainable growth of SMEs operating in the UK chemical distribution industry is positively influenced by six (6) entrepreneurial factors, namely: (a) **Age**, (b) **Education level**, (c) **Entrepreneurial Orientation**, (d) **Gender**, (e) **Personality** and (f) **Prior Work Experience and Management skills** of the owner/manager.

Enterprise

H2: The success and sustainable growth of SMEs operating in the UK chemical distribution industry is positively influenced by ten (10) enterprise factors, namely: (a) **Age of the company**, (b) **Business Networks**, (c) **Customer Relations Management**, (d) **Financial Resources**, (e) **Internationalisation**, (f)

Human Capital, (g) Market and Product development (h) Marketing, (i) Size of company and (j) Strategic Planning.

Business Environment

H3: The success and sustainable growth of SMEs operating in the UK chemical distribution industry is positively influenced by six (6) external (business environment) factors, namely: (a) **Political**, (b) **Economic**, (c) **Socio-cultural**, (d) **Technological**, (e) **Legal and Regulatory** and (f) **Ecological and Environmental**.

In order to further support the primary aim as stated above and develop a more comprehensive view of the UK chemical distribution industry, the study also attempts to:

- Establish the most important entrepreneurial, enterprise and environmental factor
- Identify the challenges that SMEs face in the UK chemical distribution industry and
- Document the recommendation(s) for SMEs success and sustainable growth in the UK chemical distribution industry

In search of the most appropriate research methodology to reflect the philosophy, approach, method, strategy and data collection, this research draws upon prior studies in the area of SMEs and entrepreneurship.

In the vast majority of studies in this area and the traditional approach to identifying CSFs for SMEs, a number of independent variables that are considered to be the CSFs (these are identified through a review of the contemporary business literature) and a dependent variable which represents the performance of the firm (with the most commonly used ones being turnover, growth and/or profitability) are determined. Hypotheses are then devised and tested and, by using statistical methods on a large sample of SMEs, a cause and effect relationship is established between the independent variable and the dependent variable. In more detail, traditional studies such as the ones by Chawla *et al.* (2010), Chittithawom *et al.* (2011), Coy *et al.* (2007), Eikebrokk and Olsen (2007), Felicio *et al.* (2014), Gorgievski *et al.* (2011), Harrigan *et al.* (2011), Lee and Stearns (2012), Lee *et al.* (2012), Lussier and Halabi (2010), Lussier and Pfeifer (2000 and 2001), McLarty *et al.* (2012) and Philip (2011), adopt a positivist philosophy, a deductive approach, use quantitative methods and utilise a

survey questionnaire strategy and data collection method in order to achieve their research aim and objectives.

Traditional studies are receiving a lot of criticism and a number of authors highlight several methodological and conceptual flaws regarding the reliability of the data collection process (i.e. respondents bias and reliability, questionnaire weaknesses), the subjective nature of the dependent variable (especially when single one-dimensional measures such as growth and profitability are used), the volatility of the business environment SMEs operate in (within the same industry different SMEs experience different trading conditions) and the business purpose of SMEs (where CSFs and performance are defined according to the needs and wants of the owner/manager rather than in terms of maximising financial performance of the business) (Andersen, 2010; Gibson and Cassar, 2005; Kieser, 2005; March and Sutton, 1997; Rogoff *et al.*, 2004; Short *et al.*, 2002; Simpson *et al.*, 2012; Tan and Peng, 2003; Walker and Brown, 2004; Wang and Ang, 2004).

Furthermore, even though traditional studies contribute to the identification of success factors for SMEs, they do not offer any further insight on the reasons why these are considered important and thus lack depth. To that end, there are several other studies such as the ones by Azimzadeh *et al.* (2103), Galapova and McKie (2012), Kaprak and Topku (2010), Simpson *et al.* (2004b) and Yusuf (1995), that collect the inside views and beliefs of SMEs owners/managers in an attempt to understand what and why is happening and further establish what explanation can be given from the data gathered. These studies adopt a phenomenological philosophy, an inductive approach, use qualitative methods and employ interviews as their data collection method. However, these studies have also been criticised for lacking breadth and being limited due their sample being small.

Several studies take a different view and combine the two methodologies. Studies by Alfaadhel (2010), Arasti *et al.* (2012), Simpson *et al.* (2012) and Walker and Brown (2004), adopt a pragmatic view where the most important determinants are the research questions and objectives (Saunders *et al.*, 2012). These use both deductive (theory verification) and inductive (explore a phenomenon) approaches, quantitative (CSFs identification) and qualitative (explain importance and provide more depth) methods (mixed methods), utilise a survey strategy and employ questionnaires and/or interviews to collect data.

Overall, in order to achieve the aims and objectives as detailed above and having considered all the options available, this research follows a positivistic philosophy, a deductive approach and

utilises a mixed methodology where qualitative data are embedded within the predominant quantitative data for confirmatory and explanatory purposes.

4.2 Research Process

In general, business literature offers a number of definitions for business research. Davis and Consenta (1988, p.8) define it as *'the systematic, controlled, empirical and critical investigation of the phenomena of interest to managerial decision makers'*. Bougie and Sekaran (2009) as the planning, collection and analysis of data relevant to decision-making and the communication of the result of this analysis to management, while Saunders *et al.* (2012) as something that people undertake in order to find out things in a systematic way thereby increasing their knowledge. Veal (1992, p.4) simplifies the definition by referring to research as *'finding out and explaining'*. Overall, there appears to be an agreement in literature that research is a procedure of analysis where data are collected systematically; it is methodical and logical process where data are interpreted systematically and it can increase knowledge as there is a clear purpose to find things out (Bryman and Bell, 2011; Dilanthi *et al.*, 2002; Saunders *et al.*, 2012)

Researching business related issues is rarely straightforward because of the complexity of organisational studies where: *'most of the crucial theoretical questions and substantive issues which define organisational analysis as an identifiable and viable field of study seem to be matters of considerable dispute, not to say deep controversy'* (Reed and Hughes, 1993, p.1). Bougie and Sekaran (2009) concur that researching in the business field involves a continuous effort to find a solution to a problem. It is evident that research methodology is imperative for gathering data accurately and efficiently for both business and academic activities. A methodology is the study of the utility and validity of methods of investigation, in the context of a particular scientific discipline or area under consideration (Bell, 1999; Gill and Johnson, 1997). Methodology is a system of explicit rules and procedures on which research is based and against which claims of knowledge are evaluated (Nachmias and Nachmias, 1976). According to Collins and Hussey (2003), methodology refers to the overall approach to the research process from the theoretical underpinnings to the collection and analysis of the data.

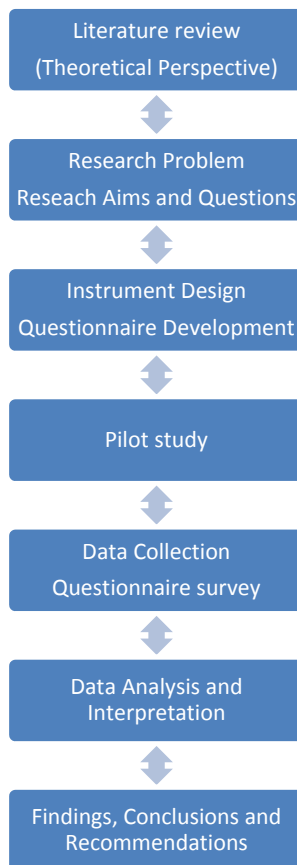
Bell (2010) and Bryman (2008) both argue that there is no one best approach to research but the approach chosen should be the most effective for the resolution of the problem in question. Even though a researcher's reference or skill may be a determinant to the method chosen, selection is often dependent on the nature of the study and the type of information required (Bryman and Bell, 2011).

For instance, the nature and scope of the topic to be researched, the type of data available, the purpose of gathering the data, the amount of control the researcher is prepared to take to obtain the data and the assumptions the researcher is prepared to make in analysing the data (Jankowicz, 1997; Ghauri *et al.*, 1995; Miller and Brewer, 2003).

The research process needs to be well thought of and is a critical factor to the overall success of the project (Saunders *et al.*, 2012). A strict process also needs to be followed to collect and analyse the data to promote the veracity and integrity of the research (Bougie and Sekaran, 2009). Formulating and clarifying the research topic is the starting point of any research project, only then it is possible to choose the most appropriate research strategy, data collection and analysis techniques (Ghauri *et al.*, 1995). Gill and Johnson (1997) argue that each step sequence is just as important as the next and each step should be given equal attention if time is to be saved in the long run. Sadler-Smith *et al.* (2000) also argue that in any research, it is vitally important for the researcher to be fully aware of all elements of the research process, including the theoretical and philosophical issues underpinning management methodologies.

This research initially undertakes an extensive literature review in the area of SMEs, small business success and growth and the European and UK chemical and chemical distribution industry. This is the foundation and provides the theoretical framework for this study. The research problem is identified and the aims and research questions of this study are developed. An instrument to collect the data necessary to satisfy the research aim and address the research gap is designed and consequently a questionnaire is developed. A pilot study is conducted to refine the questionnaire and ensure content validity. Data collection is carried out using a postal survey approach. Statistical and qualitative methods of analysis are utilised to analyse and interpret the data followed by the reporting of findings, conclusions and recommendations. These become the contribution of this study to theory and practise. In detail, the research process of the thesis is presented below:

Figure 4.1: Research Process



4.3 Research Philosophy

Research philosophy is the development of the research background, research knowledge and its nature and can be defined with the help of the research paradigm (Saunders *et al.*, 2007). The research paradigm is the broad framework, which comprises perception, beliefs and understanding of several theories and practices that are used to conduct a research. It can also be characterised as a precise procedure, which involves various steps through which a researcher creates a relationship between the research objectives and questions (Cohen *et al.*, 2007).

Easterby-Smith *et al.* (2012) discuss three different components of research paradigm or three ways to think about research philosophy:

- **Ontology:** Common assumptions about the essence of the phenomena under examination, created to understand the real nature of the society. This has to do with our assumptions about how the world is made up and the nature of things.
- **Epistemology:** Common parameters and assumptions associated with the best way to investigate the nature of the real world. This has to do with our beliefs about how one might discover knowledge about the world.

- **Methodology:** Combination of different techniques that are used by the researcher to investigate the relationships between human beings (human nature), the way in which the 'real world' is investigated and 'knowledge' is obtained. This has to do with the tools and techniques of research.

Ontology has two main aspects: Objectivism and Subjectivism (Easterby-Smith *et al.*, 2012). Objectivism asserts that social phenomena and their meanings have an existence that is independent of social actors (Bryman and Bell, 2011). This position implies that there is an external viewpoint from which it is possible to view the organisation, which is comprised of consistently real processes and structures. Subjectivism asserts that all social phenomena are created from the perceptions and consequent actions of social actors (Saunders *et al.*, 2012). This position implies that an organisation is a socially constructed product, a label used by individuals to make sense of their social experience, so it can be understood only for the point of view of individuals who are directly involved in its activities (Bryman and Bell, 2011; Bougie and Sekaran, 2009).

With regards to this study, the researcher takes the stance that social entities exist as a meaningful reality external to those social actors concerned with their existence and that there is an external viewpoint from which it is possible to view the organisation. Therefore, as per Bryman and Bell (2011) and Saunders *et al.* (2012), an objectivistic position is adopted. The researcher, due to his direct involvement in the UK chemical distribution industry at the time of this study, appreciates the fact that there may be an element of subjectivity. However, as explained later in this chapter, the research is designed in such a way so as to minimise this effect.

With regards to Epistemology, positivism and post-positivism (phenomenology) are arguably the two main research philosophies (Creswell, 2009; Easterby-Smith *et al.*, 2012; Kasi, 2009; Saunders *et al.*, 2012). These are generally associated to the 'qualitative' and 'quantitative' research methodologies.

Positivist approaches are founded on a belief that the study of human behaviour should be conducted in the same way as studies in the natural sciences and are based on the ideas of objectivity, scientific method and empiricism (Collis and Hussey, 2003). The key idea of positivism is that the '*social world exists externally, and that its properties should be measured through objective methods, rather than been inferred subjectively through sensation, reflection or intuition*' (Easterby-Smith *et al.*, 1991, p.72). According to Remenyi *et al.* (1998, p.33), '*...positivism emphasises quantifiable observations*

that lend themselves to statistical analysis'. The positivist approach to research is distinguished by its hypothetico-deductive driven approach (i.e. decisions which are based on theory) with a methodological emphasis on generating quantitative data from structured research instruments such as experiments and surveys, to establish causal relationships between variables (Knell, 1996) and to the simplest possible basics in order to facilitate analysis (Kasi, 2009; Remenyi *et al.*, 1998). According to Collis and Hussey (2003), the main advantages of this approach lies in the fact that it is suitable for research projects requiring a structured, quantitative approach and are descriptive in nature. In addition, the positivistic approach offers a high level of standardisation that makes collation and codifying of gathered data easier. Last, the research methods are easier to be reproduced by other researchers to test one's conclusions.

By contrast, the phenomenological (post-positivism) approach to social science '*emphasises the analysis of subjective accounts that one generates by getting inside situations and involving one's self in the everyday flow of life*' (Amaratunga *et al.*, 2002, pp. 18-19). The aim of phenomenology is to perform a basis-free or prejudice-free analysis and description of experience (Lee and Lings, 2008). Phenomenology does not deal with the concrete existence of individual things or their characteristics but it does rather with the essence of things. Thus, phenomenology is defined as the science of the essences of things and refers to the meaning of a given fact of experience (Eze, 2006). The data that are generated are typically qualitative in nature and tend to be collected through less structured methods, such as participant observation and/or unstructured interviews Bryman and Bell, 2011). Overall, this can be termed an inductive approach to research, where the researcher attempts to understand what is happening and why it is happening and which theory can be generated from the data gathered (Saunders *et al.*, 2012; Kasi, 2009). Easterby-Smith *et al.* (1991) summarise the concepts of positivism and post-positivism (phenomenological) as follows.

Table 4.1: Summary for Positivism and Post-Positivism or Phenomenological (adopted by Easterly-Smith *et al.*, 1991 in Gary, 2006, p. 22)

Element	Positivism	Phenomenological
Basic belief	<ul style="list-style-type: none"> • The world is external and objective • The observer is independent • Science is value-free 	<ul style="list-style-type: none"> • The world is socially created and objective. • The viewer is a social gathering to what is being observed. • Science is driven by human interest

The researcher should	<ul style="list-style-type: none"> • Focus on facts • Place causality between variables • Plan and test hypotheses (deductive approach) 	<ul style="list-style-type: none"> • Focus on meaning. • Try to understand what is happening. • Make theories and models from the data (inductive approach)
Methods include	<ul style="list-style-type: none"> • Operationalising concepts so that they can be assessed • Using large samples from which to simplify to the population. <p style="text-align: center;">Quantitative methods</p>	<ul style="list-style-type: none"> • Using several methods to set up different views of fact. • Applying small samples researched in depth or during time. <p style="text-align: center;">Qualitative methods</p>

Even though both research methodologies are based on different research approaches (deductive and inductive) and methods (quantitative and qualitative), neither school of thought should be considered as different in their impact on research and generalisability of their findings (Bryman and Bell, 2011; Remenyi *et al.*, 1998; Saunders *et al.*, 2012). In fact, both paradigms have strengths and weaknesses and which method is best depends upon the research questions which have been set in a specific research study (Remenyi *et al.*, 1998; Saunders *et al.*, 2012).

With regards to this study, the primary aim is to identify the CSFs for SMEs operating in the UK chemical distribution industry based on the existing theories on success factors for SMEs. As per Collis and Hussey (2003) and Kasi (2009), this suggests that the research follows a positivistic approach as it clearly seeks to identify, measure and evaluate a phenomenon and subsequently provide a rational explanation. This study also attempts to investigate the reasons why the specific CSFs are selected, identify the challenges that small companies face in the selected industry and compile a list of recommendations for SMEs success and sustainable growth in the UK chemical distribution industry. As these questions are purely confirmatory and explanatory in nature and only but supportive to the primary aim, it further reinforces the fact strong positivism paradigm of this research.

4.4 Research Approach

The importance of selecting a suitable research approach to answer the research questions and achieve the research aims and objectives is well documented in the bibliography (Bryman and Bell, 2003; Graziano and Raulin, 2000; Patton, 1990; Remenyi *et al.*, 1998). Overall, there are two research approaches: deductive and inductive (Bryman and Bell, 2011; Hussey and Hussey, 1997; Saunders *et al.*, 2012). In order to decide whether this study is deductive or inductive, it is essential

that the exact starting point for the study is recognised. Understanding both approaches is essential to support the choice of appropriate research approach.

The deductive research approach is associated with the positivism paradigm and quantitative methods (Hussey and Hussey, 1997; Lee and Lings, 2008; Saunders *et al.*, 2012). The idea of deduction in research has been by far the strongest way to build up the theoretical knowledge base. Deduction rests on the idea that theory is the first source of knowledge. The main characteristic of this approach is that a conceptual and theoretical structure is developed and then a number of experiments and observations take place in order to test this theory (Gill and Johnson, 2010; Hussey and Hussey, 1997; Lee and Lings, 2008). As a result, researchers need to develop hypotheses to be tested by a collection of quantitative data (Saunders *et al.*, 2012). The process of deduction is linear, following the logic of proceeding from theory to empirical research. The various steps are: theory development, hypothesis formulation, observation through data and information and confirmation (Cooper and Schindler, 2006). According to Gill and Johnson (1991), a deductive approach entails the development of a conceptual and theoretical structure prior to its testing through empirical observation. Cooper and Emory (1995, p.26) explain that a deductive approach '*...refers to an approach where relationships are established between reasons and conclusions by way of empirical study*'. Essentially, a deductive approach either proves or disproves the theory or hypotheses being investigated. In summary, the deductive method is '*... moving from the general to the particular*' (Hussey and Hussey, 1997, p.13) and is associated with theory testing and validation.

On the other hand, inductive research is highly associated with the phenomenological philosophy and qualitative methods (Hussey and Hussey, 1997; Lee and Lings, 2008; Saunders *et al.*, 2012). This is a flexible approach because there is no requirement of pre-determined theory to collect data and information. The researcher uses observed data and facts to reach at tentative hypothesis and define a theory as per the research problem (Kasi, 2009; Sekaran and Bougie, 2010). Cooper and Emory (1995, p.27) refer to induction as drawing '*...a conclusion from one or more particular facts or pieces of evidence*' and describe an inductive approach where '*...the task of research is largely to determine the nature of the evidence needed and to design methods by which to discover and measure this other evidence*'. In essence, an inductive approach reflects upon past experiences and uses the normalisation of abstract concepts, theories and generalisations to explain past experiences and predict future events (Gill and Johnson, 1991). Inductive reasoning typically moves from general truths to specific conclusions. It opens with an expansive explanation (statements known or believed to be true) and continues with predictions for specific observations supporting it (Sekaran and Bougie, 2010;

Saunders *et al.*, 2012). Thus, researchers investigating a problem collate all the necessary data and analyse them. As a result of this analysis, theory is formulated (Lee and Lings, 2008; Saunders *et al.*, 2000). In essence, '*...theory would follow data rather than vice versa as in the deductive approach*' (Saunders *et al.*, 2000, p.88). In summary, the inductive approach seeks to draw general inferences from particular instances and it involves '*...moving from individual observations to statements of general patterns or laws, commonly it is referred to as moving from the specific to the general*' (Hussey and Hussey, 1997, p.13). Thus, the inductive approach explains a phenomenon and builds theory by a collection of qualitative data (Hussey and Hussey, 1997; Kasi, 2009; Saunders *et al.*, 2011).

The aim of this research is to identify the CSFs for SMEs operating in the UK chemical distribution industry with the intention to prove or disprove the existing theories on success factors (SFs) for SMEs. As the underlying principle of this study is to transfer general theories, the identified CSFs, to specific situations, in this case the chemical distribution industry, the approach becomes deductive by definition. The researcher is to test theories or hypotheses through empirical observation and the measurement of general inferences and either prove or disprove the theory or hypotheses being investigated. The development of a conceptual and theoretical structure further reinforces the deductive nature of the study. In addition, this research investigates the selected critical success factors, identifies the challenges small companies face in the selected industry and compiles a list of recommendations for SMEs success and sustainable growth in the UK chemical distribution industry with a view to further confirm and support the theories/hypotheses. Therefore, as per Bryman and Bell (2011) and Saunders *et al.* (2012), this study's approach is deductive in nature.

4.5 Research Method

There has been much debate regarding the two types of research methods, quantitative (positivistic) and qualitative (phenomenological), which are seen to be competing views in the way in which social reality is to be studied (Bryman 1999; Saunders *et al.*, 2012). Wang (2008) argues that quantitative and qualitative approaches focus on different research questions and apply different research methods.

The quantitative term is usually related to research concepts that are planned to deal with questions that have relationship between variables that are assessed regularly in objective ways (Bryman, 2008). This approach engages the collection and analysis of data, as well as the request of statistical test (Wang, 2008). In other words, the quantitative approach seeks to measure or quantify results in order to explain phenomena rather than understand them, avoiding focusing on meanings,

ideas and practices (Alvesson and Deetz, 2000). The researcher uses this approach to develop knowledge to simplify statements regarding the objects of the study throughout representative surveys and to later validate the results by standard statistical techniques (Bryman and Bell, 2011). Surveys also allow the researcher to replicate the same methods or statistical test on different groups to check whether they are similar in result or not (Saunders and Lewis, 2012).

The qualitative term is a concept that is considered to address the questions of meaning, feeling, understanding and socially-created reality (Wang, 2008). Denzin and Lincoln (2000) further support this by stating that qualitative research is concerned with qualities, processes and meanings, which are not experimentally examined or measured in terms which are associated with the quantitative approach; that is, in terms of quantity, amount, intensity or frequency. According to Denscombe (2003), qualitative or post-positivism methods such as case studies and interviews offer more in-depth insights into the topic, illustrating information provided by fewer informants. Moreover, qualitative methods also help to investigate what happens behind the views of different institutions, organizations and activities (Yin, 1994). Wang (2008) further argues that qualitative methods should be used, such as participant observation and in depth interviews as they present a wealth of experience which cannot easily be found by applying quantitative methods.

Each method has its own relative merits. According to Collis and Hussey (2003), the quantitative method is more controlled, allows systematic observation, is concerned with identifiable responses and can be clearer and more transparent in terms of research process. Similarly, the qualitative approach helps to explain what is happening in context, can collect rich and diverse data and allows greater awareness of the reality of participants' lives and context. The strengths and weaknesses of positivism 'quantitative' and post-positivism or phenomenological 'qualitative' methods are presented in Table 4.2. In summary, business literature regarding research methods suggests that the quantitative approach is supportive for theory verification; whilst the qualitative approaches are practical for explaining phenomena.

Table 4.2: The strengths and weaknesses of positivism and post-positivism
(Adopted from Dilanthi *et al.*, 2002, p.20)

	Strength	Weaknesses
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Quantitative	<ul style="list-style-type: none"> • It covers a broad choice of situations. • It could be fast and economical. • Statistics are collected from big samples. 	<ul style="list-style-type: none"> • It tries to be relatively hard and artificial. • It is not effective in relation to understand the process that people connect to action. • It is not useful in creating theory. • This approach just focuses on what, is or what has been recently, that make policy makers hard to understand what action and change should apply in the future.
Qualitative	<ul style="list-style-type: none"> • The way of gathering data can be seen as natural rather than artificial. • By using this method, it gives the ability to look at what could happen over time. • Give an understanding of people's meaning. • Ability to correct new issues as they appear. • Added value to theory generation. 	<ul style="list-style-type: none"> • The time of data gathering can be boring, and more resources are required. • Analysing data can be very hard. • Very hard to manage the speed, progress of research process. • Policy makers may provide short reliability from the result of qualitative approach.

However, according to Mason (2002) the distinction between quantitative and qualitative methods is not completely clear-cut. David and Sutton (2004) also argue that the two approaches are not mutually exclusive and there is no absolute reparation between the two. In fact, a number of authors view qualitative and quantitative methods as complimentary rather than competing approaches (Gill and Johnson, 2010; Gray, 2006; Remenyi *et al.*, 1998; Teddie and Tashakkori, 2009). Saunders *et al.* (2000, p. 98) also argue that research methodologies '*...do not exist in isolation and therefore can be 'mixed and matched'*'. The approach of mixing two or more methods together within one single research is called 'mixed methods research' (Bryman and Bell, 2011; Saunders *et al.*, 2012) and '*involves the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study*' (Petska and Creswell, 2005, p.224).

Denzin (1970, p.297) also defines mixed methods approach as '*the combination of methodologies in the study of the same phenomenon*' and further argues that multiple and independent methods investigating the same problem should have greater validity and reliability than a single methodological approach to the problem. Gray (2006) recognises that research projects usually include a number of different research questions so a research method appropriate for one question may be inappropriate for another. Teddie and Tashakkori (2009) further support this and argue that the research questions are the ones that drive the research.

Creswell *et al.* (2003) argue that qualitative and quantitative research can be applied equally in many researches and state that the combination of both approaches is frequently applied for studies that have certain topics that produce outcomes and can support the procedure of making implications and reaching conclusion. Vanderstoep and Johnston (2009) further state that a mixed methodology embraces the best of both qualitative and quantitative approaches. Greene *et al.* (1989, p.289) argue that in its original definition mixed methodologies can be understood as the aim ‘...to increase the validity of constructs and inquiry results by counteracting or maximising the heterogeneity of irrelevant sources of variance attributable especially to inherent method bias but also to inquirer bias, bias of substantive theory, biases of inquiry context’. Scott and Marshall (2009) also support that mixed methods are used to achieve robust research results.

Overall, Teddie and Tashakkori (2009) identify three areas where mixed methods research is superior to the single approach designs. In detail, the mixed methods research simultaneously addresses a range of confirmatory and exploratory questions with both the qualitative and quantitative approaches, provides better inferences and the opportunity for a greater assortment of divergent views. Further supporting, Table 4.3 shows some features of the mixed methods research approach. Mixed method study engages ‘...the investigation and the collection of both qualitative and quantitative data in one single research, in which the information is gathered simultaneously or consecutively’ (Creswell *et al.*, 2003, p.212).

Table 4.3: Features of different research methods (adopted from Wang, 2008, p.101)

Quantitative research methods	Qualitative research methods	Mixed, multi- research methods
<ul style="list-style-type: none"> • Encoded • Instrument based questions, performance data, attitude data, and census data. • Statistical analysis 	<ul style="list-style-type: none"> • Emerging Methods • Open-end questions • Interview data, observation data, document data, and audio-visual data. • Text and image analysis 	<ul style="list-style-type: none"> • Both encoded and emerging methods • Both open-and closed-end questions • Multiple forms of data drawing on all possibilities • Statistical and text analysis

Greene *et al.* (1989) list five specific reasons why researchers should consider using mixed methods:

- **Triangulation:** refers to the use of more than one method while studying the same research question in order to examine the same dimension of a research problem. Triangulation ultimately fortifies and enriches a study’s conclusions, making them more acceptable to

advocates of both qualitative and quantitative methods. Triangulation can also neutralise any bias inherent in a particular data source, investigator, or method when used in conjunction with other data sources, investigators, and methods and increase validity and reliability (Creswell *et al.*, 2003; Erlandson *et al.*, 1993; Johnstone, 2004; Bryman and Bell, 2011).

- **Complementarity:** allows the researcher to gain a fuller understanding of the research problem and to clarify a given research result. The researcher can collect different types of data during one study, concurrently answer confirmatory and exploratory questions, and therefore confirm and make theories in the same study (Hassard, 1993; Tashakkori and Teddlie 2003; Morse 2003; Wang, 2008). In addition, the simplicity of understanding the study is enhanced (Wang, 2008).
- **Development:** Mixed methods often aid in the development of a research project by creating a synergistic effect, whereby the results from one method help develop or inform the other method
- **Initiation:** a study's findings may raise questions or contradictions that will require clarification, thus initiating a new study.
- **Expansion:** is intended to '*extend the breadth and range of the inquiry*' (Greene *et al.*, 1989, p.259). Producing detailed findings helps enable future research and allows researchers to continuously employ different and mixed methods in their pursuit of new or modified research questions (Greene and Caracelli, 1997).

During this study, in order to be able to gain knowledge on the various aspects of this research topic and achieve the aims and objectives, a mixed methods approach has been selected for data collection. In more detail, the primary research aim is to identify the critical success factors for SMEs in the UK chemical distribution industry based on already established success factors from the business literature. In other words, the impact of each of the previously identified success factors is investigated in the UK chemical distribution industry. As this research attempts to deal with questions that have a relationship between variables that are assessed regularly in objective ways (Creswell, 2011) and investigate hypothetical-deductive generalisations to the simplest possible basics in order to facilitate analysis (Easterly-Smith, 1991; Remenyi *et al.*, 1998), the quantitative method is considered the most appropriate research method. This study further involves investigating the reasons why the specific CSFs are selected, identify the challenges small companies face in the selected industry and compile a list of recommendations for SMEs success and sustainable growth in the UK chemical distribution industry. This part of the study collects views and beliefs to confirm and support the primary aim and as such the qualitative method is considered the most appropriate

research method. Overall, this research adopts a mixed methodology where complimentary qualitative data are collected and embedded within the predominant quantitative data for confirmatory and explanatory purposes.

4.6 Research Strategy

Strauss and Whitfield (1998) argue that all research studies should be guided by a strategy as to how their main objectives can be best achieved. Once the purpose of any research is clear and a research method has been chosen, the investigator needs to put in place a suitable research strategy to enable data collection in order to address the research question(s) and to examine theories (Bernard, 2000).

Kuhn (1979) defined research strategies as a concept which is: *'...a set of beliefs, values and techniques which are shared by members of a scientific community, and which acts as a guide or map, dictating the kinds of problem scientists should address and the type of explanations that are acceptable to them'* (in Bribesh, 2006, p.99). Saunders *et al.* (2012) identifies the main five types of research strategies:

1. Experiment: involves the definition of a theoretical hypotheses; the selection of samples of individuals from known populations; the allocation of samples to different experimental conditions; the introduction of planned change on one or more of the variables; and measurement on a small number of variables and control of other variables.
2. Survey: involves the structured collection of data from a sizeable population. Data collection may take the form of questionnaires, structured observation and structured interviews.
3. Case study: involves the investigation of a particular contemporary topic within its real life context using multiple sources of evidence.
4. Grounded theory: developed from data generated by a series of observations or interviews principally involving an inductive approach.
5. Action research: concerned with the management of a change and involves close collaboration between practitioners and researchers.

Yin (1994) argues that a research strategy should be applied as a function of the situation of the study. Hence, each research strategy has its own advantage and disadvantage and also its own

approach of collecting and analysing data. It is essential that the research plan should be well-chosen in order to gather the information that is relevant to the research topic.

The chosen research strategy ought to reflect the type of paradigm adopted for the research (Collins and Hussey, 2003). As this research has adopted a positivistic philosophy, a deductive approach and a quantitative and qualitative method, the most appropriate strategy is a survey using a self-administered questionnaire. The main aim of the research is to identify the critical success factors in the industry of interest and survey is deemed to be the best strategy to collect the data required to satisfy this aim. Surveys using questionnaires allow the collection of standardised (CSFs) and qualitative data from a sizeable population (SMEs in the UK chemical distribution) in a highly economical and efficient way. The survey strategy also allows collection of quantitative data which are analysed using descriptive and inferential statistics (for details see section 4.8.1) and qualitative data which are analysed through content analysis (see section 4.8.2). In addition, that data is used to suggest possible reasons for particular relationships between variables (factors and SMEs success) and produce models of these relationships (CSFs framework) but also provide explanation for the importance of these variables and challenges faced by companies in the chosen industry. Using this strategy gives more control over the research process and allows data to be collected for the whole population.

Due to the fact that this research has adopted a mixed methods approach, an appropriate mixed methods strategy also has to be identified and followed. In order to do so several aspects influencing the design of procedures for a mixed methods study need to be considered. Creswell (2009) identifies four important aspects: timing, weighting, mixing, and theorizing, as in Table 4.4.

Table 4.4: Aspects when planning a Mixed Methods Design (Adopted from Creswell *et al.*, 2003)

Timing	Weighting	Mixing	Theorising
No Sequence concurrent	Equal	Integrating	Explicit
Sequential- Qualitative first	Qualitative	Connecting	Implicit
Sequential- Quantitative first	Quantitative	Embedding	

i. Timing

Data can either be collected in phases (sequentially) or at the same time (concurrently). When data are collected concurrently, both quantitative and qualitative data are gathered at the same time and the implementation is simultaneous. When the data are collected in phases, either the qualitative or the quantitative data can come first; that would depend on the initial intent of the researcher. During this research, both qualitative and quantitative data are collected at the same time (concurrently) and the implementation is simultaneous.

ii. **Weighing**

This represents the priority or weight given to quantitative or qualitative research in a particular study. In some studies, the weight might be equal; in other studies, it might emphasize one or the other. The priority for one type would depend on the interests of the researcher, the target group and what the investigator seeks to emphasize in the study. In this study, priority is given to quantitative research as the aim is to identify the critical success factors (CSFs) for small businesses in the UK chemical distribution industry. Qualitative research, which is used to investigate the importance of the selected CSFs and give an insight into the challenges of the industry and the recommendations of the owners/managers, is supportive to quantitative data.

iii. **Mixing**

Mixing means that the qualitative and quantitative data are actually either merged on one end of the continuum, kept separate on the other end of the continuum, or combined in some way between these two extremes. There are 3 different types of mixing:

- i. **Connected** in mixed methods research means a mixing of the quantitative and qualitative research are connected between a data analysis of the first phase of research and the data collection of the second phase of research.
- ii. **Integrating** is when the two databases of quantitative data and qualitative data are actually merged together
- iii. **Embedding** is when the researcher has a primary aim to collect one form of data (say quantitative) and have the other form of data provide supportive information.

In this study, the primary aim is to collect quantitative data to identify the CSFs and have the qualitative data providing supportive information. Thus, this research embeds qualitative data into a quantitative data.

iv. Theorising

A final factor to consider is whether a larger, theoretical perspective guides the entire design. All researchers bring theories, frameworks and hunches to their inquiries and these theories may be made explicit in a mixed methods study or be implicit and not mentioned. This study is explicit as there is an underlying theory that guides this research.

The above factors provided the support to shape the procedures of this mixed methods study. The selection of the adopted mixed methods strategy has been based on Creswell *et al.* (2003) who identifies six major strategies:

- i. **Sequential Explanatory** strategy is characterised by the collection and analysis of quantitative data in a first phase of research followed by the collection and analysis of qualitative data in a second phase that builds on the results of the initial quantitative results. Weight typically is given to the quantitative data, and the mixing of the data occurs when the initial quantitative results informs the secondary qualitative data collection. Thus, the two forms of data are separate but connected.
- ii. **Sequential exploratory** strategy is similar to the explanatory sequential approach except that the phases are reversed. This strategy involves a first phase of qualitative data collection and analysis, followed by a second phase of quantitative data collection and analysis that builds on the results of the first qualitative phase. Weight is generally placed on the first phase and the data are mixed through being connected between the qualitative data analysis and the quantitative data collection
- iii. **Sequential transformative** strategy has two distinct data collection phases, one following the other as in the first two strategies described. This is a two-phase project with a theoretical lens (i.e. gender, race, social science theory) overlaying the sequential procedures. It too has an initial phase (either quantitative or qualitative) followed by a second phase (either qualitative or quantitative) that builds on the earlier phase.
- iv. **Concurrent triangulation** strategy where the researcher collects both quantitative and qualitative data concurrently and then compares the two databases to determine if there is convergence, differences, or some combination. This model generally uses separate quantitative and qualitative methods as a means to offset the weaknesses inherent within

one method with the strengths of the other (or conversely, the strength of one adds to the strength of the other).

- v. **Concurrent embedded** strategy of mixed methods can be identified by its use of one data collection phase, during which both quantitative and qualitative data are collected simultaneously. This approach has a primary method that guides the project and a secondary database that provides a supporting role in the procedures. Given less priority, the secondary method (quantitative or qualitative) is embedded, or nested, within the predominant method (qualitative or quantitative). This embedding may mean that the secondary method addresses a different question than the primary method or seeks information at a different level of analysis
- vi. **Concurrent transformative** strategy guided by the researcher's use of a specific theoretical perspective as well as the concurrent collection of both quantitative and qualitative data. This perspective can be based on ideologies such as critical theory, advocacy, participatory research, or a conceptual or theoretical framework.

During this study, both quantitative and qualitative data are collected simultaneously and the approach is guided by quantitative data and a secondary database of qualitative data providing a supporting role. The qualitative method is embedded within the predominant quantitative method and sought information at a deeper level of analysis. As a result, this study follows a concurrent embedded mixed methods strategy.

4.7 Data Collection

In order to achieve the aim and objectives of this research, data need to be collected. There are two types of data: secondary, which are data already collected for another purpose and primary, which are data collected specifically for the research project being undertaken (Saunders *et al.*, 2012). The data required for this research are collected from both secondary and primary sources. Table 4.5 presents a summary of the nature, research concerns and sources of data collection.

Table 4.5: Data Collection

Secondary Data
Nature: based on literature review
Research Concerns: Data regarding SMEs, Success factors, data from professional associations and private market reports (to be presented in detail in see section 4.7.1)
Other sources are also used such as library, books, journals, electronic sources, industry reports
Primary Data: Questionnaire Survey
Nature: based on research Aim and Objectives

4.7.1 Secondary Data

Secondary data come in many forms including quantitative and qualitative data and can be grouped into survey, documentary and multiple-source by using the actual sources of the data (Saunders and Lewis, 2012). Secondary data sources include books, journals, electronic sources and the Internet, reports, conferences, the media and newspapers. The importance of secondary data in the form of a literature review as the first stage of research is outlined by Bell (1999) as a catalyst for new ideas and an important foundation for the research questions and the theoretical framework of the study. Veal (1992, p.32) also argues that '*a literature review enables the researcher to identify concepts clearly and measure them accurately*'.

Secondary data are very important in the early stages of the research study as they are a means to identify the relevant published research, establish the underlying academic theories, examine the definitions of the concepts being examined and, where appropriate, develop definitions to guide this study, establish the characteristics of the concepts, review the existing instruments and studies and give an insight to what needs to be done for future research (Saunders *et al.*, 2012). As a result, secondary research always needs to be conducted before primary research (Bryman and Bell, 2011; Hague, 2002; Kinnear and Taylor, 1996; Mort, 2003). The advantages and disadvantages of secondary data are presented in Table 4.6 below:

Table 4.6: Advantage and disadvantage of secondary data (adopted from Saunders *et al.*, 2012)

Advantages	Disadvantages
<ul style="list-style-type: none"> • It saves time and money. • It provides high quality data. • It provides unobtrusive measures. • It provides the comparative and contextual data. • Re-analysing secondary data can lead to unexpected or new facets. 	<ul style="list-style-type: none"> • Data may have been collected for a purpose, which does not match the analyst's needs. • Secondary data is collected for a particular purpose, and therefore it may not be applicable to the research question in hand. • It may be out of date.

To meet the main aims and objectives of this research, secondary data sources are extensively used. First of all, as part of the literature review, any previously published research (academic journals, periodicals, books, newspapers, published statistics, annual reports and abstracts, conference papers etc.) on critical success factors (CSFs) for small and medium-sized enterprises (SMEs) are reviewed.

The CSFs that are identified are brought together and categorised in Entrepreneurial, Enterprise and Business Environment. The resulting conceptual framework is used not only to unify and present all the prevailing CSFs in the business literature review section, but also to facilitate and be the basis for the primary data collection stage.

Furthermore, secondary data are used to collect information on the UK chemical distribution industry. Due to the fact that there is no official list of chemical distributors in the UK, a combination of industry reports such as Plimsoll, Chemagility, Keynote; Business Associations such as the British Association of Chemical Specialties (BACS), the Chemical Business Association (CBA), the European Association of Chemical Distributors (FECC), the National Association of Chemical Distributors (NACD), the North East Process Industry cluster (NEPIC); internet sources such as the Chemagility Online Database of Chemical Distributors, is used by the researcher to produce a comprehensive list and thus determine the sampling frame for this study.

4.7.2 Primary Data

This research utilises a questionnaire survey to collect primary data to achieve its aims and objectives. Bryman and Bell (2011, p.231) define questionnaires as: *'...the collection of data on a number of units and usually at a single juncture in time, with a view to collecting systematically a body of quantifiable data in respect of a number of variables which are then examined to discern patterns of association'*. Questionnaires are the best way of conducting a survey and are at their most productive when used with large numbers of respondents in many locations (Saunders *et al.*, 2012; Denscombe, 2007). Busenitz *et al.* (2003) also argue that questionnaires are a powerful evaluation tool which is versatile, allowing the collection of both subjective and objective data through the use of open or closed format questions. The main advantages and disadvantages of questionnaires are summarised in Table 4.7.

Table 4.7: Advantages and disadvantages of Questionnaires (Denscombe, 2007; Robson, 2002)

Advantage	Disadvantages or limitations
<ul style="list-style-type: none"> • Low cost in terms of time and money. • Produce a fast response from a large number of people. • It could be completed at both a time and place that is convenient for the respondent's. • Analysing close question can be very easy and simple. • Respondents' secrecy can be guaranteed. • Stable, reliable, and consistent measure 	<ul style="list-style-type: none"> • Low rate of response • Response errors/Unfinished or badly finished answers. • Researcher does not know if the planned person answered the question or not. • Conceptual inadequacy and administrative errors caused by the researcher • There is no opportunity for researcher to collect further data.

- | | |
|--|---|
| <ul style="list-style-type: none"> • It covers a wide range of respondents. • There is no need for trained interviewers. | <ul style="list-style-type: none"> • Supervision could be very hard. • Hard to check the truth of answers |
|--|---|

Questionnaires can either be self-administered, for instance, postal, internet-based or hand-delivered and collected, or interviewer-administered, for instance, telephone questionnaires or face-to-face structured interviews (Saunders and Lewis, 2011). In this study, self-administered questionnaires have been chosen as they are deemed the simplest and most cost effective method of collecting data from a large population while enabling a wider geographical area to be covered (compared to other methods). As this is a national study, it is vital that a wide geographical spread of respondents is obtained. Furthermore, they are a proven method of collecting this specific form of data, with a number of similar researches in different countries and industries utilising the same tools. Self-administered questionnaires also allow for a significant number of questions to be incorporated in the survey and can be completed in less than 6 weeks, even allowing time for follow ups. They further allow respondents to answer questions at times which are convenient to them and subsequently allow them to see the context of a series of questions and to take time when answering and looking up information.

Previous studies also indicate that owners and managing directors of SMEs are more favourably disposed to a postal questionnaire rather than a face-to-face interview or a telephone administered questionnaire and have significant experience in completing similar types of questionnaire returns (Arasti *et al.*, 2012; Chawla *et al.*, 2010; O'Regan, 2000).

Bryman and Bell (2011) and Saunders *et al.* (2012) recognise that the main disadvantage of the questionnaire method is the potentially low response rate. This combined with the fact that one of the biggest constraints faced by SMEs is time shortage (Dobbs and Hamilton, 2007; Lussier and Halabi, 2010), has caused concerns. Therefore, in order to gain the co-operation of respondents and enhance the response rate, several motivational strategies have been used. First of all, all relevant organisations (Chemical and chemical distribution Associations) and key people in the industry were contacted in advance to discuss the purpose of this study and request support. This is also known as cooperation with other organisations as described by Denscombe (2007). Any personal contacts within the industry, mainly SMEs owners/managers and consultants were also utilised to the fullest. A covering letter was used with each postal questionnaire stressing the importance of this study, its benefits to the industry and the personal benefits to the respondents as a result of the research project. The covering letter was further accompanied by the researcher's commitment to send a copy of the research findings at the end of the study to whoever expressed interest. Assurances were made

that all information provided would be treated with the strictest of confidentiality and anonymity was guaranteed. Last, the researcher followed up the vast majority of potential respondents via email or phone to clarify any issues, answer any questions and remind of the survey deadline.

Bryman (2008) and Saunders and Lewis (2012) further suggest that the sampling, questionnaire construction and pre-testing the survey (pilot testing) are important elements that need to be considered during the design stage of questionnaire surveys. Each of these actions is described in greater detail below.

Sampling can be defined as '*...the process by which a reduced number of sample is selected from a population, being the subject of the study, chosen according to criteria that enable the generalisation of the achieved results by considering them on the basis of the analysed sample as applying to the whole population*' (Corbetta, 2003, p.35). According to Saunders *et al.* (2011), sampling is not required when it is possible to collect and analyse data from every possible group member; this is termed a census. Curran and Blackburn (2001) argue that accessing SMEs is one of the most difficult problems in small business research, as the small business sector is highly heterogeneous, up-to-date list of small businesses are rarely available, small business owners/managers are often too busy running the business to participate in research and may also be sceptical about the relevance of academic research.

Despite the known difficulties in accessing SMEs, the researcher has managed to compile a complete and up to date (at the time of this study) list of all the SMEs operating in the UK chemical distribution industry. As a result, for the purposes of this research, no sampling technique is used but instead a census is conducted. In more detail, and due to the fact that there was no official list of chemical distributors in the UK, a combination of industry reports such as Plimsoll, Chemagility, Keynote; Business Associations such as the British Association of Chemical Specialties (BACS), the Chemical Business Association (CBA), the European Association of Chemical Distributors (FECC), the National Association of Chemical Distributors (NACD), the North East Process Industry cluster (NEPIC); internet sources such as the Chemagility Online Database of Chemical Distributors and ICIS, are used by the researcher to produce a comprehensive list and thus determine the sampling frame for this study. Each of the companies identified in the above databases, is separately checked at a later stage by the researcher to ensure that they fulfil the criteria of the study.

Regarding the sampling frame, all participating companies had to be SMEs as defined by the European Union, that is enterprises which employ fewer than 250 persons and have an annual turnover not exceeding EUR 50 million; located in the UK; not part of a another organization or belonging to a larger corporation and without any manufacturing activity and capability. Based on the above, the total number of SMEs in the UK chemical distribution industry at the time of this research was 180.

In this study owners and very senior managers (CEOs, Managing Directors and Directors) of SMEs in the UK chemical distribution industry are the key informants. By key informants, the researcher refers to those individuals, as per Kumar *et al.* (1993, p.1634), who '*are the most knowledgeable about the issues being researched and are able and willing to communicate about them*'. With the key informant method, data are collected from a senior manager or a group of senior managers on information pertaining to the whole organisation (O'Cass and Weerawardena, 2009), meaning that data collection is relying upon a number of knowledgeable participants who observe and articulate social relationships for the researcher (Seidler, 1994). Especially when researchers are confronted with a lack of archival data on companies (i.e. statistical data, financial information etc.) accessing and utilising key informants has been a successful method of collecting data (Coviello and Jones, 2004; Kumar *et al.*, 1993; Sutton and Straw, 1995). According to Tremblay (1982) in Jankowicz (2005) key informants, whose selection is based on their specialized knowledge rather than being randomly chosen, are most suitable to define the essential characteristics and increase the knowledge of the issue investigated due to their personal experience and deeper understanding.

This research endorses the view that owners and senior managers of SMEs in the UK chemical distribution industry are best suited to offer a critical insight into the reasons why certain success factors are so important, are intimate with the challenges that SMEs face in the specific industry and can potentially provide accurate and more astute recommendations for success and sustainable growth in the specific industry. This line of thought is in accordance with contemporary business literature that recognises the profound effect owners/managers have on small businesses and considers this target group the most appropriate to offer inside views and insights on the industry under investigation (Andersson and Tell, 2009; Chemagility, 2008; Eikebrokk and Olsen, 2007; Hornke, 2012; Simpson *et al.*, 2012; Walker and Brown, 2004). In fact, it has long been argued that owners and senior managers have the best vantage point for viewing the entire organisation - while middle and lower managers have questionable validity as they typically do not have access to information about

how the total system operates - and are thus expected to provide the most accurate responses (Glick *et al.*, 1990; Snow and Hrebiniak, 1980; Zahra and Covin, 1993).

Several studies in the area of small business and entrepreneurial success focus on owners/managers with their main argument being that people in a high position, with relevant experience and long presence in the industry are far more suitable to determine the factors that are critical to the success of their business than less senior people in the industry (Coy *et al.*, 2007; Gorgievski *et al.*, 2011; Lee *et al.*, 2012; O'Regan, 2000; Simpson *et al.*, 2004a). Galapova and McKie (2012) further argue that as owners/managers are the key decision makers and the strategic management of their businesses is largely determined by their personal beliefs and behaviours, their views offer valuable insights into practices and beliefs in SMEs. In further support, a number of studies on SMEs specifically acknowledge the importance of accessing the informant(s) and utilise a key informants' methodology to collect data (Keskin, 2006; Knight, 2001; Lee and Cheung, 2004; O'Cass and Weerawardena, 2009; Ojala, 2009; Revell, 2007).

Questionnaire construction and design relates to the formulation of an outline of the information sought. According to Saunders *et al.* (2012) the better the design and structure of the questions is, the more reliable and valid the questionnaire becomes. As a result, a valid question enables accurate data collection, while one which is reliable would mean that the data are collected consistently. Overall, the researcher, based on the work of Hague (2002) and Wang (2008), has made sure that the questions matched the research objectives; they were original, clear, short, specific and quick to answer; were interesting and motivating to the respondents. The researcher also applied natural and familiar language, avoided uncomfortable or compromising questions and respected the privacy of the respondents.

In the case of this study, the nature of the variables is defined by the conceptual model outlined in chapters two (critical success factors for SMEs) and three (critical success factors for SMEs in the chemical distribution industry) and a review of the extant literature. Following the literature review, a number of drafts of the survey instrument, covering letter and feedback forms have been developed. Bourque and Fielder (1995) suggest that an effective questionnaire needs to be constructed in such a way that would allow a smooth transition from one section to another. They also suggest that clear instructions must be given in relation to the completion of the questionnaire as a whole. The researcher adheres to these suggestions.

Overall, there are three types of questionnaire: structured, unstructured and semi-structured. Structured questionnaires are based predominantly on closed questions which produce data that can be analysed quantitatively for patterns and trends. Unstructured questionnaires, whilst still having a structured sequence and focus predetermined by the evaluator, are based on open questions, allowing respondents the freedom to answer in their own words and therefore to provide greater qualification in their response. Semi-structured questionnaires take a mixed approach (Perren, 1999a). In order to achieve the aims and objectives of this study, a semi-structured questionnaire is utilised. This included different sections seeking information regarding many aspects of enterprise challenges and success factors.

1. Demographic characteristics of the owners/managers: the main aim in this section is to collect relevant demographic data pertinent to the owners/managers. Information on gender, age, education, current position and responsibilities, prior experience (years or service in current post, overall working experience, and involvement with SMEs) are collected. Closed-ended, multiple-choice questions are used in this section as the preferred questionnaire technique. The advantage of those questions is that they are easier and quicker to administer, can be answered in a short time and the respondents can perform the task of answering them with greater reliability (Oppenheim, 1992). In this section there is also one open question where the respondents are requested to describe their main job responsibilities. This is done in order to get an insight into the owner/manager's role in the company.

2. Demographic characteristics of the company: this section collects information on the turnover, number of employees, years of trading, export sales and location of the business in order to collect information and create a profile of SMEs in this industry. Closed-ended, multiple-choice questions are used as the preferred questionnaire technique. This information is used to build up the profile of the participating companies and give an insight into the structure of the industry.

3. Critical Success Factors: this section identifies the various external influences to SMEs success as identified in the small business literature. Owners/managers are asked to rank each suggested success factor based on its importance to the industry. The researcher recognises the fact that different people could potentially view and define success in different ways, meaning that the participants of this study (owners/managers) could have had differing opinions on what constitutes business success. In order to eliminate this methodological weakness in the early stages of this study, the definition of success, as adopted by the researcher for the purpose of this study, is provided in the

information sheet given to owners/managers. Consequently, all participants base their responses to the survey on the same definition of success. For the purpose of this study, success is defined as sales growth (increase in sales turnover) and/or increase in profitability (profits and/or margin). This is in line with Storey's (1998) argument that growth is the simplest measure of success in business and with industry standards where turnover and margin are considered key performance indicators (Chemagility, 2008; Districonsult, 2013).

These factors are further categorised in entrepreneurial (age and gender of owner, education level, entrepreneurial orientation, personality and prior work experience and management skills), enterprise (age and size of company, business networks, customer relations management, financial resources, internationalisation, human capital, market and product development, marketing and strategic planning) and environmental (political, economic, socio-cultural, legal and regulatory and environmental).

Likert-type scale questions are used in order to collect responses in an objective manner. The use of a five-point Likert scale in the study is partly because it allows a numerical value to be given to an opinion (Hussey and Hussey 1997), and partly because *'...a more than five-point scoring method had been shown to possess no advantage'* (Oppenheim 1992, p.195). Likert-type scale measurements are commonly used and are easily analysed using statistical packages (Gill and Johnson, 1997). This involves *'...providing people with statements and asking them to indicate how strongly they agree or disagree'* (De Vaus, 1996, p.88).

All the factors used in the study are measured on a 5-point Likert scale. The scale is from 'Very unimportant' (1) to 'Very important' (5) with 'Unimportant' being 2, 'Neutral' being 3 and 'Important' being 4. As the items are classified according to whether they have more or less of a characteristic, the scale used is defined as ordinal. As the collected data has a ranking and no clear numerical interpretation, non-parametric methods are utilised for their analysis. A five-point Likert scale (from *Very Unimportant* to *Very Important*) is selected to rate the critical success factors based on the construct of previous studies (Alfaadhel, 2010; Arasti *et al.*, 2012; Ghosh *et al.*, 2001; McLarty *et al.*, 2012; O'Regan, 2000; Rose *et al.*, 2006), and the fact that respondents often find difficulties distinguishing between values on scales of more than five points (Saunders *et al.*, 2011).

4. Critical Success Factors - Challenges - Recommendations: this section consists of a number of open questions which are used to collect more in depth information on why the respondents chose the specific CSFs, what are the current challenges in the industry and their recommendations for

success. This part is supportive to the already identified CSFs aiming to enrich the quantitative data already received but also provide rich qualitative data on the challenges and recommendations for success.

Pilot Study is a small-scale replica of the main study intended to discover possible weaknesses, inadequacies, ambiguities and problems in all aspects of the research so corrections can be made before the actual data collection takes place (Bryman and Bell, 2011; Sarantakos, 1997). Kidder (1981) cited in May (1997, p.93) also argues that a pilot survey is intended to ascertain if *'...changes are necessary before the start of the full-scale study. The pre-test provides a means of catching and solving unforeseen problems in the administration of the questionnaire, such as the phrasing and sequence of questions or its length. It may also indicate the need for additional questions or the elimination of others'*. In more detail, according to Bell (2010), the pilot testing establishes the likelihood that the survey instrument will be completed and that the questions are relevant, clear and understood, with no major topic omissions; ascertains that the instructions for completion are adequate; ensures that the format of the questionnaire is user-friendly and checks practical issues such as data coding.

The benefits of pilot testing have been long established in the business literature (Bryman and Bell, 2011; Cooper and Schindler, 2003; Saunders *et al.*, 2012; Tashakkori and Teddlie, 1998; Yin, 2004) with a number of studies in the area of SMEs success factors having utilised it previously (Gorgievski *et al.*, 2011; Lussier and Halabi, 2010; Lussier and Pfeifer, 2001; McLarty, 2012; O'Regan, 2000). Overall, the purpose of this pilot-testing is to refine the questionnaire so that the respondents have no problems in answering the questions and there are no issues in recording the data. Utilising pilot testing also enables the researcher to obtain some assessment of the questions' validity and the likely reliability of the data to be collected (Saunders *et al.*, 2012). Therefore, in order to ensure that the questionnaire meets the aims of this study and that the data collected enables the investigative questions to be answered, the survey instrument has been pilot-tested.

The literature suggests that the pilot should be tested on *'...people who resemble the types of people to whom the questionnaire will finally be given'* De Vaus (1996 p.103) and therefore 20 owners and managing directors of SMEs in the UK chemical distribution industry were selected to participate. The researcher contacted all of them by telephone to explain the details of this study (identity of researcher, purpose of study, confidentiality and anonymity) and booked an appointment to go through the questionnaire in a face to face meeting. This approach enabled the researcher to validate the questionnaire, ensure common response patterns, query aspects of the Managing Directors'

responses, probe for more 'qualitative data' and seek detailed feedback on the 'feeling' of the Managing Directors in relation to how other industrialists might view the survey instrument.

The participation rate was 100%. The highly satisfactory response rate was achieved through the involvement of members of the Chemical Business Association (CBA) and the British Association of Chemical specialties (BACS) which are the two governing bodies in the UK chemical distribution industry. Equally important was the fact that all the participants were very interested in the study as they strongly felt that its outcome would positively affect the way they manage their business. In fact, all were even more motivated to participate when the researcher informed them that a broad summary of the results would be forwarded to them at the end of the study.

In general, participants were given the chance to express their views and opinions about the questionnaire. All feedback has been taken into consideration. Overall, the comments received from the owners and MDs were all positive, with some minor recommendations proposed on the format. Instructions were very clear and easy to follow. The questionnaire was found to be well written, easy to complete, with good coverage of the subject, *'not too lengthy to put people off but long enough to gather all the required information'* as per respondent 2 comments. On average, the questionnaire took approximately 25-30 minutes to complete, which was very well received as time was of the essence to these highly ranked people. In fact, many Managing Directors suffered from an overload of questionnaires of various types as well as requests to participate in research as confirmed in the discussions during the pilot stage. Apart from the above, there were no further comments on the format and content of the questionnaire. As a result there was a high degree of confidence that the questionnaire would be adequate to collect all the required data to achieve the aim of this research.

4.8 Data Analysis

As this research adopts a mixed methodology approach, both quantitative and qualitative data are collected and therefore these need to be analysed in the most appropriate and effective way. The following section presents and discusses the analysis methods for both types of data.

4.8.1 Quantitative data analysis

Following the collection of data and in order to ensure a proper analysis and interpretation of the results, it is important that these are organised in such a way that they are analysed efficiently. To that end, the questionnaires received are coded and analysed using the Social Sciences statistical

package (SPSS). SPSS has been the most common statistical analysis and data management software package used across social and behavioural sciences and has gained widespread recognition and acceptance (Bryman and Bell, 2011; Saunders *et al.*, 2012). For the researcher, SPSS offers a faster and easier way to complete the data collection and analysis processes. Most importantly, this package has the capability to take data sources from almost any type of file, allow the sorting of cases according to different fields and subsequently use them to generate descriptive statistics (frequencies, means, cross-tabulations and basic graphic displays, such as bar or pie charts), tabulated reports, charts and plots of distributions and trends and conduct complex statistical analysis. Also, one of the reasons for the choice of the SPSS analysis technique rather than one of the many others is that the alternative programs are expensive and complicated and also necessitate the researcher to have extensive training and practice in order to become an expert user. However, training has been required and undertaken by the researcher to acquire the relevant skills to use this package and advice has been sought by experts (other academics) in statistical analysis.

Business literature distinguishes quantitative data into two categories: categorical and numerical. Categorical are data that have been grouped into a descriptive set or put in rank order. These are split into descriptive so there is no relevance to the number order and ranked (ordinal) data that have been put into rank or definite order. Numerical are data that are measured using numbers (Barrow, 2013; Howell, 2013).

When items are classified according to whether they have more or less of a characteristic (in this case the importance of the success factors in the UK Chemical distribution industry), the scale used is defined as ordinal (Gravatter and Wallnau, 2012; Rovai *et al.*, 2013). The main characteristic of the ordinal scale is that the categories (importance) have a logical or ordered relationship to each other (from very unimportant to very important) consisting of numerical scores (1 to 5) where the exact numerical quantity of the particular value has no significance beyond its ability to establish a ranking over the set of data points (Barrow, 2013; Brysbaert, 2011; Howell, 2013). These types permit the measurement of degrees of difference but not the specific amount of difference (Barrow, 2013; Brysbaert, 2011). When data have a ranking but no clear numerical interpretation, the use of non-parametric methods is necessary for their analysis (Burns and Burns, 2012; Rovai *et al.*, 2013).

In this research, categorical data are collected. The data referring to the demographic characteristics of the owners/managers and the SMEs are both descriptive and ordinal in nature and the ones referring to the success factors under investigation are ordinal in nature. Descriptive statistics

are used to analyse the demographic characteristics of the respondents (such as age, level of education, gender, qualifications, prior working experience) and provide a typology of the firm (turnover, export sales, location, age and size of firm) (Burns and Burns, 2012; Rovai *et al.*, 2013). Frequency analysis and cross-tabulations are used to enable comparisons and to investigate the demographic data in greater detail (Gravatter and Wallnau, 2012). Non-parametric statistics are used for the analysis of ordinal data. To further justify the use of non-parametric testing for the ordinal data collected, the normality of the distribution of the responses is assessed using the Kolmogorov-Smirnov test (Barrow, 2013; Howell, 2013).

The Kolmogorov–Smirnov test is a non-parametric test for the equality of continuous, one-dimensional probability distributions that can be used to compare a sample with a reference probability distribution, or to compare two samples (Burns and Burns, 2012; Rovai *et al.*, 2013). This test can be modified to serve as a goodness of fit test for the univariate case when the scale of measurement is ordinal and assess the normality of the distribution of scores (Knapp, 2014). In the case of testing for normality of the distribution, samples are standardized and compared with a standard normal distribution. This is equivalent to setting the mean and variance of the reference distribution equal to the sample estimates and it is known that using these to define the specific reference distribution changes the null distribution of the test statistic (Gravatter and Wallnau, 2012). A non-significant result (Sig. Value more than 0.05) indicates normality. A significant result (Sig. Value of .000) suggests violation of the assumption of normality; hence the distribution of scores is not normal (Burns and Burns, 2012; Dancey and Reidey, 2011).

The Kolmogorov–Smirnov test is similar to the chi-square test of goodness of fit in the sense it also examines whether the observed frequencies are in accordance with the expected frequencies under a well-defined null hypothesis (Gray and Kinnear, 2012; Rovai *et al.*, 2013). Of course the chi-square test involves nominal measurement and as a result, the Kolmogorov-Smirnov test is more powerful than the chi-square test when ordinal data are encountered in any decision problem (Brysbaert, 2011; Gravatter and Wallnau, 2012). In this study, the distributions of scores have been found to be non-normal and as such the use of non-parametric testing is fully justified.

Detailing the non-parametric testing used, the Kruskal-Wallis test is utilised to rank the data on external factors influencing SMEs success and identify the most influential factors, Mann-Whitney U test is used to identify whether different parts of the population differ in terms of their choice of success factors and Correlation analysis using the Spearman's rank correlation coefficient or

Spearman's rho is used to investigate any correlations between the identified critical success factors (Barrow, 2013; Burns and Burns, 2012; Howell, 2013).

To support the Kruskal-Wallis tests results on the ranking of the success factors, the median and mode measures of central tendency are also calculated and utilised. As a result, the most critical success factors are ranked on the basis of the Kruskal-Wallis Test mean ranking, the median and mode of the responses. If the Kruskal-Wallis mean ranking, median and mode of the answers is high compared to the means of the other answers, the factor is meaningful, and if the mean, median and mode of the answers is low compared to the others, the factor is of little importance (Dancey and Reidey, 2011; Rose *et al.*, 2006; Rovai *et al.*, 2013; Sen and Taylor, 2007). To further support the selection of the most influential success factors on business success and increase the reliability of the chosen instrument, the target group are additionally asked to identify the most important entrepreneurial, enterprise and business environment success factor. Frequency analysis is utilised to analyse the collected data and provide a further element of factorisation. Please find below a description of each of the non-parametric tests utilised in this study:

Kruskal Wallis

The Kruskal-Wallis one-way analysis of variance by ranks is a non-parametric method for testing whether samples originate from the same distribution (Gray and Kinnear, 2012). It is used for comparing more than two samples that are independent, or not related (Gray and Kinnear, 2012; Rovai *et al.*, 2013). The parametric equivalent of the Kruskal-Wallis test is the one-way analysis of variance (ANOVA) (Gravatter and Wallnau, 2012). When the Kruskal-Wallis test leads to significant results, then at least one of the samples is different from the other samples (Rovai *et al.*, 2013). The test does not identify where the differences occur or how many differences actually occur (Burns and Burns, 2012). It is an extension of the Mann-Whitney U test to 3 or more groups (Gravatter and Wallnau, 2012). The Mann-Whitney would help analyze the specific sample pairs for significant differences (Knapp, 2014). Since it is a non-parametric method, the Kruskal-Wallis test does not assume a normal distribution of the residuals, unlike the analogous one-way analysis of variance (Burns and Burns, 2012; Rovai *et al.*, 2013). However, the test does assume an identically shaped and scaled distribution for each group, except for any difference in medians (Burns and Burns, 2012; Rovai *et al.*, 2013). Kruskal-Wallis is also used when the examined groups are of unequal size (different number of participants) (Knapp, 2014).

Mann-Whitney U Test (non-parametric independent groups testing)

The Mann–Whitney U test (also called the Mann–Whitney–Wilcoxon (MWW) or Wilcoxon–Mann–Whitney test) is a non-parametric test of the null hypothesis that two populations are the same against an alternative hypothesis, especially when a particular population tends to have larger values than the other (Brysbaert, 2011; Gravatter and Wallnau, 2012; Howell, 2013). In other words, the Mann-Whitney U test is used to test for differences between two independent groups on a continuous measure; for instance whether males and females differ in terms of their choice of success factors (Barrow, 2013). This test is the non-parametric alternative to the T-test for independent samples (Gravatter and Wallnau, 2012). It has greater efficiency than the T-test on non-normal distributions, such as a mixture of normal distributions, and it is nearly as efficient as the t-test on normal distributions (Dancey and Reidey, 2011; Gravatter and Wallnau, 2012). Instead of comparing means of the two groups, as in the case of the T-test, the Mann-Whitney U Test actually compares medians (Barrow, 2013). In more detail, it converts the scores on the continuous variable to ranks across the two groups and then evaluates whether the ranks for the two groups differ significantly (Barrow, 2013; Knapp, 2014). As the scores are converted to ranks, the actual distribution of the scores does not matter (Gray and Kinnear, 2012).

Correlation Analysis based on Spearman's rho (Spearman's rank order correlation)

Spearman's rank correlation coefficient or Spearman's rho, is a non-parametric measure of statistical dependence between two independent variables (Dancey and Reidey, 2011; Gravatter and Wallnau, 2012). It is used to measure the strength and direction of the linear relationship between two variables by assessing how well the relationship between these variables can be described using a monotonic function (Howell, 2013; Knapp, 2014; Pallant, 2007). If the relationship is perfect and each of the variables is a perfect monotone function of the other, then the correlation is given the value of 1.00 (Knapp, 2014; Rovai *et al.*, 2013). On the other hand if there is no relationship, then the correlation is said to have a value of 0.00 (Knapp, 2014; Rovai *et al.*, 2013). If two measures are the exact opposites of each other, then the relationship is negative with a value of -1.00. Cohan (1988) suggests the following guidelines on degree of relationship:

- $r = 0.10$ to 0.29 Small relation
- $r = 0.30$ to 0.49 Medium relation
- $r = 0.50$ to 1.0 Large relation

A correlation co-efficient is significant (r_s) when it is sufficiently different from zero to exclude the possibility that the correlation between the two measures is achieved by chance; this is determined through the significance level (Sig. 2 tailed) (Knapp, 2014; Rovai *et al.*, 2013). The significance level is termed as the remaining risk that the similarity could have occurred by accident (Hinton *et al.*, 2014; Howell, 2013). For instance, if the significance level is 0.01 there is a one in a hundred risk of this happening. Spearman's coefficient, like any correlation calculation, is appropriate for both continuous and discrete variables, including ordinal variables (Knapp, 2014; Rovai *et al.*, 2013).

4.8.2 Qualitative data analysis

During this research qualitative data were also collected. These are strictly complimentary and supportive to the quantitative data, which aim to identify the critical success factors for SMEs in the industry under investigation, and reflect the views and opinions of the owners/managers on pre-determined themes (categories). The purpose of the qualitative data is confirmatory and explanatory and aims to provide a richer, deeper view on small business success, offer an insight into the mechanisms and modus operandi of SMEs in the selected industry. More specifically, the qualitative data originate from a number of open questions embedded in the questionnaire aiming to investigate the reasons why certain success factors are considered critical by the respondents, identify the challenges faced by SMEs operating in the chosen industry and compile a list of recommendations for success and sustainable growth in the UK chemical distribution industry.

Regarding the analysis of the data, scholars argue that there is no standard way to process qualitative outcomes but this is rather accomplished through the decrease and removal of any insignificant findings and emphasizing only the expressive and the significance of the outcomes (Brown and Clarke, 2006; Bryman and Bell, 2011; Creswell, 2009; Patton, 2002). Similarly, Saunders *et*

al. (2012) argue that qualitative data analysis is achieved by organising their mass into meaningful and related themes or categories, allowing for a systematic and rigorous analysis.

In this study, the collection of qualitative data is based on pre-determined themes: critical success factors, challenges and recommendations for sustainable growth and as such their categorisation and analysis are straightforward. To this end, the use of more sophisticated methods of analysis (i.e. quantitative content, thematic) is not deemed necessary and thus this research draws upon the basic principles of qualitative content analysis. This is a flexible, well-established qualitative data analysis method (Elo *et al.*, 2014; Finfgeld-Connett, 2014; Hsieh and Shannon, 2005; Krippendorff, 2013; Vaismoradi *et al.*, 2013) that represents a systematic and objective means of describing and quantifying phenomena (Bloor and Wood, 2006; Gbrich, 2007; Mayring, 2000; Pope *et al.*, 2006; Powers and Knapp, 2006; Schreier, 2012). Krippendorff (2013) argues that content analysis is a scientific tool that provides new insights, increases a researcher's understanding of particular phenomena or informs practical actions and refers to it as '*...a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use*' (p.18). A prerequisite for successful analysis is that data can be reduced to concepts that describe the research phenomenon (Cavanagh, 1997; Elo and Kyngäs, 2008; Hsieh and Shannon, 2005; Schreier, 2012; Vaismoradi *et al.*, 2013) by creating categories, concepts, a model or a conceptual system (Elo *et al.*, 2014; Gbrich, 2007; Morgan, 1993). The stage during which concepts are created is known as the abstraction process (Finfgeld-Connett, 2014). As in this study there are pre-determined themes, the researcher begins data analysis with a coding template in mind and data are organised according to an existing structure and thus the above methodological requirement is satisfied.

Qualitative content analysis involves three main phases: preparation, organisation and reporting of results (Elo and Kyngäs, 2008; Krippendorff, 2013; Polit and Beck, 2012). The preparation phase consists of collecting suitable data for content analysis, making sense of the data, and selecting the unit of analysis. Organising involves open coding and creating categories, formulating a general description of the research topic through generating categories and subcategories as abstracting. In the reporting phase, results are described by the content of the categories describing the phenomenon. In line with content analysis, during this study data are collected, collated under the pre-determined categories, reduced, summarised and finally reported. Throughout this process, a number of basic guidelines as highlighted by Hammond and Wellington (2013) are taken into consideration: know yourself, your biases, and preconceptions; know your question; be flexible; exhaust the data; celebrate anomalies; get critical feedback and be explicit.

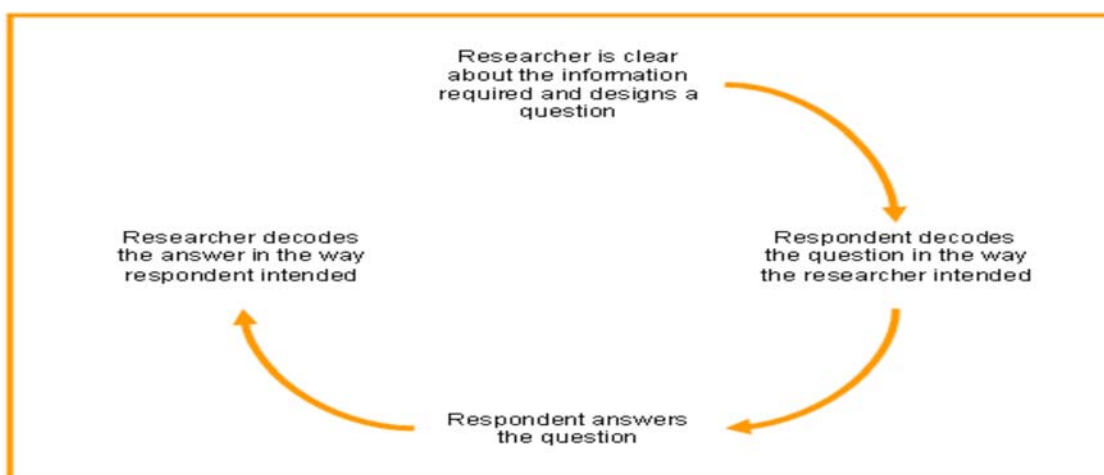
4.9 Validity and Reliability

In order to achieve the aims and objectives of this research effectively, reliability and validity have to be considered. In fact, the merit of a study is the measure of the reliability and validity of the instrument it utilises (Bryman and Bell, 2011). These factors affect the level to which the result from a specific research study could be generalised. In other words, validity and reliability reduce the possibility of getting a wrong answer (Saunders *et al.*, 2012).

Validity refers to the degree to which the research outcomes are associated to the research aims, objectives and questions, while reliability is linked to the consistency with which the outcomes might be replicated applying the same methodology, sampling, and the same set of research questions of gathering data (Bryman and Bell, 2011). The validity and reliability of the data collected and the response rate achieved ultimately depend on the design of the questions, the structure of the questionnaire and the result of pilot testing (Bryman and Bell, 2011). A valid question enables accurate data to be collected and one that is reliable means that these data are collected consistently. Foddy (1994, p.17) argues that *'...the question must be understood in the way intended by the researcher and the answer given by the respondent must be understood by the researcher in the way intended by the respondent'*.

Figure 4.2 presents the four stages which must occur if the question is to be valid and reliable (Foddy, 1994, p.178).

Figure 4.2: Stages for validity and reliability



4.9.1 Validity

Validity refers to the degree to which the instrument meets the purpose for which it was designed (Yin, 1994). Ghauri (2002) clarifies the term as the concern of consistent measurement. Any research mistakes, for instance, poor samples, imperfect or inaccurate research measures will affect validity (Saunders *et al.*, 2007). The importance of validity is also highlighted by Gill and Johnson (1997, p.39) as they argue that '*...reliability does not necessarily imply validity, whereas if the measure is valid it will be reliable*'. In order for a research to meet the validity criteria and avoid any ambiguity, the researcher must implement accurate measurement tools that are clearly understood by all the participants to make sure that the outcomes are truly about what they should be about.

Vanderstroep and Johnston (2009) argue that there is more than one form of validity and it can be expressed in terms of:

- i. Content (satisfied) validity: This is a qualitative judgement based on a review of the literature and ensuring that the instrument adequately covers the information that it is designed to measure. It is the '*extent to which the indicators measure the different aspects of the concept*' (De Vaus, 1996, p.56). To ensure content validity, each measure is derived from the literature and analysed for its relevance, clarity and meaning.
- ii. Construct (concept) validity: this refers to the degree to which the instrument measures the underlying construct that it is designed to measure and indicates whether the combination of items in a scale truly represents the characteristics of the construct of interest (Sakakibara *et al.*, 1993). Construct validity can be convergent (the extent to which the survey correlates with factors or variables with which it should correlate), and discriminant (the extent to which it does not correlate with factors with which it should not correlate). Examples of sources of evidence for construct validity include experts judgements that the content of the survey directly relates to the area of interest; an analysis of the internal consistency of the survey; feedback from survey respondents about their responses to the survey in order to obtain information about the "goodness" of the items as shown in the pilot survey; and statistical analysis such as factor analysis which is outlined later in this chapter.
- iii. Predictive (logical) validity: discusses the level of how one measure is connected to another (Vanderstroep and Johnston, 2009, p. 59-60).

In order to ensure that the instrument for gathering the data is valid, this study has adhered to the following techniques:

- All of the characteristics used in each section of the questionnaire are well supported in the small business literature;
- Feedback has been received from academics, professional and industry experts;
- Feedback has been received from conference presentations;
- Pilot testing has been conducted;
- Use of expert judgement of practising Managing Directors and industry experts to ensure that the content of the survey is of direct interest to SMEs in the UK chemical distribution industry. Questionnaire is based on work of previous authors in the area of CSFs for SMEs;
- Questionnaires were distributed to the entire sample group population in all organisations;
- The researcher minimised the chance of any misinterpretations and misunderstandings in any of the questions provided and was available for clarifications.

4.9.2 Reliability

Reliability is defined by Litwin (1995 p.6) as '*a statistical measure of how reproducible the survey instrument's data are*'. Reliability refers to the consistency of the instrument and the conditions under which it is administered (Cooper and Schindler, 2001) and is mainly a substance of stability; for instance, if the tools applied to the same individual on two different cases the questions produces the same outcomes (Easterby-Smith *et al.*, 2012). It also refers to the accuracy or precision of the measuring instrument (Kerlinger, 1986). Reliability is thus the extent to which the chosen research tool(s) produce similar results under constant environment on all occasions (Bell, 1993; Sekaran, 2003). It is essential that the information give trustworthy and stable results in order to reach reliability. The importance of establishing the reliability of the instrument is stressed by Bohrnstedt (1983). The instrument could be said to have a high degree of reliability when there is a significant association between responses to each of the attributes. In effect, it is '*an indicator of how well the different items measure the same issue*' (Litwin, 1995, p.21).

According to Gill and Johnson (1997) and Foddy (1994), in the case of questionnaires, reliability derives from the clear formulation of questions which facilitates understanding and hence correct answering. In order to increase the reliability of this research, all the required steps have been undertaken. First of all, all research questions are based on stable sources of theory in the business literature and are formulated as clear as possible. The questionnaire has been reviewed and commented by the supervisory team and a number of academics and has been piloted with the participants in the UK. The pilot study provided help to improve the research instrument along with the data collection methods. In summary, validity is achieved through the following measures:

- A robust, well formulated instrument has been used.
- Clear objectives and statements have been used leaving no room for misinterpretation during the decoding process by the respondent and the researcher.
- A thorough understanding of the problem has been achieved through literature search
- Elements of factorisation have been utilised. The respondents are asked to rate the importance of the proposed success factors but also further asked to choose the most important factor of all in each group.
- Pilot testing (establish that the questions are clear and understood, ascertain that the instructions for completion are adequate, ensure that the format of the questionnaire is user-friendly) increase both the validity and reliability.
- Test/Retest.

Test-retest reliability is one of the most common measures of the reliability of a survey instrument (Dancey and Reidey, 2011; Gravatter and Wallnau, 2012). Test-retest reliability is a statistical technique used to estimate components of measurement error by repeating the measurement process on the same subjects, under conditions as similar as possible, and comparing the observations (Rovai *et al.*, 2013). In order to measure the test-retest reliability, the same test has to be given to the same test respondents on two separate occasions. T1 is referred to as the first time the test is given and T2 the second time that the test is given. The scores on the two occasions are then correlated utilising the Spearman's rho correlation test. This correlation is the test-retest-reliability coefficient (r_s), also known as the coefficient of stability (Barrow, 2013; Dancey and Reidey, 2011; Gravatter and Wallnau, 2012).

The closer each respondent's scores are on T1 and T2, the more reliable the test measure and the higher the coefficient of stability is. A coefficient of stability of 1 indicates that each respondent's scores are perfectly correlated. A coefficient correlation of 0 indicates that the

respondents' scores at T1 are completely unrelated to their scores at T2; therefore the test is not reliable (Barrow, 2013; Dancey and Reidey, 2011; Gravatter and Wallnau, 2012). The following guidelines are used (Barrow, 2013; Knapp, 2014):

- 0.9 and greater: Excellent reliability
- Between 0.9 and 0.8: Good reliability
- Between 0.8 and 0.7: Acceptable reliability
- Between 0.7 and 0.6: Questionable reliability
- Between 0.6 and 0.5: Poor reliability
- Less than 0.5: Unacceptable reliability

When test-retest reliability is measured, an assumption is made that there is not a significant change in the construct that between the first and second times that it is measured (Barrow, 2013; Brysbaert, 2011). If the same measure is given twice, the correlation between T1 and T2 is affected by the amount of time that passes between the two; the less time between T1 and T2, the higher the correlation (Gravatter and Wallnau, 2012; Gray and Kinnear, 2012). Conversely, the larger the time difference (gap) between T1 and T2 is, the lower the correlation ((Barrow, 2013; Brysbaert, 2011). This is due to the fact that the closer the time gap, the more similar the contributing factors to error (Barrow, 2013; Dancey and Reidey, 2011; Gravatter and Wallnau, 2012).

4.10 Ethics

Dieter and Crandall (1978), in Bryman and Bell (2011), outline four main ethical principles in business research: Harm to participants, Lack of informed consent, Invasion of privacy and Deception involved. Saunders *et al.* (2012) present in more detail the main ethical issues that need to be taken into consideration when conducting research. These include the integrity and objectivity of the researcher; respect for others; avoidance of harm; privacy of possible and actual participants; voluntary nature of the participation and the right to withdraw partially or completely from the process; informed consent of the participant; ensuring confidentiality of data provided by individuals and maintenance of anonymity of the participants; responsibility in the analysis of data and reporting of findings; compliance in the management of data and ensuring the safety of the researcher.

Ethics are a critical aspect for the conduct of this research. The researcher fully embraces the fact that research should be designed, reviewed and undertaken to ensure integrity, value and quality; that it should cause no harm, but rather benefit participants and that its results should benefit society

either directly or by generally improving human knowledge and understanding. The researcher adheres to the code of practise and research ethical principles for research involving human participants of his educational institution (Leeds Beckett University). The codes of practise of other well-established educational institutions (Oxford Brookes University, 2015; University of Cambridge, 2015; University of York, 2015) and professional bodies (Market Research Society - MRS, 2014) have also been taken into consideration. Further acknowledging that ethical issues are many and varied, as detailed by Saunders *et al.* (2012) above, please find below the main ethical considerations for this study.

4.10.1 Risk to participants and researcher

The researcher understands that an important aspect of conducting research is taking into consideration the limitations, difficulties and hindrances that may arise during the process. Overall, this research does not affect the well-being of the participants and the researcher and no further potential risks or causes of discomfort are identified. However, if there is any sign of discomfort during the process, the research is terminated without detriment. To further minimize any potential risks, all participants are over eighteen (18) years old, have been informed in detail via the informed consent sheet and have then been asked to sign a consent form regarding their rights.

The researcher's managerial and teaching experiences along with his involvement in the chemical distribution industry provide him with all the necessary tools to conduct the research. The confidentiality and anonymity of the research along with the participants' informed consent gives the researcher the leverage to handle difficult and sensitive situations should they arise during the course of this study. Finally, the researcher has undertaken further training in data collection and reporting on sensitive issues.

4.10.2 Health and Safety

The health and safety of both researcher and participants are carefully considered in the design and execution of this research. Other than the factors considered under 'risk', there are no other health and safety issues for any of the participants, subjects and the researcher.

4.10.3 Voluntary participation and withdrawal

Participation in this study is entirely voluntary and participants are free from coercion. An Information sheet with all relevant information regarding the procedures and risks involved in this research is distributed and explained to all prospective participants before their consent to participate

is given. All participants are informed that their participation is voluntary, they are given time to understand the purpose and nature of the study, what participation in the study requires, and what benefits are intended to result from the study. They are then asked to sign a consent form guaranteeing their confidentiality, anonymity and their rights to withdraw from the research study any time without any penalty and without having to justify their decision to do so, ask questions regarding the study and refrain from answering specific questions without giving any reasons. In any case, the consent form has to be accepted and signed by all participants before the survey begins to make sure that the purposes of this research project are fully understood and that the participants are willing to take part in this research project. Also, the researcher does not intend to pay any of the participants, so there are no benefits whatsoever.

4.10.4 Information to participants

All participants are fully informed about the purpose, methods, and intended possible use of this research. A detailed informed consent form, written in simple language and easily comprehensible, is given to all participants before the beginning of the survey. The information sheet includes the purpose of the investigation; the procedures; the risks (including psychological distress); the benefits, or absence of them, to the individual or to others in the future or to society; a statement that individuals may decline to participate and also will be free to withdraw at any time without giving a reason; and an invitation to ask questions. The information sheet also provides contact details of the School's Research Ethics Officer so that participants could report any procedures that seem to violate their welfare. Participants are given plenty of time to study the information sheet and consult relevant parties.

4.10.5 Confidentiality and Anonymity

The researcher has taken every possible precaution during this study to protect the confidentiality and maintain anonymity of the participants. All information obtained in the course of a research project is considered privileged information and would under no circumstances be publicly disclosed in a fashion that would identify any individual or organisation. Throughout this research project, the identity of the participant, or any information which may identify the participant, would not be revealed without the participant's adequate prior consent in writing. That is to secure personal beliefs and avoid any potential negative impacts on the research results. To protect the anonymity of the participants, the researcher uses words instead of names, like Respondent 1, 2, 3 etc. The answers are strictly confidential.

The details of the anonymity and confidentiality policy of this research, along with the participants' choice to take part or not in the survey, are explained in detail in the informed consent form. The form is given in writing before the surveys in order to get the participants' written permission. All participants are also informed before the survey about any limits to confidentiality and anonymity through an informal letter to prevent undesirable actions and get fair and objective answers. All data collected are securely stored at the home office of the researcher away from any unauthorised access or accidental loss. All the data collected are to be destroyed 5 years after the completion of this research to avoid undesirable actions. Last, there are no circumstances in which the requirements of professional practice could potentially impact on confidentiality and anonymity provisions. There are also no issues related to information provided by public bodies, corporations, contractors etc.

4.10.6 Dissemination of results

The researcher understands his duty to disseminate the research outcomes of this study to all appropriate parties, in a way that makes them clear, understandable and accurately reflecting the significance of the research. In detail, the results are to be disseminated through this doctoral thesis, publications in academic journals and presentations at conferences. There will be no restrictions on the dissemination and publication of results. It is the researcher's intention to present and publish the results only at accredited academic conferences and journals, following consultation with his Director of Studies and supervisors. In addition, participants and relevant stakeholders were offered access to a summary of the research findings.

4.10.7 Data Security and Disposal

The collection and storage of research data complies with the Data Protection Act 1998. The researcher is fully aware of the risks to anonymity, privacy and confidentiality posed by all kinds of personal information storage and processing and adhered to the University's Data Protection Policy and Guidelines. All the data and personal information collected are treated with confidentiality and anonymity. The collected data have been used only for the purposes of the research study and are not to be kept longer than was necessary for the purpose of the project. The participants had the right to access the information with some legal related exceptions. Any sensitive information will not be disclosed to other parties without the consent of the participant or participating organization whom it concerns unless there is a legitimate reason to share the information.

Sensitive or personal data are stored in a secure place in the researcher's home office and kept safe from any unauthorised access, accidental loss, damage or destruction. Similarly to the anonymity issue, confidentiality and data storage and protection are included in the information sheet/cover letter and informed consent form.

Research data and records are to be kept by the researcher for a period of five years from the time of submission and approval of final paper, providing there is no continuing value to the University. The research data and records are to be destroyed in a way to ensure complete destruction of the information. Research data and records in paper are to be shredded and any electronic and audio visual data will be disposed according to the Leeds Beckett University Confidential Waste System.

Measures to prevent accidental breaches of confidentiality are taken. All information relating to personal details is to be stored in a secure place in the researcher's home office and to be kept safe from any unauthorised access, accidental loss, damage or destruction. Personal details are not to be disclosed to other parties without the consent of the participant or participating organisation whom it concerns, unless there is a legitimate reason to share the information. Personal details are to be maintained for five years after the submission of the final paper provided there is no continuing value to the university, similar to the research data and records.

Overall, the researcher has fully recognised and considered all the potential ethical issues as mentioned above from the outset of this study. Further legal and ethical concerns with data protection and management, affecting the collection, processing, storage and use of personal and confidential data have been taken into consideration. All actual and potential participants have received a detailed information sheet identifying the researcher, the purpose of this study, ensuring confidentiality, anonymity and data protection alongside an informed consent form to sign.

4.11 Summary

This chapter presented all the methodological considerations appropriate for this study. The primary aim of this research is to use the existing theories on success factors for SMEs to identify those factors critical for small businesses operating in the UK chemical distribution industry with the intention to prove or disprove the theories. Therefore, this study follows a strong positivism paradigm as it clearly seeks to identify and measure a phenomenon and subsequently provide a rational explanation. As the underlying principle of this study is to transfer general theories, the identified CSFs, to specific situations, in this case the UK chemical distribution industry, the study clearly assumes

a deductive approach. A survey strategy is utilised to collect both quantitative and qualitative data through self-administered questionnaires. The quantitative data are analysed by SPSS to successfully test the research hypotheses as described in the aims and objectives and thus identify the determinants of business success for SMEs in the UK chemical distribution industry. Qualitative methods of analysis (content analysis) are used to process the qualitative data to answer the research questions and thus explain/confirm the importance of CSFs, identify the challenges of SMEs in the industry and offer recommendations for success and sustainable growth. Reliability and validity are also considered and measures are taken to ensure that the research instrument is valid and reliable. To that end, pilot testing and test-retest, among a number of additional measures and techniques, are also utilised in this study. Last, all ethical aspects are considered and addressed.

CHAPTER 5

SURVEY DATA FINDINGS ANALYSIS AND DISCUSSION

5. Survey data findings, analysis and discussion

The aim of this study is to identify the critical success factors (CSFs) for small and medium-sized enterprises (SMEs) in the UK chemical distribution industry and investigate the reasons why these are considered important. The challenges that small business are facing in the selected industry are further identified and the recommendations of owners/managers on success and sustainable growth are sought.

As discussed in detail in chapter 4 (section 4.7.2) this study is based on the opinions of owners and very senior managers (individuals holding high positions such as Managing Directors, CEOs and Directors), an approach extensively used by other researchers (Coy *et al.*, 2007; Gorgievski *et al.*, 2011; Lee *et al.*, 2012; Simpson *et al.*, 2004). These people, due to their high position, relevant experience and long presence in the industry, are suitable to determine the factors critical to the success of their business and offer valuable inside views and insights on the industry as well as its challenges

(Andersson and Tell, 2009; Chemagility, 2008; Eikebrokk and Olsen, 2007; Galapova and McKie, 2012; Hornke, 2012; Simpson *et al.*, 2012; Walker and Brown, 2004).

This chapter presents the results of the survey questionnaire among the owners/managers of SMEs in the UK chemical distribution industry. First, the demographic characteristics of the respondents (Gender, Age, Nationality, Education level, Position in the organisation, Function and responsibilities, Time with current employer and in current position, Previous relevant experience) and the companies (Location, Age, Size, Turnover and Export sales) are presented and analysed using descriptive statistics in part 5.2 and 5.3 respectively. Then the critical success factors, as identified by the respondents, are presented and analysed in part 5.4. The reliability of this study is also discussed in part 5.4.2.

During this study both quantitative and qualitative data are collected. Non-parametric testing (Kruskall Wallis test) and descriptive statistics (frequency analysis) are used for the analysis of the quantitative data and content analysis for the qualitative data (5.4.3). The critical success factors (CSFs) are further distinguished in Entrepreneurial (5.4.4), Enterprise (5.4.5) and Business Environment (5.4.6) and are presented and analysed accordingly. Further non-parametric testing is utilised to get a better insight in the identified critical success factors. Samples comparison analysis is also utilised to investigate whether there are any differences between the answers received or between the respondent categories (5.4.7) while correlation analysis is used to investigate whether there is a relationship among the identified critical success factors (5.4.8).

Further qualitative data are collected to identify the challenges that small businesses are facing in the UK chemical distribution industry and are presented in part 5.5. Last, the recommendations of owners/managers on success and sustainable growth are sought, again in the form of qualitative data, and presented in part 5.6.

5.1 Sample size

The target group are small-medium sized chemical distribution companies as defined by the European Union, that is enterprises employing less than 250 people and having an annual turnover not exceeding €50 million or an annual balance sheet total not exceeding €43 million (European Commission, 2006, p.13), independently owned and not part of another organisation (non-subsidiary firms), with no manufacturing activity and capabilities, located and operating in the UK.

As established in the literature review, the UK chemical distribution industry is significantly understudied both on an academic and a professional and industry level, with limited literature and research available. Even though chemical distribution is a well-established practise in the UK (Chemagility, 2015), it still is an unexplored part of the chemical industry with all academic information originating from the study of the European Chemical Distribution industry (i.e. BCG, 2013; Hornke, 2012). The vast majority of business information is available from industry reports, i.e. Plimsoll, Chemagility and KeyNote, Business Associations, i.e. the British Association of Chemical Specialties (BACS), the Chemical Business Association (CBA), the European Association of Chemical Distributors (FECC), the National Association of Chemical Distributors (NACD), the North East Process Industry cluster (NEPIC) and internet sources, i.e. the Chemagility Online Database of Chemical Distributors and ICIS website and magazine. Based on the above gap in knowledge, the need to study the UK chemical distribution industry on an academic level is obvious.

Similarly, there is no official statistical data available, in the form of a complete and comprehensive list through academic and professional sources, on the total number of Small Medium Enterprises (SMEs) operating in the UK chemical distribution industry. As a result, the researcher utilises a combination of all the above mentioned academic and industry sources (industry reports, business associations and internet sources) to produce a list of the target population (as per sampling frame discussed in section 4.8.2). Each of the companies identified in the above databases has been individually checked and validated by the researcher to ensure that it fulfils the criteria of the study.

The total number of companies satisfying the target group criteria is 180. Due to the number of companies identified, a census is conducted and no sampling techniques are used. In total, out of the 180 companies, 118 responded positively by returning the questionnaire, in a usable and valid form for statistical analysis, generating an overall response rate of 65.5%. In general, business literature suggests a probable response rate for postal questionnaires varying between 10% and 39% (Alreck and Settle, 1995; Hambrick *et al.*, 1993; Kotey and Meredith, 1997; Owen and Jones, 1990; Saunders *et al.* 1997; Watson *et al.*, 1998) with Bourque and Fielder (1995), stating that without incentives, a survey of the general community is unlikely to have a response rate higher than 20%. Considering that similar studies on critical success factors for SMEs (Alfaadhel, 2010; Arasti *et al.*, 2012; Chittithawom *et al.*, 2011; Islam *et al.*, 2011; Jasra *et al.*, 2011; Lee and Stearns, 2012; McLarty *et al.*, 2012) achieved no more than 40% return rate, the response rate of this study is considered very satisfactory. As a result, it can be argued that the findings of this study offer an accurate

representation of SMEs operating in the UK chemical distribution industry as per the sampling frame (see section 4.8.2).

During the survey, both quantitative and qualitative data are collected. Statistical analysis of the generated quantitative data is conducted using the SPSS statistical package. The quantitative data collected are descriptive - the demographic characteristics of the owner/managers and the firms - and ordinal in nature - the responses relating to the success factors under investigation. Descriptive statistics are used to enable comparisons and to investigate in greater detail the numerical data through frequency analysis and cross-tabulations while non parametric statistics are used for the analysis of ordinal data. The Kruskal-Wallis one way analysis of variance, Mann-Whitney U testing and correlation analysis using the Spearman's rank correlation coefficient or Spearman's rho are utilised. To further support the results of the Kruskal-Wallis test regarding the importance for the success factors, the median and mode for each of the success factors are also calculated. The qualitative data collected offer an insight into the reasons why the selected success factors are of importance, identify the challenges that small businesses are facing in the UK chemical distribution industry and gather the recommendations of owners/managers on success and sustainable growth. The qualitative data are organised in themes and presented accordingly.

5.2 Demographic data analysis of owners/managers

This section presents the demographic characteristics of the owners/managers that participated in the study. Data on gender, age, nationality, education level, position in the organisation, function and main responsibilities, time with current employer and in current position and previous relevant experience (including no of previous business ventures and no of previous SMEs worked for) are collected in order to get an insight into the profile of the typical owner/manager in the UK chemical distribution industry.

First of all, all respondents in this survey are either owners (20.3%, 24 out of 118) or hold a very high position in their companies such as Chief Executive Officers (CEO), Managing Directors (MD) and Directors (79.7%, 94 out of 118). The vast majority are male, representing 94.9% of the overall population (112 out of 118) with their female counterparts being 5.1% (6 out of 118), indicating a

potential dominance of male owners/managers or at least a relatively low female participation rate. All participants are British (including 3 Scottish, 2 Welsh and 1 from Northern Ireland), indicating that the UK chemical distribution industry is a rather 'closed' industry dominated by native owners/managers with very limited presence of international people in the owner, managing director and director's position. The study also confirms that SMEs in the UK chemical distribution industry are predominantly owned or managed by middle aged or older people as the majority are over 50 years old (a total of 92 people, 77.9%) with the remaining 22% (26 individuals) coming from the 30-49 age group. In more detail, 68.6% of the owners/managers are from the 50-60 age group and a smaller number (9.3%, 11 individuals) from the over 60s age group.

Data on the highest level of education attainment of the owners/managers are also collected. Findings show that a very high percentage of the respondents (103 individuals, 87.2%) obtained a Bachelor's degree as a minimum qualification with few owners/managers having no degree at all or only professional qualifications (15 individuals, 12.7%). In more detail, 53.4% of the population hold Bachelor degrees, 17.8% a Master's degree and a further 16.1% a PhD degree. Based on the findings, it can be clearly seen that owners/managers of SMEs in the UK chemical distribution industry have a high level of education.

In order to get a better understanding of the role of the owners/managers in their organisation, the respondents are also asked to describe their function. The vast majority state that their function is managerial (79.7% or 94 individuals) while 16.9% (20 people) describe their main role as sales focused and 4% (4 people) as technical.

Regarding the time that the owners/managers have been with their current company -in the case of owners, this would be the time since they set up their businesses- the vast majority demonstrate a long service record as 77.9% (92 out of 118) have been with their company for more than 6 years and 52.5% (62 out of 118) for more than 10 years. Only 14.4% (17 out of 118) and 7.6% (9 out of 118) have been with their company for 3-5 years and less than 3 years respectively. Similarly, the majority of the respondents have been in their current position for a long period of time, with 41.5% being over 10 years (49 out of 118), 29.7% (35 out of 118) for 6-10 years and the remaining 28.8% (34 individuals) for less than 5 years.

Regarding the participants' previous relevant experience, all have more than 10 years of relevant experience in the industry with 73.7% (87 out of 118) having previous experience in the private sector and 26.2% (31 out of 118) through their own business. Only 6.8% (8 out of 118) of the

respondents have never been involved in a business venture with the remaining 93.2% (110 out of 118) having been involved in at least one business venture before their current position. In more detail, 29.7% (35 out of 118) have been involved in less than 3 business ventures, 52.5 % (62 out of 118) in 3 to 5 business ventures, 4.2% (5 out of 118) in 6 to 10 and 6.8% (8 out of 118) in more than 10 business ventures. In addition, all respondents have previous working experience with SMEs. Nearly half (48.3%, 57 out of 118) have worked for at least one small business in the past and a further 57 respondents (48.3%) for 3 to 5 small businesses. There is also a small part of the population (4 respondents, 3.4%) that have been very active in their professional career and have been employed by or started up quite a few small businesses before their current position (6 -10 SMEs). Once again, any previous experience with small businesses is deemed invaluable in offering an insight into their operations and factors contributing to their success.

Overall, the average participant in this study is male, over 50 years of age, British, owner/manager, educated to at least a degree level, with management responsibilities and a long service in his current company (over 6 years), with over 10 years of previous relevant experience predominantly in the private sector, having worked with at least three (3) SMEs in the past and with previous entrepreneurial activity in the UK chemical distribution industry. Please see below a summary of the owners/managers demographics.

Table 5.1: Summary of owners/managers demographics

	Group1	Group2	Group3	Group4	Group5
Gender	Male	Female			
	94.9%	5.1%			
Age	30-49	50-60	Over 60		
	22%	68.6%	9.3%		
Nationality	British	Non-British			
	94.9%	5.1%			
Education	A levels	BSc	MSc	PhD	Prof
	7.6%	53.4%	17.8%	16.1%	5.1%
Position	Owner	CEO/MD/Dir			
	20.3%	79.7%			
Function	Sales	Management	Technical		

	16.9%	79.7%	3.4%		
Time (Position)	< 3 years	3-5 years	6-10 years	> 10 years	
	9.3%	19.5%	29.7%	41.5%	
Time (Employer)	< 3 years	3-5 years	6-10 years	> 10 years	
	7.6%	14.4%	25.4%	52.5%	
Previous Experience	Private Sector	Own business			
	73.7%	26.3%			
Business ventures	0	< 3	3-5	6-10	> 10
	6.8%	29.7%	52.5%	4.2%	6.8%
SMEs worked for	< 3	3 to 5	6 to 10		
	48.3%	48.3%	3.4%		

5.3 Demographic data analysis of companies

This section presents the demographic characteristics of the participating SMEs. Data on business location, the age and size of the firm, annual turnover and export sales are collected, with a view to offer an insight into the profile of the typical small business operating in the UK chemical distribution industry.

Initially, the results of this study suggest that there is a high concentration of chemical distributors in certain geographical areas as the majority of the companies (90%, 106 out of 118) are located mainly in four regions. In more detail, the majority of SMEs operating in the UK Chemical distribution industry are located in the North East (39.8%, 47 firms), North West (23.7%, 28 firms), Midlands (14.4%, 17 firms) and South East of England (11.9%, 14 firms). The remaining companies are based in Scotland (5), Wales (3), South West (3) and N. Ireland (1).

Regarding the age of the firms, the vast majority of the businesses participating in this study (78.8%, 93 out of the 118) have been trading for over 10 years. In fact, the businesses operating for more than 5 years represent 88.9% of the overall population (105 companies) while only 13 companies (11%) have been trading for less than 5 years. This finding indicates that SMEs in the UK chemical distribution industry are well established and further supports that chemical distribution is a mature and well-developed market. The reported annual turnover of the participating companies further reflects the maturity of the market and supports the presence of well-established businesses. In specific, out of 118 SMEs, 78 firms (66.1%) report an annual turnover of EUR 10-50m, 27 firms (22.9%) a turnover of EUR 2-10m and 13 firms (11%) a turnover of less than EUR 2m.

In this study, there is a good representation of micro, small and medium sized businesses. The majority are small companies with 10-49 employees (57 SMEs, 48.3%) followed by an equal representation of micro (31 SMEs, 26.3%) and medium sized companies (30 SMEs, 25.4%). However, the fact that smaller firms are often constrained by lack of resources in completing and returning questionnaires needs to be taken into consideration. This is confirmed through a number of follow up telephone calls where many owners/managers of micro firms cited lack of time or resources as the reason for their delay or non-response to the survey.

Due to the fact that the chemical and chemical distribution industry exhibit strong globalisation trends (Districonsult, 2010; BCG, 2010 and 2013; Chemagility, 2008; Burns, 2010) with growth coming from developing rather than developed markets (Burgess *et al.*, 2002; Jerrentrup, 2009) and customers increasingly expanding their operations in wider geographic areas (Chemagility, 2008; BCG, 2013; FECC, 2013a), the export sales of each company as a percentage of their turnover are also recorded. The findings are very interesting as almost half of the participating SMEs (66 companies, 55% of population) report that over 10% of their turnover is export sales while the remaining half (52 companies, 44% of population) report export sales less than 10% of their business. The findings indicate that there is a strong polarity regarding export sales in the UK chemical distribution market. In more detail, a third of the participating SMEs (35 companies, 29.7%) report export sales between 10-19% of annual turnover indicating that exporting is an important part of their business and activity; equally, another third of the companies (43, 36%) report export sales were less than 5% of their turnover indicating that exporting is not a significant part of their business.

Overall, the typical SME operating in the UK chemical distribution industry is a long and well established business, located close to its customer and supplier base, has been trading for over 10 years, with an annual turnover between 10-50m EUR, employing between 10-49 people and with a reasonable exporting activity (10% of annual turnover on average). Please see below a summary of the participating SMEs demographics.

Table 5.2: Summary of SMEs demographics

	Group1	Group2	Group3	Group4	Group5
Business Location	North West	North East	Midlands	South East	Other
	23.7%	39.8%	14.4%	11.9%	10.2%
Age	< 3 years	3-5 years	6-10 years	> 10 years	
	4.2%	6.8%	10.2%	78.8%	
Size	< 10	10 to 49	20 to 250		

	26.3%	48.3%	25.4%		
Annual turnover	< 2m EUR	2-10m EUR	10-50m EUR		
	11%	22.9%	66.1%		
Export sales	> 30%	20-29%	10-19%	5-9%	< 5%
	15.3%	11%	29.7%	7.6%	22.9%

5.4 Critical success factors findings, analysis and discussion

In order to identify the critical success factors (CSFs) for SMEs in the UK chemical distribution industry, owners/managers are asked to rank each of the suggested success factor as identified in the small business literature, based on its importance to the industry. The scale is from 'Very unimportant' (1) to 'Very important' (5) with 'Unimportant' being 2, 'Neutral' being 3 and 'Important' being 4. As the items are classified according to whether they have more or less of a characteristic, the scale used is defined as ordinal. As the collected data have a ranking and no clear numerical interpretation, non-parametric methods are utilised for their analysis. To further justify the use of non-parametric testing for the ordinal data collected, the normality of the distribution of the responses is assessed using the Kolmogorov-Smirnov test. A non-significant result - a Sig. Value more than 0.05 - indicates normality. In this study, a Sig. Value of .000 for each success factor (please see Table 1 in Appendices) suggests violation of the assumption of normality, the distribution of scores is not normal and as such the use of non-parametric testing is fully justifiable.

5.4.1 Reliability

Test-Retest reliability is used to assess the reliability of the survey instrument. The exact questionnaire on critical success factors for small businesses is given to the same respondents on two separate occasions under the same conditions; T1 represents the first time the test is given and T2 the second time. On the first occasion (T1), 118 owners/managers respond positively to the survey. Three months after the initial data collection (T2), the same questionnaire is resent to all respondents and within a period of three months, 81 responses are received back. All questionnaires are coded allowing T1 and T2 responses to be matched for the same respondents. Statistical comparisons are carried out on the participants' answers for the two different times. The Spearman's rho correlation test is utilised to test the null hypothesis that two populations are the same against an alternative hypothesis. The correlation between the two responses is tested through the test-retest reliability coefficient (r_s), also known as the coefficient of stability. The coefficient can vary between 0 and 1, with less than 0.5

indicating that the reliability of the instrument is not acceptable and 1 indicating excellent reliability, meaning that each respondent's scores were perfectly correlated.

Following statistical analysis (Spearman's rho correlation test) on 81 questionnaires the test-retest reliability coefficient (r_s) for each of the success factors is found to vary between 0.909-0.989 (please see Table 2 in Appendices) indicating a significant positive correlation at the 0.01 level for a two-tailed prediction. This means that the participants' responses on the first (T1) and second (T2) occasions are significantly correlated and therefore the reliability of the instrument is excellent.

5.4.2 Critical Success Factors for SMEs

In order to identify the critical success factors for SMEs in the UK chemical distribution industry, non-parametric statistics are used to rank the data on external factors influencing SMEs success. Success factors, as perceived by the respondents, are ranked using the Kruskal-Wallis test of variance. Following statistical analysis, there is a significant difference in the continuous variable across the 22 success factors under investigation, as the significance level (Sig.) is found to be less than 0.001, df is 21 and Chi-Square is 1847 (as per table 5.2). As a result, the Kruskal-Wallis mean rank value is used for ranking the success factors by importance. Obviously, the higher the mean rank of a factor, the more important this is perceived to be for small business success in the UK chemical distribution industry. In support, the median and mode values are also reported. Similarly, the higher the median and mode values of a factor, the more important it is for small business success in the industry under investigation and therefore is considered a critical success factor.

The following table presents the Kruskal-Wallis mean rank, median and mode for each of the investigated success factors for small businesses in the UK chemical distribution industry, in descending order of importance.

Table 5.3: Critical Success Factors analysis (Kruskal Wallis Test, Median, and Mode)

No.	Critical Success Factor	Mean Rank (Kruskal-Wallis)	Median	Mode
1	Legal and Regulatory	2049.69	5.00	5.00
2	Ecological and Environmental	2044.16	5.00	5.00
3	Entrepreneurial Orientation	2035.51	5.00	5.00
4	Customer Relations Management	2028.42	5.00	5.00
5	Market and Product Development	1937.76	5.00	5.00
6	Prior Work Experience and Management Skills	1811.82	5.00	5.00
7	Human Capital	1800.58	5.00	5.00
8	Economic Environment	1650.76	4.00	4.00

9	Strategic Planning	1642.97	4.00	4.00
10	Business Networks	1555.43	4.00	4.00
11	Financial Resources	1492.30	4.00	4.00
12	Personality	1473.43	4.00	4.00
13	Education	1127.47	4.00	4.00
14	Marketing	1117.29	4.00	4.00
15	Internationalisation	1063.14	3.50	3.00
16	Political Environment	964.14	3.00	3.00
17	Technological Environment	743.97	3.00	3.00
18	Socio-cultural Environment	639.43	3.00	3.00
19	Size of firm	397.19	2.00	2.00
20	Age of firm	385.15	2.00	2.00
21	Age of owner/manager	366.61	2.00	2.00
22	Gender	238.77	2.00	2.00

Table 5.4: Kruskal-Wallis Test Statistics

	Success Factors
Chi-Square	1847.252
df	21
Asymp. Sig.	0.000

Based on the on the Kruskal Wallis mean rank, the mode and median values, hypotheses 1c (**Entrepreneurial Orientation**), 1f (**Prior Work Experience and Management skills**), 2c (**Customer Relations Management**), 2f (**Human Capital**), 2g (**Market and Product Development**), 3e (**Legal and Regulatory**) and 3f (**Ecological and Environmental**) are accepted; meaning that these factors are critical in the success of SMEs in the UK chemical distribution industry.

Even though hypotheses 2j (**Strategic Planning**) and 3b (**Economic Environment**) are not initially accepted, further collection of quantitative data on the most important enterprise and business environment factors (as per frequency analysis in Tables 5.8 and 5.10) highlights their importance. Consequently, these are also included in the critical success factors for the industry.

All the remaining hypotheses 1a (Age), 1b (Education level), 1d (Gender), 1e (Personality), 2a (Age of the company), 2b (Business Networks), 2d (Financial Resources), 2e (Internationalisation), 2h (Marketing), 2i (Size of company), 3a (Political), 3c (Socio-cultural) and 3d (Technological) are not accepted; meaning that these are considered non-critical for SMEs success in the specific industry.

Overall, the most important factors affecting the success of SMEs in the UK chemical distribution market are Legal and Regulatory and Ecological and Environmental. These two factors are discussed under Regulatory Compliance (with full justification to follow in section 5.4.6). Complying with current legal requirements, coping with strong regulatory trends and overcoming future regulatory challenges are considered critical in the success of small businesses in this industry.

Business success is also viewed to be strongly dependent upon Entrepreneurial Orientation (EO), which closely follows regulatory compliance. The growth of a small business is affected by the owner/manager's intentions, vision, commitment, personal initiative and drive to start, run and succeed in business. Entrepreneurial orientation is considered extremely important for business start-ups as it is seen as a source of new business ideas and innovation.

The philosophy of continuously delivering superior value to customers through ascertaining their needs and wants, supplying quality products and services, maximising satisfaction, while creating and maintaining long-term relationships is also deemed critical in the success of SMEs in the UK chemical distribution industry. The importance of customers and customer service as success factors are encompassed under Customer Relations Management (CRM).

Similarly, it is very important for small businesses to detect and respond to competitive challenges, have the ability to anticipate and respond to changes in market(s) and customer preferences. Market and Product development (MPD) entails the ability of small businesses to choose the right product mix and the best market(s) to promote these and is thus considered an essential prerequisite for their success and growth in the chemical distribution industry.

Another factor of great importance to the success of UK small chemical distributors is the Prior Work Experience and Management Skills of the owner/manager. Any prior relevant work and industry experience, management know-how, product and market knowledge, training and qualifications of the owner/manager is deemed beneficial to small businesses and contributory to their success.

In relation to the prior work experience and management skills of the owner/manager, Human Capital (HC) is also identified as an important success factor for SMEs in the UK chemical distribution industry. A firm's employees, including the skills, knowledge, training, experience that they add to the business, are considered a critical resource in the achievement and maintenance of growth. The ability of a firm to attract, develop and retain skilled and capable employees positively affects growth and help the business maintain a growth-oriented strategy.

Success for SMEs in the UK chemical distribution industry is significantly affected by the Economic Environment they operate in. Access to finance and the availability of financial resources though banks and private investors are considered critical not only for the smooth operation of a small business but most importantly for fuelling new growth. Small businesses operating in times of recession find it difficult to secure finance as lenders are reluctant to lend due to high level of uncertainty, low levels of collateral and inability to assess the risk of their investment.

Small businesses operating in the UK chemical distribution industry need to have a strong, focused, forward looking strategy to thrive. Strategic Planning is considered a very important factor in the success of SMEs by addressing current and future challenges such as achieving growth, acquisition planning, succession planning, supplier management, anticipating and responding to new market trends.

To further investigate the nature of the critical success factors (CSFs) for SMEs in the UK chemical distribution industry and facilitate the collection of richer data, qualitative in nature, this study classifies all variables of business success into one of three categories: factors relating to the entrepreneur/individual (entrepreneurial), factors relating to the firm (enterprise) and factors relating to the business environment. This is in agreement with business literature (i.e. Cragg and King, 1988; Rutherford *et al.*, 2001; Gibb, 2000, Simpson *et al.*, 2012). The entrepreneurial factors include those variables which are specifically related to the owner/manager of the SMEs. The enterprise factors are considered as any factors affecting the business such as the structural characteristics and strategies of the firm. The business environment factors are distinguished into political, economic, socio-cultural, technological, legal and environmental, which is in line with the PESTLE analysis framework.

Each of the above three categories - entrepreneurial, enterprise and business environment - is further investigated and each one of them is separately addressed in the questionnaire. Respondents are asked to score the success factors provided and then select the most important factor in each category and provide, if possible, a justification for their selection. That further reinforces the quantitative data by introducing a further element of factorisation and at the same time produced some richer, more explanatory qualitative data.

5.4.3 Entrepreneurial Factors

In order to identify the most important Entrepreneurial success factors for SMEs in the UK chemical distribution industry, non-parametric statistics are used to rank the data on external factors

influencing SMEs success. Success factors, as perceived by the respondents, are ranked using the Kruskal-Wallis test of variance further supported by the median and mode values which are also reported. The following table presents the Kruskal-Wallis mean rank, median and mode for each of the investigated Entrepreneurial success factors for small businesses in the UK chemical distribution industry, in descending order of importance.

Table 5.5: Entrepreneurial Success Factors Analysis (Kruskal Wallis Test, Median, Mode)

Entrepreneurial Factors	Kruskal-Wallis Mean Rank	Median	Mode
Entrepreneurial Orientation	2035.51	5.00	5.00
Prior Work Experience and Management Skills	1811.82	5.00	5.00
Personality	1473.43	4.00	4.00
Education	1127.47	4.00	4.00
Age	366.61	2.00	2.00
Gender	238.77	2.00	2.00

Owners/managers in the UK chemical distribution industry are further asked to identify the most important entrepreneurial factor and provide a justification for their selection. This introduces a further element of factorisation in order to support the selection of the most critical success factors. The following table presents the frequency analysis for the entrepreneurial factors.

Table 5.6: Frequency Analysis Entrepreneurial factors

Entrepreneurial Factors	Frequency	Percent %
Entrepreneurial Orientation	66	55.9
Prior Work Experience and Management Skills	43	36.4
Personality	9	7.6

Based on the results of the Kruskal-Wallis test and the frequency analysis, Entrepreneurial Orientation and Prior Work Experience and Management skills are identified as the most important entrepreneurial success factors for SMEs in the UK chemical distribution industry and are thus considered critical. These factors and their importance are further investigated through the collection of qualitative data from the respondents.

5.4.3.1 Entrepreneurial Orientation

Owners/managers identify Entrepreneurial Orientation - EO referring to the decision-making styles, practices, processes and behaviours that lead to entry into new or established markets with new or existing goods or services as per Lumpkin and Dess, (1996)- as one of the most critical factors in the success of SMEs in the UK chemical distribution market. There is a general agreement with

55.9% of the total population (66 out of 118) arguing that EO is an antecedent of business success that provides a small business with a significant competitive advantage and has an overall positive effect on the performance of the firm. This conclusion is consistent with business literature where EO is identified as one of the main drivers of growth in small businesses and a prerequisite to achieve a sustainable competitive advantage and business excellence (Balkenende, 2007; Dalmeijer, 2009; Islam *et al.*, 2011; Kraus *et al.*, 2011; Mitchelmore and Rowley, 2010; Rauch *et al.*, 2009). In fact, a positive relationship between EO and performance has long been established in empirical research (Collins, 2001; Covin and Slevin, 1991; Lumpkin and Dess, 1996; Wiklund and Shepherd, 2004 and 2005; Zahra, 1991). Many authors also report lack of entrepreneurial orientation and attributes as reasons for business failure (Bates, 2005; Franco and Hasse, 2009; Kazooba, 2006; Ramana *et al.*, 2008).

Most importantly, the vast majority of respondents (50%, 59 out of the 118) comment that the EO does not only concern the birth of a business venture (self-employment and business start-ups) but it affect a business throughout its life. Therefore, it is a firm-level phenomenon and as such very much relevant to all the managers and employees in a company. This is in line with literature where entrepreneurship is not only linked to the start-up of new firms but is rather accepted as a phenomenon affecting all levels of organisations at all times and thus concerning all managerial levels (Altinay, 2005; Bonet *et al.*, 2011; Kuratko *et al.*, 2005; McClelland, 1961; Reynolds, 1991).

Regarding the effect of Entrepreneurial Orientation on new business ventures, the views of the respondents are very clear: *'EO is the beginning of all'* (R26); *'...it is the fuel to start any new business'* (R47); *'EO is the foundation of any new business venture and the fuel to sustain it'* (R116); *'...it is having the courage to take the first step'* (R69). EO is seen as the single most important and influential factor in starting up a new business in the UK chemical distribution industry with 48 respondents out of the total population of 118 (40%) arguing this case. Taking into account that EO refers to the decision-making styles, practices, processes and behaviours that lead to entry into new or established markets with new or existing goods or services (Lumpkin and Dess, 1996; Wiklund and Shepherd, 2003; Walter *et al.*, 2006), the fact that it is considered such an important influencing factor to small business success in the specific industry is fully substantiated. In fact, many respondents (35 in number, 30%) comment that prior work experience, skills and expertise - even though they are also invaluable in business success - are not sufficient for a successful start-up without the presence of an entrepreneurial spirit. In other words, *'...skills and expertise will only take you so far... you have got to want to do it...'* (R84); *'...you have to have the willingness to go out there, create a business and follow it through...'* (R96); *'EO is all about acting upon your eureka moment...'* (R101). Similarly, literature on

entrepreneurial success emphasizes the role of entrepreneurial orientation as the primary factor for the success of start-ups (Ramana *et al.*, 2008). Rose *et al.* (2006) argue that entrepreneurs with high personal initiative naturally overcome difficulties, continuously improve enhance their management and operation skills and are open to further learning and development opportunities. Dobbs and Hamilton (2007) offer further support arguing that the owner's motivation for starting and running a business affects the growth of their firm. In fact, several authors conclude that a business which is set up to exploit an opportunity in the market is expected to have a high propensity to grow (Barth, 2004; Hamilton and Lawrence, 2001; Smallbone *et al.*, 1995; Smallbone and Wyer, 2000).

Apart from being a prerequisite of success for new business ventures, Entrepreneurial Orientation is also considered a firm-level phenomenon, with many owners/managers arguing that it is relevant to all managers in a company (36 respondents out of 118, 30.5%). Further supporting this argument, Andersson and Tell (2009), in their review of earlier research, conclude that there is a positive relationship between managerial intention to grow - through entering new and existing markets utilising new and existing products - and small business growth. Many researchers also report a positive relationship between managers' aspiration and commitment to expand their business activities and firms' actual growth (Heinonen *et al.*, 2004; Rose *et al.*, 2006; Smallbone *et al.*, 1995; Wiklund and Shephard, 2003). Business literature further supports the findings that entrepreneurs with clear and broad business ideas, growth-oriented visions and specific growth objectives are indeed successful (Barringer and Jones, 2004; Duchesneau and Gartner, 1990; Smallbone *et al.*, 1995).

Wang (2008) argues that the entrepreneurial spirit needs to be shared at different levels within the firm and to that end, developing a shared vision is particularly important. In fact, many owners/managers (32 out of 118, 27%) express the view that all businesses, irrelevant of their size, need a vision in place communicating its objectives. This is needed to give them a strong sense of purpose and direction and act as a point of reference for any activity. They further argue that the company's vision, which is normally expressed through a mission statement, needs to originate from the owner/entrepreneur and is seen as critical in the success of the firm. '*Without a purpose, the business will wither and die*' (R32); '*...Lack of drive will lead your business into stagnation*' (R57); '*vision is essential to keep business going*' (R45); '*without a point of reference, your business will drift to failure*' (R79) are some of the more distinctive quotes reflecting the views of the respondents.

Several owners/managers (26 respondents, 22% of the population) also highlight a number of personal traits and characteristics a successful entrepreneur is expected to have, further supporting

the argument that entrepreneurial characteristics affect business success (Bonet *et al.*, 2011; Kristiansen *et al.*, 2003; Yusuf, 1995). First of all, the aspiration and commitment to achieve superior performance, capital accumulation and business growth are mentioned. The willingness - drive - motivation of the owner/manager to succeed is considered by many respondents as the 'soul' of the business, without which the company would never survive in the long term. In the words of R115 '*...the stronger the (entrepreneurial) spirit and more active (the owner/manager), the better chances you have to succeed*'. Further supporting, R41 argues that '*...by far the most important factor of a successful SMES is the 'get up and go' factor*'. Innovativeness, proactiveness and risk-taking are also among the most important entrepreneurial characteristic mentioned. A successful entrepreneur is seen as a source of innovation and fresh ideas to the business - '*...thinking outside the box*' (R3); '*being restless and inquisitive*' (R62) - being able to understand and capitalise on future market trends and with an element of risk taking. Being sharp and reacting with speed and decisiveness are also identified as distinctive personality traits. Similar entrepreneurial traits and attitudes are identified in the business literature. According to Bonet *et al.* (2011) successful entrepreneurs exhibit certain psychological, sociological and personal qualities. The most important entrepreneurial characteristics identified in the business literature are innovativeness, proactiveness, risk-taking, creativity, a need for achievement, adaptability, tolerance of ambiguity, resistance to change, reflectiveness, impulsiveness, a motivation to create growth, an independent spirit allowing freedom, autonomy, a capacity to learn, high capacity for anticipating opportunities and action orientation after failure (Andersson and Tell, 2009; Brockhaus and Horwitz, 1986; Chell *et al.*, 1991; Guzman and Santos, 2001; Halikias and Panayotopoulou, 2003; Hsieh and Yen, 2005; Korunak *et al.* 2010; McClelland, 1961; Rauch and Frese, 2007; Remy and Kopel, 2002; Stearns and Hills, 1996; Wiklund, 1999; Yang, 2008).

Several owners/managers (22 participants, 19%) also recognise the fact that developing a small business and making it successful requires periods of review, reflection and change of direction. As a result, maintaining a flexible entrepreneurial orientation is considered vital in generating new business ideas required to keep the businesses developing and growing. This finding is also reflected in the definition of EO in the business literature, where EO refers to the decision-making styles, practices, processes and behaviours that lead to entry into new or established markets with new or existing goods or services (Lumpkin and Dess, 1996; Wiklund and Shepherd, 2003; Walter *et al.*, 2006). In addition, many respondents (19 respondents, 16%) argue that the entrepreneurial orientation of the owner/manager enables the right types of innovation and entrepreneurial activities in the company thus facilitating product development and new market entry. In other words, respondents believe that entrepreneurially oriented firms are more likely to venture into new or existing markets,

with innovations that are based on new or existing products and services: *'EO will open up new markets for existing products or new products for existing markets..'* (R39); *'EO will generate more 'blue sky' ideas'* (R108). This finding is consistent with the view that entrepreneurial orientation is positively associated with opportunity recognition and alertness and high performing, entrepreneurial-oriented firms are found to be successful in exploiting new business opportunities and developing new products (Islam *et al.*, 2011; Kraus *et al.*, 2012; Shane, 2000). Shane (2000) also argues that entrepreneurially oriented managers discover business opportunities mainly by recognising them rather than searching for them.

A number of owners/managers (22 participants, 19%) also view EO as a means to identify and exploit the right opportunities subsequently driving the business forward. In addition, the view that entrepreneurially oriented owners/managers are able to recognise threats and opportunities in order to make sure that the firm continues to exist in the future, is also expressed by 12 participants. This is consistent with Kraus' *et al.* (2011) findings, who argue that entrepreneurially oriented companies maintain and even improve business performance under conditions of high market turbulence because they possess the ability to react to the constant shifts taking place in the environment by exploring and exploiting new opportunities. In contrast, firms without an entrepreneurial orientation do not benefit from changing market conditions as they lack the ability to reconfigure their resources and knowledge (Atuahene-Gima and Ko, 2001; Kraus *et al.*, 2011; Wiklund and Shepherd, 2005).

Inevitably, respondents identify a strong relationship between EO and the longevity and long-term performance of the business: *'EO can deliver sustainable growth'* (R73); *'EO enables correct prioritising of enterprise related areas'* (R107); *'...it has all to do with the ability to innovate to meet emerging opportunities and threats'* (R29). Business literature further supports that entrepreneurial orientation is an antecedent of growth and sustainable competitive advantage for enterprises, especially when operating in rapidly changing, competitive and 'hostile' environments (Antoncic and Hisrich, 2001; Chandler *et al.*, 2000; Covin and Slevin, 1989; Kraus *et al.*, 2011; Zahra and Covin, 1995). At the same time, owners/managers comment that maintaining an entrepreneurial outlook also means gaining a better understanding of the market and prevailing trends, being able to anticipate changes and responding to them, thus further contributing positively to business longevity. In agreement, many authors conclude that EO drives exploration within a firm and allows the reconfiguration of resources and knowledge into better product-market solutions to meet anticipated change (Atuahene-Gima and Ko, 2001; Hughes *et al.*, 2007). Similarly, Hughes and Morgan (2007)

argue that proactiveness is a critical activity, not only in the start-up stage but throughout the life of the business.

Following a period of economic recession in the UK (2008 onwards), many respondents (24 out of 118, 20%) comment on the effect and importance of EO during periods of economic decline. '*A good idea is always a good idea despite market conditions*' (R83); '*...thinking outside the box and providing innovative solutions will increase your chances of surviving a recession*' (R91); '*...react quickly and you will survive*' (R116). In fact, 15 respondents (13%) concur that the entrepreneurial orientation of the owners/managers and more specifically their ability to manage uncertainty and tolerate risk while exploring and exploiting new opportunities, positively influences business performance under conditions of high market turbulence. Business literature shows that proactive firm behaviour and focus on innovation positively contributes to SME performance during periods of economic recession (Grewal and Tansuhaj, 2001; Kraus *et al.*, 2011; Lin and Carley, 2001).

Overall, Entrepreneurial Orientation (EO) is identified as one of the most critical factors for SMEs operating in the UK chemical distribution industry. The findings of this study further reinforce the existing business literature recognising EO as a firm level phenomenon impacting on business success, growth and longevity. A number of recommendations are made on the above findings.

Small and medium-sized businesses need to develop and maintain a strong entrepreneurial orientation with owners/managers constantly engaging in those decision-making styles, practices, processes and behaviours that lead to entry into new or established markets with new or existing goods or services. Findings strongly suggest that EO incorporates the owner/manager's intention to grow and become successful and are thus critical to new business creation. A need for achievement, the motivation to create growth and a strong sense of purpose and determination are essential elements in business start-ups. Any prospective entrepreneurs need to have clear objectives and an intention to grow and succeed. However, the need for clear business objectives, a focus on growth and strong initiative to drive the business forward are not only prerequisites for success at the start-up period but are to be maintained throughout the life of the business.

Based on the findings and acknowledging the fact that certain personality characteristics are inherent and can only be developed up to a certain level, owners/managers are strongly encouraged to develop their innovativeness, proactiveness and risk taking characteristics. Embracing innovation, being proactive and learning proactively from crises and difficulties, avoiding high risk projects but

still taking calculated risks, are all vital in new business generation, identification of threats, responding to market changes and achieving sustainable growth.

Similarly, as entrepreneurial orientation concerns and impacts upon the entire organisation from its birth and throughout its life circle, there is a further need for owners/managers, not only to engage themselves but nurture, encourage and support entrepreneurial styles, practises, processes and behaviours amongst all employees on a continuous basis. Top level management 'buy in' and commitment are essential but do not give the desired results unless EO is infused into the company culture and day to day activities. Employees need to be encouraged to think and behave in novel, entrepreneurial ways. Owners/managers should instigate and support innovative, proactive and risk-taking behaviours from their employees to maximise the impact on their business. Formal company processes and practises also need to be developed and established alongside the less informal ways to EO. The provision of adequate training to develop and further support entrepreneurial orientation should also be taken into consideration. Training can be delivered either through formal - for instance, external training courses through consultants, universities or colleges, government organisations etc. - or informal routes - internal training by more experienced and qualified employees.

Therefore, it is obvious that the process of developing an entrepreneurial orientation needs to be properly managed, meaning allocation of time and resources. Considering the fact that SMEs have limited resources than larger companies and less formal management structures, owners/managers need to give serious consideration to finding the right balance between an investment of resources and EO benefits. Similarly, SMEs have to maintain and further enhance their flexibility to cope with the effects of developing EO, especially the ability to reconfigure their resources and knowledge and the ability to react to the constant shifts exploiting opportunities.

Last, it becomes apparent that SMEs need a strong vision in place and subsequently a mission statement reflecting the aims and objectives of the business. This vision needs to be communicated by the owner/manager effectively and to be understood and accepted by all employees to maximise its impact. Regardless of the size of the business and despite the fact that developing a vision and mission statement has been considered in the past an activity relevant to large organisations, establishing common business objectives and focusing on activities that achieve those, positively impacts on SMEs. Of equal importance is the fact that a strong vision and mission statement also needs to reflect the commitment of the owner/manager towards achieving the business goals thus boosting employees' confidence in the business.

5.4.3.2 Prior Work Experience and Management Skills

Owners/managers consider prior working experience and acquired management skills very important in the success of small businesses in the UK chemical distribution and concur that the accumulation of relevant experience and skills brings many benefits to their businesses (43 out of 118 respondents, 36%). Prior work and industry experience, management know-how, product and market knowledge, training and qualifications of the owner/manager are deemed beneficial and contributory to SME success. The body of literature similarly identifies prior management and industry experience as critical success factors for small firms (Bosma *et al.*, 2004; Chawla *et al.*, 1997a; Dobbs and Hamilton, 2007; Franco and Hasse, 2009), with a number of studies arguing that an owner's entrepreneurial experience has a positive influence on business performance (Alfaadhel, 2010; Beam and Carey, 1989; Georgiadis and Pitelis, 2012; Kolvereid, 1996; Singer, 1995; Yusuf, 1995; Wijewardena and Cooray, 1996). In fact, Lussier (1995) and Lussier and Halabi (2010) further argue that businesses managed by people without prior management and industry experience have a greater chance of failure than firms that are managed by people with prior management experience. Lack of general management skills - for instance business and financial planning, marketing, team management and human resource skills - have also been long established as reasons for business failure (Arasti *et al.*, 2012; Beresford and Saunders, 2005; Gaskill *et al.*, 1993; Kazooba, 2006; Ooghe and De Prijcker, 2008).

Many respondents (32%, 38 owners/managers) comment that prior experience in the industry facilitates the generation of new business ventures and increases their chances of success. In fact, 25 owners/managers (21%) report that a number of new business ventures originated from people already working in the industry who, due to their experience and knowledge of the industry, have been able to identify a business gap in the market. Several of the respondents (15 participants, 13%) in this study started their own business on that very principle and have been trading successfully during the time of this study. In their words, experience in the industry '*...helped me identify an opportunity to fill a gap that no one had noticed before...*' (R52) and '*...facilitated the process of generating new, simple and practical business ideas*' (R8). In addition, '*...the more experienced you are, the more opportunities you identify and the easier it becomes to come up with ideas that are missing from the market*' (R90). Prior experience and management skills further allow the building up of extensive market and customer knowledge that is used to start up and sustain a new business venture. In simple terms, the argument that owners/managers put forward (38 in total, 32%), is that prior experience and skills (entrepreneurial and general management) enhance entrepreneurial activity, stimulate the formation of new business ventures and increase chances of survival in this

industry. This finding is in line with a number of prior studies reporting that individuals with prior entrepreneurial experience have significantly higher entrepreneurial intentions than those without such experience and thus instigating business start-ups (Alfaadhel, 2010; Islam *et al.*, 2011; Ramana *et al.*, 2008). Business literature further supports the argument that businesses which have been set up to exploit an opportunity in the market are expected to have a high propensity to grow and be successful (Barth, 2004; Hamilton and Lawrence, 2001; Smallbone *et al.*, 1995; Smallbone and Wyrer, 2000).

Apart from the generation of new business ideas and subsequent start-ups, prior skills and experience are also seen as '*...the foundations to build upon and succeed*' (R114). According to the respondents (32% of the population), much of the success of small businesses in the chemical distribution industry has been the consequence of the experience and managerial skills of the senior management. In fact, 15% of the respondents comment that the impact of human factor in smaller businesses is more significant than in larger businesses, meaning that even one senior level manager can have a significant influence on the business and its success: '*...give the management of your company to the wrong person and you are guaranteed failure...*' (R46). As such, the management skills of the senior management team are also considered influential on the success of SMEs in this industry. Literature supports efficient management being the key to success (Ghosh *et al.*, 2001; Man *et al.*, 2002; Okpara and Wynn, 2007; Steiner and Solem, 1988) and lack of or poor management skills a major cause of business failure (Bauer, 2003; Bruno *et al.*, 1987; Gaskill *et al.*, 1993; Zacharakis *et al.*, 1999).

Another aspect of prior experience as identified by owners/managers is that of business networks, contacts and connections. There is general agreement (30% of respondents) that the use of business contacts – '*...people that you have met in your professional life and have developed a good relationship on a business or even personal level*' (R71 and R56) - further instigates and/or facilitates new business venture creation. In fact, several respondents (10% of population) report using old business contacts as business partners when starting up. Combining that with prior knowledge of products, markets, customers and their needs provides a solid basis upon which one can build a successful business that survives and prospers in the long term. The body of research similarly identifies the positive effect of business networking on SMEs success and longevity (Baum and Locke, 2004; Chrisman and McMullan, 2004; Ciavarella *et al.*, 2004; Frank *et al.*, 2007; Korunka *et al.*, 2004) and further highlights the importance of networking to new venture creation (Baron and Markman, 2003; DeCarolis *et al.*, 2009; DeCarolis and Saparito, 2006; Liao and Welsch, 2005). Davidsson and

Honig (2003) and Littunen (2000) further support that business networks has a bridging function to the environment and attenuates unfavourable environmental influences on business development, thus having a positive effect on survival.

In addition, respondents (15 owners/managers, 13%) argue that anything from formal arrangements (i.e. joint ventures, alliances and distribution agreements) to informal networking (i.e. business clusters, business incubators, entrepreneurship clubs) benefits the business by providing access to business ideas, resources, knowledge and capital while reducing risks. This is in line with Lettice and Jan (2004), who suggest that networks provide small companies with a competitive advantage due to resource and knowledge sharing, and with Bhatti and Kumar (2012) who argue that networking helps SMEs identify better market opportunities.

A number of respondents (10 in total, 8.5%) also indicate that a long presence in the industry also '*boosts*' a person's credibility when dealing with other companies and financial institutions and could potentially '*...open doors...*' (R69) and generates new opportunities. Many authors argue that experienced owners/managers are more familiar with suppliers, clients and market deals, have an established network of industry contacts and are thus more capable of helping the business take-off faster due to their market contacts (DeCarolis *et al.*, 2009; Kolveried and Isaksen, 2006; Lazear, 2004; Neiman *et al.*, 2003; Storey *et al.*, 1989; Shepherd *et al.*, 2003).

There is a general agreement (40 respondents, 34%) that small chemical distributors operate in a very complex environment and have to face many challenges on a daily basis. Regulatory pressures (compliance and costs), product sourcing, logistics, human resource management among others, inevitably create the need for '*...experienced people to lead the business and make it grow*' (R75). Experience incorporates a good understanding of the business and the industry, knowledge of the products and their applications, raw materials, regulatory requirements but most importantly '*...an educated view on future trends*' (R85). '*Being able to anticipate changes in the market and following future trends are critical to the survival of small businesses*' (R100). Owners/managers with a solid outlook for the future can '*...steer the company in the right direction and capitalise on new markets and applications*' (R35). Many authors express the view that owners/managers with experience in the same industry as their business are more capable in understanding the subtleties of their respective business environments and coping with their challenges (Dobbs and Hamilton, 2007; Lussier and Halabi, 2010; Lussier and Pfeifer, 2001). Eacott (2014) and Flavell-While (2012) further argue that the chemical distribution industry requires high levels of expertise, a deep knowledge of the current

legislation and an understanding of future trends. Whyte (2012) also stresses the need for good management skills and careful handlings on behalf of the owners/managers so as to cope effectively with the regulatory requirements and financial impact of REACH compliance on their businesses.

Last, prior experience is also considered invaluable in shaping the strategy of the business and *'avoiding costly mistakes'* (R34). A good understanding of business systems and people management is important as it improve efficiency and *'...leads to better coverage of customer needs, which is the reason why a business exists in the first place'* (R66). The general feeling as expressed by 35 respondents, (30%) is that 'seasoned' senior managers are more likely to avoid common pitfalls, guide the company through difficult times and recognise the threats and opportunities in the environment in order to make sure that the firm continues to exist in the future. This finding is further supported by a number of studies where management 'know-how' and experience facilitate the adoption of better strategies or management methods (Amaral and Baptista, 2007; Cooper *et al.*, 1994; Ryan and Power, 2009; Gray and Gray, 1989; Van Teeffelen and Uhlaner, 2013). Storey (1998) argue that management 'know-how' also includes the willingness of the owner/manager to delegate responsibilities and decision making to non-owning managers; an element that, in turn, affects the success of a business.

Concluding, prior relevant experience and management skills are highlighted as critical factors in the success of SMEs in the UK chemical distribution industry and identified as invaluable assets not only in the 'birth' of a business venture but throughout its life. The findings of this study support that experience and skills facilitate the generation of new business ventures and increase their chances of survival, improve SMEs efficiency, shape their strategy, help them identify threats and opportunities and cope with the industry's complex environment and challenges. On the basis of these findings, several conclusions are drawn and a number of recommendations are made to achieve success and growth in the UK chemical distribution industry.

First of all, SMEs need to capitalise on the experience and acquired skills of their owners/managers. Management know-how, prior product, market and industry knowledge, training and qualifications should be utilised to the fullest and to the benefit of the business. Owners/managers need to bring in their experience, knowledge and skills to manage their business and increase their chances of survival and success. The accumulated wealth of experience and knowledge in markets, products and applications should also be utilised to identify new business opportunities as a route to sustainable growth. These opportunities can either be in the same market

- thus it is a matter of simply adjusting the company's offering to cover the gap - or in relevant markets, which leads to the formation of new ventures and potentially creates a fertile environment for portfolio entrepreneurship in the industry. This means that owners and entrepreneurs can be involved in a number of ventures, which, according to Rosa (1999) and Smallbone and Wyr (2000) is further associated with sustainable growth and success in SMEs.

Furthermore, due to the nature of small businesses where only a few people can have a significant impact on performance and success, it becomes imperative that owners/managers pass on their experience, knowledge and transferable skills to other senior employees. At this point, a distinction should be made between micro - small and medium size businesses as the first rely more heavily on individuals and have limited human resources while the latter have a management structure in place hence the impact of single individuals could be considered minimal. In the case of micro and small firms, owners/managers should assume responsibility and take a more active role in passing on any relevant experience, knowledge and skills through informal and/or formal ways to their employees. A further complication for micro and small businesses is the lack of time on the owner/manager's side and lack of company resources, usually financial, that inevitably restricts the provision of informal internal training and professional development. However, regardless of the size of the business, owners/managers should commit to personnel development, consider the provision of formal training from external companies or government programmes and invest accordingly. A strong commitment into personal and professional development is essential for sustainable growth. Management skills, product and market specific training, professional and academic qualifications through internal and external sources should be taken into consideration to increase employee's skills and maximise their impact on the business. This further highlights the need for owners/managers to be up to date with market requirements, trends and challenges and develop their own existing skills and acquire new ones.

Owners/managers should also utilise and further develop business networks and contacts as such networking activities offer a multitude of advantages to their businesses. Business networks stimulate business activity through the identification of new opportunities, new suppliers and distribution agreements, acquisition opportunities and further instigate the creation of new ventures. SMEs in the UK chemical distribution industry, especially micro and small businesses with limited resources, are strongly advised to utilise every available business networking channel, engage in formal and informal networking and seek advice again in both formal and informal ways. To that end, owners/managers are urged to participate in any type of joint ventures, alliances, collaborations and

formal distribution agreements that would benefit their business; be members of or keep in contact with industry specific organisations such as The European Federation of Chemical distributors (FECC), The UK Chemical Business Association (CBA), the British Association of Chemical Specialties (BACS); work closely with government support organisations such as the Chamber of Commerce and UK Trade and Investment (UKTI) and any other type of business advisors and/or support personnel working with SMEs owners to improve their business for example business consultants, advisors, accountants, solicitors. Similarly, time spent engaging in informal networking, such as participating in industry specific conferences, business clusters, business incubators, university hubs and platforms, entrepreneurship clubs needs to be considered an investment and not a cost. Last, small business owners/managers should also consider utilising informal sources of advice such as business friends, customers and suppliers that can contribute at no financial cost.

5.4.4 Enterprise Factors

In order to identify the most important/critical Enterprise success factors for SMEs in the UK chemical distribution industry, non-parametric statistics are used to rank the data on external factors influencing SMEs success. Success factors, as perceived by the respondents, are ranked using the Kruskal-Wallis test of variance further supported by the median and mode values which were also reported. The following table presents the Kruskal-Wallis mean rank, median and mode for each of the investigated Enterprise success factors for small businesses in the UK chemical distribution industry, in descending order of importance.

Table 5.7: Enterprise Success Factors Analysis (Kruskal Wallis Test, Median, Mode)

Enterprise Factors	Kruskal Wallis Mean Rank	Median	Mode
Customer Relations Management	2028.42	5.00	5.00
Market and Product Development	1937.76	5.00	5.00
Human Capital	1800.58	5.00	5.00
Strategic Planning	1642.97	4.00	4.00
Business Networks	1555.43	4.00	4.00
Financial Resources	1492.30	4.00	4.00
Marketing	1117.29	4.00	3.00
Internationalisation	1063.14	3.50	3.00
Enterprise Size	397.19	2.00	2.00
Enterprise Age	386.15	2.00	2.00

Owners/managers in the UK chemical distribution industry are further asked to identify the most important enterprise factor and provide a justification for their selection. This introduces a

further element of factorisation in order to support the selection of the most critical success factors. The following table shows the frequency analysis for the enterprise factors.

Table 5.8: Frequency Analysis Enterprise factors

Enterprise Factors	Frequency	Percent %
Customer Relations Management	45	38.1
Market and Product Development	33	28.0
Human Capital	16	13.6
Strategic Planning	14	11.9
Business Networks	5	4.2
Financial Resources	3	2.5
Internationalisation	2	1.7

Based on the results of the Kruskal-Wallis test and the frequency analysis, Customer Relations Management, Market and Product development, Human Capital and Strategic Planning are identified as the most important enterprise success factors for SMEs in the UK chemical distribution industry and are thus considered critical. These factors and their importance are further investigated through the collection of qualitative data from the participating owners/managers.

5.4.4.1 Customer Relations Management

Owners/managers consider Customer Relations Management (CRM) one of the most important factors and the cornerstone of business success for SMEs in the chemical distribution industry. *'Customers are top priority; no sales, no company'* (R10); *'Customers are the life blood for any business'* (R69); *'...no customers no business...'* (R23); *'(customer service) is the cornerstone of any business...even if you do everything right, if you have no customers you fail...'* (R81); *'Customers are vital to small businesses'* (R54); *'Customer service should be a philosophy, part of your culture, it needs to be an integral part of your company'* (R35) are a few of the most characteristic statements from respondents on the importance of CRM. Indeed, many authors similarly argue that providing excellent service (BCG, 2013; Chemagility, 2008; Hornke, 2012), maintaining good relationships (Ghosh and Kwan, 1996; Reijonen and Komppula, 2007; Slater and Narver, 1994) and continuously delivering superior value to customers (Chang, 2013; Koy *et al.*, 2007) are catalysts in SMEs success. In fact, a number of studies conclude that it is their closeness to customers that provides SMEs with their unique competitive advantage (Carson *et al.*, 1995; O'Dwyer *et al.*, 2009; Zontanos and Anderson, 2004).

Customer Relations Management is viewed as the overall activity of identifying and satisfying customer needs where small businesses ‘... have to understand needs and satisfy them, increase interaction (with customers) and provide an overall positive experience: sales-marketing-customer support-service...’ (R99); ‘...it is our objective to understand our customer requirements and expectations in order to successfully deliver product, services and solutions as requested’ (R118). In fact, many owners/managers (40 respondents, 34%) rightly highlight the fact that chemical distributors do not manufacture any products and as a result, success is dependent upon providing excellent service and customer care. The importance of customer relations management is further stressed by the fact that many of the larger SMEs include CRM in their mission statements: ‘We aim to deliver excellent service to our clients’ (R42); ‘We establish partnerships with our customers by investing in our relationships’ (R61); ‘Our aim is to satisfy our customer needs’ (R22); ‘Our company aims to develop and maintain strong relationships with our customers’ (R1). Business literature also supports that SMEs success is dependent upon ascertaining customer’s needs and wants and then producing quality products and services that satisfies these while creating and maintaining long-term relationships (Berthon *et al.*, 1999; Reijonen and Komppula, 2007). A number of studies into the chemical distribution market similarly argue that satisfying customer needs and offering a good service and expanding one’s services is the cornerstone of success for chemical distributors (BCG, 2013; Chemagility, 2008; Dstriconsult, 2012 and 2011; Hornke, 2012).

Many respondents (34% in total) express the view that understanding the importance of good customer service is essential for a healthy business in creating new customers, keeping loyal customers and developing referrals for future customers. This strongly suggests that CRM does not only involve maintaining customers for a small business but also adding new ones as a result of good service. In fact, many owners/managers (35 in total) recognise the importance of creating long-term customer relationships ‘...through trust, transparency and exceptional service...’ (R15). Further supporting this, there is general agreement that customer relations management is important to any organization -even more for small businesses with fewer resources- because it is often the only contact a customer has with that company with 40% of the respondents concurring. For longer established businesses - which applies in the case of UK small chemical distributors as the majority of them have been established for over 10 years - maintaining business is crucial. According to 25% of the respondents, repeat business is the key to long term success and sustainable growth as the majority of their growth is coming through covering existing customer needs: ‘Repeat business is the key to growing your business and guarantees longevity’ (R82); ‘...look after your customers and they will look after you in the long term...’ (R11); ‘A satisfied customer will keep on buying’ (R2). It is recognised that

every business needs a solid base of loyal, satisfied customers to grow and that chemical distributions is all about '*...building long term relationships with customers covering their current and future needs and growing with them*' (R112). Without a doubt, good service - '*...going the extra mile, when helping customers choose the right product or service or answer their questions*' (R70) - establishes good will which eventually leads to loyal customers. The majority of the respondents concur (40 respondents out of the 45 that identified CRM as the most important enterprise factor, 34% of population) that excellent customer service is more likely to lead to repeat business from customers while companies with poor customer service may lose customers, which has a negative impact on business. The fact that the cost of acquiring new customers is considerably higher than retaining them and that any efforts into maintaining quality customer service '*...pay dividends over time...*' (R30) is also recognised. In the words of R39, '*...we do not have turnover or cut costs on customer service*'. Similarly, Harrigan *et al.* (2011) argue that traditional CRM, if employed strategically, builds customer loyalty and leads to increased sales. Islam *et al.* (2011) and Philip (2011) further support that CRM adoption is critical in SMEs success and through repeat business sustainable growth is achieved. Hyvonen and Tuominen (2005) also report that strong relationships with customers and supply chain partners are key determinants of successful economic performance. In fact, it becomes of great importance for chemical distributors to build up a trusting atmosphere and a close long term relationship with their customers to get problems solved and challenges managed to ensure long term growth (Chemanager, 2012 and 2013).

CRM also positively influences company reputation with regards to the quality of products and service, potentially leading to referrals and new business: '*Good customer service and product quality can be a source of promotion*' (R17); '*People that had a positive experience with your service will tell others about it*' (R103); '*A satisfied customer will put in a good word for you*' (R96); '*Supplying good quality of products, will increase your reliability as a supplier*' (R56). Many authors recognise quality as a very important success factor in small businesses (Hitt and Ireland, 2000; Reijonen and Komppula, 2007; Wijewardena and Cooray, 1996; Wiklund, 1998) and even more so in the chemical distribution industry (Chemagility, 2008; Keynote, 2011). Further supporting this finding, McCormack (1989) argues that a commitment to quality is the only absolute competitive edge in a small business.

Similarly, a number of owners/managers also view CRM as a Unique Selling point (USP) for their businesses and a means of differentiation from the competition (20 respondents, 17% of population). In their opinion, smaller businesses offering good service differentiate themselves from larger distributors, where contact is more impersonal and response times are much slower due to the sheer size of the organisations, business model (i.e. use of call centres, many layers of management)

and bureaucracy. In fact, a few respondents (10 in number) further comment that small chemical distributors need to strive towards customer excellence and satisfaction as this is the main distinction with larger organisations. This finding is in line with the body of literature where CRM is accepted as a means for SMEs to survive in the global markets and compete effectively against larger competitors (Alshawi *et al.*, 2011; Chen and Ching, 2007; Harrigan *et al.*, 2011; Jayachandran *et al.*, 2005; Ramdani *et al.*, 2009). Many authors recognise the fact that it is the closeness of SMEs to their customers that often provides them with their unique competitive advantage (Carson *et al.*, 1995; O'Dwyer *et al.*, 2009; Zontanos and Anderson, 2004) and even though personal networking and face-to-face interactions are costly and labour-intensive strategies, they are considered very effective in bringing SMEs closer to their customers (Gilmore *et al.*, 2006; Ritchie and Brindley, 2005).

Last, there is also a brief mention to the suppliers of chemical distributors, manufacturers in their majority. A few owners/managers (8 in total) express the view that customer relations management extends to include supplier management as well. Chemical manufacturers are considered extremely important for distribution companies as they are their source of products with 20 respondents arguing the case. As such, they need to be treated '*...like your best customers*' (R21) being the ones that ultimately decide who markets their products. The importance of suppliers and the need to provide them with good service are equally recognised by many authors (Bridge *et al.*, 2003; Chemanager, 2012 and 2013; Fermont, 2007; Foerstl *et al.*, 2010; Hyvonen and Tuominen, 2005; Research and Markets, 2013).

Overall, the findings of this study stresses the need for SMEs in the UK chemical distribution industry to adopt Customer Relations Management practices in order to achieve long term, sustainable growth. SMEs need to look after their customers, maintain strong and long term relationships with them while continuously striving to identify and satisfy their needs. Repeat business is crucial for small businesses as a healthy base of customers is essential to their survival. CRM should be an integral part of the company aims and philosophy and owners/managers need to demonstrate a strong commitment to service and products either in a formal (through mission statement, planning, strategy, processes etc.) or informal way (through vision, culture, informal communications, personal involvement and zeal etc.). In fact, it is up to the owner/manager to maintain a clear vision of how customer relationships should be managed, identify key customer relationships, their preferred points of contact within the company and record relevant information around the ongoing interactions in the relationship. For smaller businesses (micro), this process can be more informal as the amount of information is managed by the owner/manager but the more the company grows (small to medium) the more there is a need for a more structured approach to CRM.

SMEs in the UK chemical distribution industry are thus strongly advised to adopt a structured approach to Customer Relationship Management and utilise more sophisticated electronic CRM systems (e-CRM) mainly with the intention to analyse customer and market data. However, it is recommended that dedicated CRM software solutions should be avoided as they are more complicated in nature and tend to provide more large-firm oriented services, so they may not be of benefit to smaller business. Therefore, SMEs should consider e-CRM as a unique set of technological tools to improve existing customer relationships wherever possible, rather than a generic 'packaged' solution. This technology also requires less staff training. In more detail, internet technologies should be employed to improve the effectiveness and efficiency of the marketing activities. SMEs should explore the possibilities of using websites, e-mail, and database technology to facilitate CRM. The use of simple e-mail and spreadsheet software would also permit the unique and specific requirements of small businesses to be realised. Therefore, software such as Microsoft Outlook, Excel, and Access are highly recommended, particularly for smaller SMEs or early-stage e-CRM implementers. SMEs are further advised to utilise even relatively simple database technology to record customer information attained through transactions or ongoing dialogue. It would also be a worthwhile exercise for owners/managers to work out the value of different customers and communicate with them on that basis. This would have the potential to improve the loyalty of the most important customers. Despite the obvious benefits of e-CRM systems (improving the effectiveness and efficiency of communication with customers, increasing personalisation of customer relationships, increase in sales, international sales and higher profitability) there are many factors affecting their adoption in SMEs that will need to be taken under careful consideration when implementing. For instance employees ICT skills and further training required, required ICT infrastructure, available support and funding, compatibility with business objectives, suppliers and implementation costs need to be addressed.

This study further highlights a significant 'disadvantage' that chemical distributors have against manufacturing companies; the fact that they do not produce any products but only offer services to the industry. As a result, success becomes dependent upon providing excellent service and care throughout the supply chain to both customers and suppliers. Suppliers should be seen as an integral part of a small business -and its success- and as such, they need to be incorporated in the CRM process. This is more the case for smaller distribution companies that find themselves more dependent on their suppliers and larger customers. Of equal importance is the fact that manufacturing companies are the source of product innovation as they are the ones with capabilities to develop and modify products. Innovation is a key strategic dimension in small business success in the chemical

industry as innovative products provide added value to the customer and are important in achieving a suitable balance between product quality and costs. As a result, SMEs should develop and nurture strong, long term relationships with their suppliers not only to guarantee security of their supply but also to capitalise on their innovation capabilities. In fact, SMEs in the UK chemical distribution industry are urged to consider any opportunities to become more integrated. Opportunities to forge alliances and joint ventures with new suppliers and work in new regions with their existing suppliers should be sought and acted upon.

SMEs should devote resources (people and time) to build on their unique competitive strength, that is the personal networking and face to face interactions with customers that larger distribution companies cannot match. Owners/managers need to recognise that interpersonal relationships are very important as this is the area where small businesses have the advantage over larger businesses. Being able to talk to people, listen to them, gain information from them, make contacts and meet new people should be utilised to its maximum as it will help SMEs survive and grow. Even more so, in the speciality chemical business where the selling of more complex products is involved, personal contact is a key to sales success. SMEs should stay close to their customer base and suppliers so as to be able to keep in touch with the market and identify future trends. Increased communications with suppliers, participation in exhibitions, trade shows and industry related events as part of the CRM process facilitate the process of identifying new trends and keeping up with innovations.

Last, this study identifies a need for small business owners/managers in chemical distribution to conduct their business in a professional and ethical way so as to build a good reputation in the industry. Taking a more structured approach to CRM would certainly contribute towards that goal.

5.4.4.2 Market and Product Development

Based on the fact that chemical distribution companies do not manufacture products but rather 'trade' them, market and product development (MPD) is viewed as a critical factor in their success with 33 out of 118 respondents (28%) supporting this. The views of the owners/managers are very clear: building up a well balanced portfolio of products and promoting that in the right markets and industries is crucial to the survival and sustainable growth of small businesses in the UK chemical distribution industry. In the words of the respondents: '*...choose your products and markets wisely...*' (R50), '*...it is crucial to offer the right product in the right market...*' (R40), '*...know your market, products, and customers, define your strategy and maximise your position in the market...*' (R4),

'...success will come through a good selection of products and different markets or industries to promote them into...' (R67). This finding is in line with the body of literature where the ability to identify and focus on the right markets and introduce new products are identified as key factors contributing to the success of SMEs (Armario *et al.*, 2008; Avlonitis and Salavou, 2007; Becherer *et al.*, 2003; Dobbs and Hamilton, 2007; Ghosh *et al.*, 2001; Kara *et al.*, 2005; Salavou, 2002; Pelham, 2000, 1999 and 1997; Yasuda, 2005). Owners/managers of this study further support - as per previous studies of Barringer and Jones (2004), Deeds *et al.* (2000), Hornke (2012) and O'Gorman (2001) - that SMEs that are able to develop new products and services in existing markets, enter new markets with existing products and generally broaden their customer base are more likely to be successful (32 individuals, 27%). Hornke (2012) similarly argues that focusing on product categories, industries, and applications provided good prospects to distribution companies.

Many owners/managers (25%, 30 out of 118) comment that one of the biggest challenges for SMEs in the UK chemical distribution industry is to develop a portfolio with chemical products that reflect market demands and trends. In fact, distributors with deep knowledge of local-market demands and trends are expected to excel at category management and thus be highly competitive in the market. Good product knowledge would enable them to select the 'anchor' products of leading suppliers in particular applications and *'...develop a full portfolio of the chemicals needed to dominate related market segments'* (R109). The ability for SMEs to detect and respond to changes in customer preferences has long been found to have a direct and positive relationship with business performance (Del Monte and Papagni, 2003; Ghosh *et al.*, 2001; Pelham and Wilson, 1999; Raju *et al.*, 2011; Smallbone and Wyer, 2000). Similarly, in more recent studies in the area of chemical distribution, choosing the right product portfolio based on customer needs is established as a success factor for chemical distributors (BCG, 2010 and 2013; Chang, 2013; Chemagility, 2008; Chemanager, 2013; Mortelmans and Reniers, 2012).

Owners/managers concur that small chemical distributors need to be highly market-oriented in order to compete effectively with larger organizations (25%, 30 respondents). In fact, the ability to focus on narrow market niches and offer niche, specialised products is seen as an antecedent of business success for small businesses with 25 owners/managers arguing this case. In more detail, they stress the fact that most SMEs in this industry operate in niche markets and offer highly specialised products in an attempt to survive against larger companies and manufacturers: *'...niche markets is the future for small distributors...'* (R3); *'...easier to compete and grow in niche areas...'* (R102); *'...real niche applications are the basis of long term growth...'* (R68); *'...large distributors and manufacturers will*

have difficulty finding these small pockets of business...' (R95). Business literature offers further support reporting that high market orientation, introduction of unique products and product innovation allows SMEs to compete effectively with larger organizations and further facilitates intelligence generation on the market they operate in (Akman and Yilmaz, 2008; Avlonitis and Salavou, 2007; Kelley and Nakosteen, 2005; Littunen and Tohmo, 2003; Mortelmans and Reniers, 2012; North and Smallbone, 2000; Pena, 2002). Chemical industry reports similarly conclude that diversification into a wide range of markets and industries foster growth (MarketLine, 2011; Datamonitor, 2011). Last, many studies report a positive correlation between market orientation (MO), innovation and competitiveness (Akgun *et al.*, 2004; Demirbag *et al.*, 2006; Laforet, 2008 and 2009; Low *et al.*, 2007; Raju *et al.*, 2011; Verhees and Meulenbergh, 2004).

Several owners/managers (25 respondents, 21%) also recognise that small businesses '*...should not stand still in the market place...*' (R29) and concur that a successful company needs to adjust its product proposition and explore new markets. '*You can't rely on your products for too long*' (R44); '*Constantly change your offering to the market*' (R5); '*Competition is catching up*' (R86); '*Many companies start up as one product wonder but that would only take you so far*' (R92) are some of the most characteristic quotes from the respondents. The fact that chemical distribution is a very dynamic and competitive market, '*...where specialty products can easily turn to commodities...*' (R102) and '*...where many companies lose focus over time and end up being overtaken by the competition...*' (R25) further supports the importance of market and product development (MPD) and the need to '*...capitalise on new opportunities if you want to grow...*' (R24). Small chemical distributors need to keep up with current market trends (i.e. personal care requirements, ageing population, increasing disposable income etc.) and changing regulations. As a result, '*...flexibility is essential to be able to change and adapt your product offering based on the market needs...*' (R97). Flexibility, adaptability and closeness to the customer are viewed as a basis for a stronger MPD in this industry with 24 respondents supporting this argument. In support, a number of previous studies identify flexibility, personal contact with customers and the ability to anticipate and respond to market changes as essential prerequisites for SMEs success and growth (Coviello *et al.*, 2000; Dobbs and Hamilton, 2007; O'Gorman, 2001; Eirich, 2004; Sadler-Smith *et al.*, 2001; Smallbone and Wyer, 2000). Storey (1998) further stresses the importance of introducing of new products or services as a result of market changes for high growth firms occupying particular segments or niches in the market.

A number of owners/managers (18 respondents) also highlight the fact that Market and Product development has '*...a lot to do with reading the market...*' (R93), identifying and anticipating new trends, a process that would require experience, time, good market research and '*...a lot of luck...*'

(R37). There are a few words of caution regarding MPD and the stress that this could potentially put onto a small business with limited resources: '*...it is great to be ambitious but have to be careful not to exceed your capabilities*' (R6); '*...don't stretch yourself too thin*' (R72); '*...concentrate on your core competencies*' (R104) and '*...choosing the right products and finding the right markets will take time and cost money*' (R111).

Similarly, supplier management is also highlighted as a further strain on resources, mainly because of the importance of suppliers on market and product development. Several respondents (15 in total) comment that small chemical distributors need to obtain a good buying position and seek reliable suppliers, as part of a successful market and product development strategy. In more detail, it is viewed that small businesses can achieve sustainable growth through their existing suppliers by expanding into new territories and extending distribution agreements: '*...stay close to your suppliers and grow through them...*' (R13). However, managing suppliers and maintaining long-term relationships with them '*...take its toll on small business resources..*' (R42). Owners/managers express the view that SMEs should exercise caution on how much time and effort they put into keeping their suppliers satisfied. They are equally concerned that increasing commitment to particular suppliers may entail a great degree of risk as they could become heavily dependent on those suppliers for continued supply. Several respondents (10 in total) also highlight an increasing pressure to adopt their principal suppliers' business processes to increase knowledge sharing and integration, further stretching their resources.

Market and Product development (MPD) is identified as a critical success factor for SMEs in the UK chemical distribution industry. The findings of this study highlight the need for owners/managers to develop the right products mix and identify the best market(s) to promote these as an essential element for SME growth. On the basis of these findings, a number of recommendations are made.

First of all, SMEs have to continuously enlarge, diversify and specialise their portfolio. Owners/managers should assume the responsibility to constantly evaluate their companies offering to the market, updating existing products and introducing new ones. Similarly, there is a clear need for them to identify and focus on the right markets and adjust their offering accordingly. Financial and human resources have to be dedicated into building a balanced portfolio for the target markets. Even though managing MPD is the overall responsibility of the owner/manager, all employees need to be involved and be given the opportunity to participate and contribute to the process. Inevitably, this

creates the need for skills development and training on finding new products and potential markets that the owners/managers need to address.

The findings of this study also highlight that it is imperative for small businesses to detect and respond to competitive challenges, have the ability to anticipate and respond to changes in market(s) and follow customer preferences. Owners/managers need to closely follow market and consumer trends, react to any change swiftly and decisively and have a strategy in place allowing for change and quick reactions times. As such, a high level of proactiveness, flexibility and adaptability is required alongside a constant awareness of new technologies, markets and competition. Participation in industry events such as conferences, exhibitions, forums, networking events and memberships in professional bodies and associations is highly recommended. Similarly, closeness to customers and good communication with them (in a formal or informal basis) further facilitates the process of keeping up to date with the latest market trends and requirements. In fact, this study establishes that this closeness to customers is a unique characteristic of SMEs in the UK chemical distribution industry, an advantage they have against larger distributors and a service they offer to chemical manufacturers. SMEs in the UK chemical distribution are in true contact with what market really wants and needs. Owners/managers have to capitalise on this closeness and use it to position their companies competitively in the market.

Regarding competition from larger distributors, the findings of this study suggest that a specialisation in products, markets and customers becomes a unique selling point (USP) and offers a strong competitive advantage. Indeed, there is a clear need for small business owners/managers to differentiate their offering and focus on niche products and markets as economies of scale are difficult to achieve at their level. A further reason for focusing on niche markets is the fact that these tend to command higher profit margins and therefore smaller businesses with lower overheads are more profitable. Excellent product knowledge, technical support and service and application knowledge are also essential elements in increasing SMEs competitiveness. As mentioned previously, product, application and market training is extremely important and beneficial to all employees and owners/managers should take that into proper consideration.

Last, the importance of suppliers and supplier management is once again highlighted. Based on the findings of this study, owners/managers are urged to engage more in supplier management with a scope to develop, maintain and reinforce the relationships with key suppliers to their business. Time and effort should be put into satisfying the demands and requirements of suppliers. Fostering

long-term relationships is imperative for SMEs in this industry in order to counterbalance the low degree of purchasing power they have against larger competitors and reduce the uncertainty large manufacturers feel when working with smaller businesses. Knowledge development and sharing, accommodating work routines, development of business processes and investment in physical facilities or software in line with key suppliers systems and processes are essential in reinforcing relationships and increase integration level. Suppliers are also well- established sources of innovation, new products and ideas due to their R&D capabilities. SMEs need to capitalise on suppliers resources (testing, sampling, R&D), utilise to the fullest any new product developments (NPDs) and in turn provide feedback on market trends and changes in customer preferences. However, due to restriction on financial and human resources in small businesses, owners/managers need to exercise caution on the resources allocated to managing supplier's relationships. In fact, it is their responsibility to assess whether their companies have the purchasing and selling power, in terms of managerial resources, to manage the relationship and implement processes required and/or imposed by their suppliers. As such, owners/managers need to manage their suppliers' expectations from the early stages of the relationship to avoid misunderstandings.

5.4.4.3 Human Capital

Human capital is identified as one of the most important resources in SMEs operating in the UK chemical distribution industry and with 16 respondents (13.5%) considering it a factor critical to their success and sustainable growth. In the words of R50 and R92 '*...our business is the people we employ...*' and '*...people in this industry are the soul of SMEs...*' respectively. This finding further supports the body of literature where human capital has long been established in the small business literature as a factor critical to organisational performance (Colombo and Grilli, 2005; Crook *et al.*, 2011; Gimeno *et al.*, 1997; Takeuchi *et al.*, 2007; Van Teeffelen and Uhlaner, 2013) and proven to be an important predictor of firm creation, growth and survival (Aides and Van Praag, 2007; Bhagavatula *et al.*, 2008; Crook *et al.*, 2008; Dimov and Shepherd, 2005; Haber and Reichel, 2006; Honig, 1998 and 2001; Markman and Baron, 2003; Van der Sluis *et al.*, 2005; Van Praag, 2003). Investing in human capital has a positive effect on the organisation (Becker and Huselid, 2006; Bowen and Ostroff, 2004; Le *et al.*, 2007; Subramony *et al.*, 2008) and becomes an important source of competitive advantage (Javalgi and Todd, 2011).

There is general agreement that investment in human capital in the chemical distribution industry generates better performance for SMEs - with all respondents that identified human capital as the most important factors concurring on the matter. This finding is well in line with the general

human capital theory (Barney, 1991). The respondents are of the opinion that companies with a higher degree of human capital - developed through access to employees with higher education, extensive work experience and training - achieve a better performance. Several studies in the field of business transfers (Le Breton-Miller *et al.*, 2004; Meijaard *et al.*, 2005; Van Teeffelen *et al.*, 2011) and innovation (Colombo and Grilli, 2005; Dimov and Shepherd, 2005; Van Teeffelen and Uhlaner, 2010) similarly concur that certain types of human capital such as work-related experience and training are critical for business success.

Going into more depth, industry-specific experience, skills and qualifications are considered a major determinant of small business success in the UK chemical distribution industry with 14% of respondents arguing its importance. This finding is consistent with the work of Loscocco *et al.* (1991) and Bosma *et al.* (2004) who argue that prior experience in an industry substantially improves SMEs' success, growth, and survival. In more detail, many respondents recognise (12 in total) the need to have a qualified and skilled workforce in the chemical industry to grow a business: *'...in this market, highly skilled and trained workforce is essential and without it a company will not survive...'* (R74); *'...you need right people for the right job, supporting the vision of the company...'* (R51); *'...only right people with the right skills and knowledge will be able to support and grow your business...'* (R27); *'...good people will lead to customer satisfaction and growth...'* (R104). A number of authors similarly argue that the skills and knowledge an individual acquired are positively related to business performance (Bosma *et al.*, 2004; Cassar, 2006; Van der Sluis *et al.*, 2005) and are empirically confirmed resources of entrepreneurial success (Blanchflower and Oswald, 1998; Bosma *et al.*, 2004; Davidsson and Honig, 2003; Korunka *et al.*, 2010; Unger *et al.*, 2011).

Owners/managers further recognise human capital as an important source of competitive advantage for SME as *'...people can make a big difference in a small business and give you an edge...'* (R80) especially against larger multinational distributors such as Brenntag, Univar, Helm, IMCD and Safic- Alcan, to name a few, where service is seen as more impersonal and the effect of customer service dampened by bureaucracy: *'...distributors exist to offer a better service than multinationals...'* (R23); *'...it is so much easier for small distributors to offer a better service...'* (R7); *'...smaller companies are much closer to their customers...'* (R31); *'...smaller companies are more personal when doing business...'* (R94). However, several respondents (9 in total) comment upon the fact that human capital takes time and money to develop or acquire, which potentially offsets its positive benefits: *'finding the right people costs money and time...'* (R87); *'good managers come at a high cost...'* (R107).

Respondents (14 in total, 12%) further argue that a continuous increase in Human Capital is essential for SMEs success and comment that businesses that are unable to attract and retain quality employees are *'...destined to fail...'* (R39). Many authors similarly argue on the impact of a small firm's ability to attract, develop and retain skilled and capable employees on business success, longevity and achieving growth (Barringer and Jones, 2004; Bonet *et al.*, 2011; Combs *et al.*, 2006; Ichniowski *et al.*, 1997; Lussier and Halabi, 2010; Pena, 2002; Robson and Bennett, 2000; Thakur, 1999). Several owners/managers (16 in total) suggest the following two ways to increase human capital: attract individuals with high skills from the external labour market and internally develop the skills of their current employees. At this point, a distinction is made between smaller and larger SMEs. Smaller SMEs (under 50 employees, under 10m EUR in turnover) are considered more likely to make the best out of their existing resources, rather than attracting new, more skilled and highly paid employees. They are also expected to be more informal in the process of attracting, recruiting, managing and providing training to their employees. *'Small firms can't afford formal training...'* (R110); *'...there is more on the job training by more experienced employees...'* (R31); *'...in small companies new employees are thrown into the deep and are expected to perform from day one...'* (R43). On the contrary, larger SMEs (between 50-250 employees, turnover between 10-50m EUR per annum) are expected to have more resources, a better structure in place to manage their Human capital and offer more training and development opportunities: *'...larger SMEs will invest more on new capital'* (R111); *'...they prefer graduates that will be trained in the ways of the company'* (R94); *'...are more likely to adopt sophisticated HRM practices'* (R9).

Regardless of the size of the companies, several owners/managers (10 in total) report a shortage of highly skilled, technically qualified employees in the UK chemical distribution industry: *'...there aren't enough technically educated graduates...'* (R97); *'...not enough experienced chemists in the market...'* (R53); *'...we need more people with formulation and application experience and knowledge...'* (R104). They further highlight the need for the UK educational system to produce individuals with the required technical and academic skills for the specific industry: *'...schools and universities should offer more technical subjects and practical training...'* (R98); *'...we need educated, skilled people to be successful in chemical distribution...'* (R56). This finding supports that gaining access to a skilled workforce is as much of an issue and challenge for chemical distributors in the UK as for the rest of Europe, as identified previously by Burridge (2014b), Hornke (2012), FECC (2013) and Mortelmans and Reniers (2012). In fact, a few respondents (5 in total) name the above stated lack of skilled labour as a potential cause of firm failure within the industry.

Owners/managers (10 in total) further suggest that entrepreneurial education and training is very important for success in the UK chemical distribution industry: *'...people can't only rely on their instincts anymore, they need a proper entrepreneurial education or training...'* (R48); *'...teaching someone to be an entrepreneur would definitely benefit the industry...'* (R19). They argue that they should both be offered in schools and universities to support entrepreneurial activity in the UK: *'I don't understand why these are not taught at school level...'* (R20); *'...the entrepreneurial spirit needs to be instilled at a young age...'* (R118). This finding further supports the argument that there is a positive correlation between entrepreneurial education and entrepreneurial activity (Dickson *et al.*, 2008). Charney and Libecap (2000) also underline the importance of entrepreneurship education and state that not only it produces self-sufficient enterprising individuals but also increases the formation of new ventures, the likelihood of self-employment and of developing new products. Bonet *et al.* (2011) are also in agreement that entrepreneurial education has a positive impact on success and that imagination, inventiveness, flexibility, the capacity to adapt can all be developed through training and education.

Owners/managers identify several elements of the human capital such as the expertise, qualifications, prior work experience, training, business contacts and relationships but also the insight and intelligence of their employees. This finding further supports and adds to the business literature where human capital is seen as an accumulation of the knowledge, skills, and abilities embodied in people (Barney, 1991; Coff, 2002; Fletcher, 2004).

The UK chemical distribution industry is viewed as a very customer focused and customer-facing industry with the human factor having a significant influence on the business. Owners/managers concur (15 out of the 16 that considered HC the most important factor) that the services offered by chemical distributors depend more on human resources rather than on technical or logistical resources. The fact that chemical distributors do not manufacture products, as previously identified, further reinforce the importance of the element of service. In general, respondents believe that a company with excellent customer service (due to employing better, more experienced people) is more likely to get repeat business from customers and get a good reputation in the market. On the contrary, companies with poor customer service eventually lose a customer, which has a negative impact on business. More importantly, several owners/managers (14 in total) express the opinion that, in the long term, it is more expensive for a company to acquire new customers than to retain them. As a result, efforts that go into maintaining quality customer service through the employment of skilled, capable people pay dividends over time.

Alongside the element of service, respondents also recognise the element of direct selling skills and stress the need for competent sales people to promote their products and services. '*...It is all about selling products and services...*' (R63); '*...you need good sales people in front of your customers...*' (R76); '*...competent, experienced, 'seasoned' managers will drive the business forward*' (R77). Owners/managers stress the need to recruit the right people, organise them effectively, keep them motivated, communicate well and reward them according to their achievements and efforts with 12 respondents arguing this case. They also suggest that a manager should review employees regularly and not hesitate to let go of the wrong people as they would have an adverse effect on the business: '*...keep it fresh...*' (R105).

A further distinction is made by many respondents between companies offering specialties and commodity products. The general feeling is that companies selling specialty chemicals require better trained and skilled employees to ensure successful selling. In fact, several owners/managers (10 in total) consider prior experience and expertise key to sales success when selling complex, highly specialised products. In addition, a few respondents (3 in number) report that sophisticated Customer Relationship Management (CRM) systems are implemented in their business in order to analyse customer and market data when referring to more specialised markets.

In general, SMEs have always been struggling to gain access to workforce (Way, 2002), lacked the resources to compete with and offered less secure employment to larger distributors (Burrige, 2013; Hornke, 2012). Therefore, the fact that human capital is considered a critical factor in the success of SMEs in the UK chemical distribution industry has been anticipated. However, this study reflects the industry's perspective on why human capital is important to the industry, highlights its specific elements and thus become the basis for conclusions and recommendations for SME success.

The findings strongly suggest that investment in human capital generates better performance for small businesses in the industry under investigation. On that basis, owners/managers need to demonstrate a strong commitment to continuously and systematically increase the human capital of their businesses. Attracting, recruiting, retaining, developing and rewarding qualified, skilled employees is an integral part of any small business and one of its main business priorities. A very interesting fact is that SME owners/managers identify many aspects in human capital, meaning that it can be increased in many different ways either through employing new people or developing existing employees. Thus, investing in training designed to build human capital is as important as increasing

the workforce. Acquiring academic and professional qualifications, specialisation in certain products, industries and applications, business contacts and networking and any form of training (external and internal) to develop skills and knowledge, are but a few recommendations to be taken into consideration. This further suggests the need for specific forms of knowledge-intensive education, such as chemistry, chemical engineering and related technical qualifications with the responsibility lying in the hands of the government and education providers.

As industry-specific experience, skills and qualifications are considered a major determinant of small business success and with SMEs ever struggling with resources, special focus needs to be given to attracting and employing individuals with such experience, skills and qualifications -for instance prior working experience and training, seminars, professional qualifications etc- as this has a bigger impact on the performance of the business. This further contributes in increasing the level of expertise especially in specialised markets and applications. Similarly, SMEs should strive to attract and 'capture' graduates as they are the fuel for growth. However, with a well-established shortage of skilled workforce and the chemical distribution industry being customer-focused, customer-facing and requiring a level of technical knowledge at all levels in the business, there is also a clear need to focus on employee development and retentions programs. In fact, owners/managers are strongly advised not to just focus on human capital at one level - such as top managers or lower level employees - but instead cultivate human capital across all levels within the hierarchy. That way they can develop people within the company and provide opportunities for internal promotion as their businesses grew. Therefore, owners/managers need to keep a fine balance between developing existing employees and employing new individuals if they want human capital to develop into a source of competitive advantage, with a view to retain existing customers and compete against larger distributors in means of service and expertise.

However, in order for human capital to become a competitive advantage for SMEs, the process should include all employees of the business and most importantly the owners/managers themselves. Considering that they are the ones responsible for recruiting the right people, developing existing employees, organising them effectively, keeping them motivated, communicating well and rewarding them, it becomes clear that this requires a set of skills that many of them may not have. To that end and in order for them to be more effective and efficient in running their business, they inevitably need to enhance their own capabilities in carrying out contemporary management concepts such as satisfying employees' personal development needs, delegating responsibility and participative

management. This inevitably creates the need for personal development and training on the aspects of human resource management.

The findings of this study also highlight a different approach to human capital depending on the size of the business. In more detail, smaller SMEs (micro and small) are more limited in resources than their larger counterparts and that mainly affects the recruitment process and the provision of training. Smaller SMEs are more likely to make the best out of their existing resources rather than attracting new, more skilled and superiorly paid employees and in the case they do recruit experienced people they expect them to come with the expertise and knowledge and thus not require any further training. Regarding further training for existing employees, many seem to be receiving non-formal training by more senior and experienced staff or just learn the job 'by doing it'. The fact that many SMEs do not have the resources to provide training, either internally due to time restrictions or externally due to costs, is an issue that this study identifies and something that has to be addressed by owners/managers. This process requires more planning either on formal or informal basis to overcome any difficulties known to SMEs. This could be anything from allocating time and funds to physically assembling a group of people to be trained together, trainers finding sufficient blocks of time away from their other duties to do formal training, organising backup personnel during training etc. Similarly with career progression, smaller companies tend to have a very flat structure and few opportunities for promotion. Owners/managers need to keep their employees motivated and manage their expectations, a process that would also require further planning and forward thinking.

A further implication for owners/managers is when micro and small businesses grow and the effect that has on human resource management. In fact, as soon as a business establishes a critical number of technically capable workforce, appropriate management of human resources is required to ensure superior organisational performance, thus making management training also of particular importance.

5.4.4.4 Strategic Planning

The need for small businesses in the UK chemical distribution industry to formulate and execute a clear strategy is highlighted by many owners/managers (14 in total) as a critical factor in their success and sustainable growth: '*People need to go where they are heading and how to get there*' (R28); '*A good strategy will keep you on the right path*' (R108); '*... planning determines your capacity to grow*' (R12); '*...your strategy will provide a clear vision and mission that will guide the business and unite employees...*' (R36). In the views of the respondents, strategic planning is concerned with the

setting of long-term organisational goals, the development and implementation of plans to achieve these goals and the allocation or diversion of resources necessary for realising these goals: *'...there needs to be a swift towards planning for success rather than just waiting for it to happen...'* (R65); *'...if you don't plan, you will eventually fail...'* (R45). In fact, strategic planning is seen to encompass every aspect of the organisation and its activities: *'Strategy includes all; brings all your resources together...'* (R67); *'...it is a balancing act of opportunities, resources and team'* (R53). In line with the findings of this study, many authors also conclude that strategic planning is strongly linked with the performance of small businesses and is an important contributor to their growth (French *et al.*, 2004; Kraus *et al.*, 2006; McMahon, 2001; Okpara and Wynn, 2007; Orser *et al.*, 2000). Similarly, the fact that small businesses with no specific business plans have a greater chance of failure has been well documented in the business literature (Chen *et al.*, 2008 and 2010; Ghobadian *et al.*, 2008; Lussier and Halabi, 2010; Lussier and Pfeifer, 2001; Vodopivec, 2012).

Given the fast moving nature of the chemical industry, the constantly changing trends in the market and regulatory compliance requirements, there is general agreement - all respondents that identified strategic planning as the most critical success factor, concur on the matter - that it is critical for owners/managers to plan ahead and get their businesses strategically positioned: *'...you can't stand still, you need to plan for growth...'* (R112); *'...you need to respond to all the changes that are happening...'* (R78). This finding further supports the Districonsult (2011) report arguing that only strong and focussed companies with a forward-looking strategy and mindset would thrive in the European chemical distribution industry. Respondents also argue that with the industry being very complex, small businesses will not be able to survive in the long term unless there is a clear strategy and business plan in place: *'...companies can easily find themselves in an unsustainable position failing to plan correctly'* (R55). Similarly, a number of authors have previously identified a lack of strategy as a cause of business failure (Chen *et al.*, 2008 and 2010; Lussier and Halabi, 2010; Vodopivec, 2012) especially in the European chemical distribution industry where SMEs need to actively plan to address current and future challenges so as to compete effectively and survive in the market (Bee and Chellia, 2013; Chemagility, 2008; Mortelmans and Reniers, 2012). In fact, many respondents (12 in total) comment that all organisations eventually reach a point where the *'...way things that were done...'* (R59) are no longer sustainable for future growth and there is need to be a plan for success which *'...becomes the 'blue print' of how the organisation moves forward...'* (R113). Overall, owners/managers are of the opinion that SMEs engaging in strategic planning are more likely to achieve higher sales growth, margins on profit and employee growth while reducing the possibility of failure with 14 individuals supporting this argument. This finding further supports the main body of

literature on the positive effect of strategic planning of small business survival (BCG, 2013; Hormozi *et al.*, 2002; Monk, 2000; Sauser, 2005).

Even though there is a general agreement that strategic planning leads to increased firm performance, several owners/managers (10 in total) admit either not doing it or at least taking a less formal view to it. As with the analysis of previous success factors, a further distinction between smaller and larger SMEs needs to be made. Owners/managers of larger SMEs (between 50-250 employees, turnover between 10-50m EUR per annum) are more committed, dedicate more time and effort to strategic planning and view it as an important part of their role. On the contrary, several owners/managers (9 in total) of smaller SMEs (under 50 employees and under 10m EUR in turnover) mention that even though they do not have a formal business plan, they still engage in informal or 'intuitive' business planning. They further argue that lack of time due to multitasking, lack of expertise and business-planning skills and inadequate knowledge of the planning processes, are a few of the reasons for not engaging in strategic planning: '*...it is difficult to detach yourself from the day to day things to do planning...*' (R16); '*...in small businesses you have to do a lot of firefighting...*' (R60); '*...only plan is to survive, worry about other things later...*' (R35) '*...too much multitasking to do anything else...*' (R38); '*...take business as it comes...*' (R88). The finding that owner-managers of smaller SMEs in the UK chemical distribution industry have a less sophisticated approach to formal strategic planning than their counterparts in larger SMEs is supportive of the main body of business literature. Many authors conclude that planning in smaller enterprises is done informally, intuitively and is rarely supported by planning instruments while formal strategic planning is more likely to be deployed in larger companies (Ghobadian *et al.*, 2008; Mazzarol *et al.*, 2009; Robinson and Pearce, 1984; Stonehouse and Pemberton, 2002; Sumantra, 2008; Vodopivec, 2012; Woods and Joyce, 2003).

The possibility that some companies might not seek to grow and hence do not engage in strategic planning is also mentioned by a few micro business owners (5 in total) with micro being defined as a business employing under 10 people and with an annual turnover of under 2m EUR. They argue that maximising profitability is not necessarily the only motivating factor when they start their own businesses but it is more personal, non-economic reasons such as autonomy or independence, personal satisfaction and achievement, work flexibility and lifestyle that motivate them: '*...it is more important to work for myself...*' (R89); '*...as long as I get a comfortable living...*' (R80); '*...do not want to grow my business too much as it will be hard to manage...*' (R106); '*...definitely offers a better work-life balance...*' (R58). The concept of running a small business for non-financial reasons is not unknown in the SME literature as many authors have previously reported owners/managers having no intention of growing their businesses into larger entities (Harris *et al.*, 2005; Mochrie *et al.*, 2006; Morrison *et*

al., 2003; Reijonen and Komppula, 2007) and even deliberately refraining from taking on employees (Jarvis *et al.*, 2000; Greenbank, 2001). The findings of this study support and contribute further to a number of personal factors (i.e. personal satisfaction, balance between work and private life etc.) already identified in the body of literature (Beaver, 2002; Gorgievski *et al.*, 2011; Simpson *et al.*, 2012; Walker and Brown, 2004).

The findings of this study further highlight the importance of strategic planning in the success and sustainable growth of SMEs in the UK chemical distribution industry and therefore stress the need for owners/managers to engage themselves in formulating and executing a clear strategy. This study establishes that a form of planning is beneficial at all stages of the business and particularly in the start-up stage not only necessarily to guarantee success but to reduce the possibility of business failure. With a high proportion of SMEs failing within the first 5 years of operation, owners/managers are thus strongly advised to utilise strategic planning to improve their chances of surviving in the industry. The fact that owners/managers argue that strategic planning encompasses every aspect of the company further highlights the need for a proper strategy to incorporate many different aspects of the business. As such, financial planning, human capital and market and product development should be integral parts of strategic planning as they have already been identified as factors critical to success. SMEs are also urged to use strategic planning as a tool to express the intent, visions and company mission to all stakeholders such as investors, financial institutions etc. but most importantly to employees in order to get them involved and united to the aims and objectives of the business. Similarly, owners/managers need to utilise strategic planning to scan the business environment, anticipate new trends and handle future challenges so as to achieve sustainable growth.

Nevertheless, the fact that some owners/managers lack the skills and experience required to engage in strategic planning should also be taken into consideration as should the development of these skills through training. Based on the findings, there is a clear need for policy makers and educators to assist small businesses owners/managers and entrepreneurs in the development of managerial, strategic thinking and planning skills. These skills should be developed through educational programmes that are flexible, tailored to the needs of the small firm sector and take into consideration the owners/managers' lack of time and commitment to lengthy courses. Further, the curriculum for small business education should include more rigorous technical skills development (i.e. accounting or marketing skills) and industry specific training but also soft skills such as critical analysis, team building, leadership, creative thinking and strategic networking. Similarly, the government might consider increasing the number of centres that offer consultancy and expert

services to SMEs, and engage more experts in different areas (for instance IT, financial and marketing planning).

This study further identifies a clear difference in the way that owners/managers in SMEs viewed strategic planning based on the size of their businesses. Owners/managers of larger SMEs tend to have a more formal approach to planning while their counterparts in smaller businesses tend to operate more intuitively and in an informal way. Time constraints due to multitasking and lack of experience and business planning skills are identified as the two main reasons for this difference. Development of time management and planning skills is thus essential and serious consideration needs to be given in addressing these issues as they could negatively impact on the success of the business. Even though owners/managers are strongly urged to engage in strategic planning, given the fact that a lack of planning instrument is common in smaller SMEs, the findings suggest that there is no requirement for it to be a formal process. The fact that many SMEs have successfully operated without a formal plan has been recognised (Bracker and Pearson, 1986) and further stresses the importance of the actual planning process and not the formal plan at the end of it. In more detail, the findings of this study advocate that formality, as defined by the presence or absence of written strategic plan, is not necessarily the most appropriate construct to operationalise strategic planning among smaller SMEs in the UK chemical distribution industry. Similarly, assessing formality using 'hard measures of written documentation' does not adequately measure the unique planning processes in those SMEs. Therefore, it becomes irrelevant whether owners/managers engage in formal or informal strategic planning as long as they go through the actual planning process. However, as the owner-manager seeks to communicate their intentions within their wider support networks, it is likely they need to prepare more formal plans and use a planning instrument at some point in their business life when external forces require it from them. For instance, applying for government support grants or bank loans usually requires the development of a written business plan, as will a move to achieve formal quality assurance recognition.

On a final note, the fact that certain SMEs may not be focused on growth needs to be taken into consideration and as such critical success factors and performance needs to be defined based on the needs and wants of their owner-managers. In fact, findings suggest that, in certain cases, small business success can be measured using non-financial criteria as, sometimes, they tend to be more important than traditional financial criteria (i.e. turnover, profit etc.). However, even under these circumstances, it is highly recommended that a basic type of informal planning is in place detailing the aims and objectives of the business.

5.4.5 Business Environment Factors

In order to identify the most important critical Business Environment success factors for SMEs in the UK chemical distribution industry, non-parametric statistics are used to rank the data on external factors influencing SMEs success. Success factors, as perceived by the respondents, are ranked using the Kruskal-Wallis test of variance, further supported by the median and mode values which are also reported. The following table presents the Kruskal-Wallis mean rank, median and mode for each of the investigated Business Environment success factors for small businesses in the UK chemical distribution industry, in descending order of importance.

Table 5.9: Business Environment Success Factors analysis (Kruskal Wallis Test, Median and Mode)

Business Environment Factors	Kruskal-Wallis Mean Rank	Median	Mode
Legal and Regulatory	2049.69	5.00	5.00
Ecological & Environmental	2044.16	5.00	5.00
Economic	1560.76	4.00	4.00
Political	964.14	3.00	3.00
Technological	742.97	3.00	3.00
Socio-cultural	639.43	3.00	3.00

Owners/managers in the UK chemical distribution industry are further asked to identify the most important business environment factor and provide a justification for their selection. This introduces a further element of factorisation to support the selection of the most critical success factors. The following table presents the frequency analysis for the business environment factors.

Table 5.10: Frequency Analysis Business Environment Factors

Business Environment Factors	Frequency	Percent
Legal-Regulatory Environment	71	60.2
Economic Environment	45	38.9
Technological Environment	1	.8

Based on the results of the Kruskal-Wallis test and the frequency analysis, Legal and Regulatory, Ecological and Environmental (both to be presented, discussed and analysed under Regulatory Compliance) and the Economic environment are identified as the most important business environment success factors for SMEs in the UK chemical Distribution industry and are thus considered critical. These factors and their importance are further investigated and analysed through the collection of qualitative data from the participating owners/managers.

A very interesting finding of this study is the fact that the vast majority of owners/managers consider Legal and Regulatory and Ecological and Environmental factors very closely related and interlinked with each other in the context of the UK chemical distribution industry. In more detail, 68 out of the 71 respondents who identify the above factors as the most important ones, express the opinion that both should be viewed as one factor, under regulatory compliance: '*...industry views both as one factor with same effect on the business...*' (R115); '*...we have always treated those two factors as one...*' (R19); '*...the effect on the business is very similar...*' (R48); '*...regulatory compliance covers both areas...*' (R56). In fact, owners/managers further comment that it has been very common practise for Ecological and Environmental requirements to be 'translated' into Legal and Regulatory requirements in this industry. The main reason behind their argument is the fact that ecological and environmental factors create and drive the need for regulation, which is subsequently expressed through legal and regulatory factors.

In justification, it has long been established in the business literature that the use, production, transportation and safe disposal of chemicals has an adverse impact on both human health and the environment (European Chemical Agency, 2014; Keynote, 2013; Jerrentrup, 2009). As a result, the chemical and subsequently the chemical distribution industry have been traditionally heavily regulated with this trend having intensified in the recent years where a number of initiatives aim at developing industry-wide support for best-practice standards i.e. REACH, Biocide directive etc. (CEFIC, 2013; European Chemical Agency, 2014; Hiller, 2013). As such, it has never been uncommon practise for Ecological and Environmental requirements to develop into Legal and Regulatory requirements.

On the basis that owners/managers consider these two factors as one prerequisite for success, this study reports and further analyses them both under the 'Regulatory compliance' umbrella. This is further supported statistically in section 5.4.8.

5.4.5.1 Regulatory Compliance

Regarding the effect of the Business environment on the success of small firms, many respondents (20 in total, 17% of population) express the opinion that smaller SMEs are relatively unaffected by the environment they operate in. In more detail, smaller companies are considered to be less affected by their environment as they can adapt quickly to new situations and thrive in all conditions depending on their offering thus increasing their chance for survival: '*...small companies can always adjust...*' (R9) and '*...if something changes in the market, we can change quickly too...*' (R14). This is unlike larger companies that need more time to react and are less flexible to any change

in their environment. However, owners/managers unanimously agree (70 out of the 71 respondents who considered regulatory compliance the most important success factor) that the only elements that can not be disregarded or avoided in the business environment are the regulatory requirements: '*...no way you can avoid ...*' (R49); '*...compliance is not an option, it has to be done...*' (R59); '*...extremely difficult to work around regulations...*' (R18); '*...there will always be a good business idea that would work regardless of the business environment but regulations cannot be avoided...*' (R33). As expected, this finding is consistent with the main body of literature on the importance of regulatory compliance (BCG, 2013; Districonsult, 2013; Honrke, 2013; Mortelmans and Reniers, 2012) and further supports the presence of very strong regulatory trends in the European chemical distribution industry (FECC, 2015; Gubbels *et al.*, 2013; Pelkmans *et al.*, 2013).

Regulatory compliance is considered by far the most critical factor in the success of SMEs in the UK chemical distribution industry. Owners/managers express very strong views regarding the importance of this factor: '*...simply said...if you want to sell products you have to have it...*' (R80); '*...if your product is not registered or not compliant, you can't sell it...*' (R31); '*...regulatory compliance has to be at the core of your strategy...*' (R4) and its effect on small businesses: '*...regulations and especially REACH will put a lot of strain on our business...*' (R59); '*...REACH affects all aspects of business...*' (R84); '*... (REACH) will definitely strain and drain your resources...*' (R99); '*...it will affect products, planning, financial and human resources...*' (R101). In fact, regulatory requirements and especially REACH and the biocides directive, are seen to impact upon all the other identified critical success factors such as Market and Product development (MPD), Customer Relations Management, Human Capital, Strategic planning and financial resources. This finding further supports the view that REACH is the most burdensome piece of EU legislation for SMEs (Gubbels *et al.*, 2013; Pelkmans *et al.*, 2013) and has a significant impact on chemical distributors (ECHA, 2013; Bishop and Walker, 2010; Flavell-While, 2012; Pistolese, 2011).

Many owners/managers (45 in total, 38%) comment that REACH reduces the number of chemical products available to them and effectively restricts the market making it more difficult for smaller companies to compete: '*...we will have less approved products to trade...*' (R90); '*...REACH will dictate our product portfolio*' (R77); '*...we will be limited in our choice of products...*' (R12). As a result, chemical distributors would have to adjust their product offering and re-evaluate the markets they refer to: '*...need to consider whether to stay in a market or pull out...*' (R118); '*...are the potential sales worth the overall cost?*' (R3). Similarly, that affects the supply chain by restricting new suppliers entering the European market or eventually pulling out of Europe altogether due to registration costs.

In the views of the respondents (with 40 of them concurring), all the above inevitably creates oligopolistic market conditions in the least and instigates further consolidation amongst distributors as: *'...there won't be enough suppliers left...'* (R80); *'...the suppliers that will be left will control the price...'* (R30); *'...suppliers will need to recover their registration costs one way or another...'* (R103); *'...many SMES will not be able to compete, cope with costs or source products...'* (R92); *'...many small businesses will be forced to exit'...* (R21). Many authors similarly argue the effect of REACH on the supply chain of chemicals products and its consolidation impact on the market (Berger, 2011; Chemagility, 2008; Districonsult, 2013; Gubbels-van Hal and Pelkmans, 2009; Whyte, 2012).

At the same time, many respondents (55 in total, 47%) also report a strain on customer and technical services as increasingly more customers turned for advice on regulatory compliance, request technical data, send questionnaires to complete and *'...expect us to cover all their regulatory requirements...'* (R61). This does not only increase the workload but also the complexity of the business and creates the need for more expertise: *'...we have reached the point where we need external advice...'* (R102); *'...my technical manager is snowed under...'* (R22); *'...I am getting more and more involved into technical requests...'* (R67); *'...costs have increased for the same business...'* (R75); *'...we will have to employ a technical manager now...'* (R63); *'...business requires a deeper understand now...'* (R10). A number of owners/managers (60 in total, 51%) argue that the above mentioned communication is very demanding and time consuming -as previously identified by Gubbels *et al.* (2013) and Pelkmans *et al.* (2013)- and concur that registering chemicals products under REACH *'...comes at a high cost to a small business...'* (R104). Similarly, the work of many authors reflects the key role of distributors in ensuring proper supply chain communication and the increasing amount of management time required (Districonsult, 2013; Flavell-While, 2012; Mortelmans and Reniers, 2012; Pistolese, 2011) as well as the increasing need for in-house expertise either through external people or additional staff (Chemagility, 2008; Districonsult, 2011; Young, 2012b; Whyte, 2012).

Respondents (28% of population) highlight that the incurring costs for regulatory compliance are not only direct financial ones but also indirect such as time, expertise required, potential external advice, training etc.: *'...regardless of being direct or indirect, costs will take out a large part of our profits and turnover...'* (R116). They further argue that this inevitably leads to price increases as companies try to recover these costs: *'...there is no option; we can't just absorb the cost; we will have to recover at least some of them...'* (R81); *'larger companies have more resources and can cope better with the upfront cost, we will have to increase prices immediately...'* (R115). This finding further supports business literature on the European chemical industry where regulatory compliance has

been established as having a significant cost impact on SMEs (BCG, 2013; Bishop and Walker, 2010; ECHA, 2013; Flavell-While, 2012; Pistolesse, 2011). There is also a special mention to the 2018 deadline for registering chemicals for smaller usages as this has a more profound effect on smaller chemical distributors '*...REACH could push you out of business...*' (R56); '*...2018 will have a devastating effect on small businesses...*' (R28); '*...we are bracing for 2018...*' (R86). The majority of owners/managers (56% in total) accept the fact that, inevitably, all chemical distributors including micro and small businesses have to fully implement the measures necessary to comply with regulations otherwise they will not be able to operate in these markets - as already identified by a number of authors (Burns, 2010; Chemagility, 2008; Frost, 2013).

Last but certainly not least, the perceived added value of REACH for SMEs in the UK chemical distribution industry is found to be limited. The majority of respondents (68 in total, 58% of population) consider regulatory compliance a necessity, not a competitive advantage or a means of differentiation and consider the chemical and the chemical distribution market overregulated. In fact, many owners/managers (39 in total, 33%) believe that REACH impedes on SMEs growth and success, leading to a competitive disadvantage for their companies: '*...with so much regulation, you have no time to sell!*' (R53); '*...the cost will become unbearable...*' (R25); '*...simply too much regulation...*' (R13, R96). Respondents also argue that overregulation has a dampening effect on entrepreneurial activity, as in new business venture creation and innovation: '*...it will be difficult to start a new business with such high regulation costs...*' (R72); '*...entrepreneurs will be discouraged by the heavy regulatory burden...*' (R32); '*...many SMEs will be discouraged to enter markets...*' (R102); '*...new projects will have to incorporate the cost of registering now; innovation will decrease...*' (R79). This finding further supports the business literature prediction that regulatory compliance has an adverse impact on the industry and lead to further consolidation (BCG, 2013; Chemagility, 2008; Districonsult, 2013; Flavell-While, 2012; Hornke, 2012; Whyte, 2012).

In the first instance, it seems that there are very few recommendations that this study can offer in the area of regulatory compliance, in light of the fact that it is a fundamental requirement for any company (SME or not) to operate in the chemical and chemical distribution industry. Owners/managers need to accept the fact that if they do not register their products and adhere to environmental and legal regulations, they will not be able to sell their products and will eventually need to exit or be pushed out of the market. The findings of this study strongly support the necessity and inevitability of compliance for operation in this industry and suggest that keeping a low profile or adopting a '*just say yes*' approach is pointless. On that basis, recommendations are given instead on how to manage and facilitate the compliance process to minimise the impact on SMEs.

Owners/managers and prospective entrepreneurs are strongly urged to develop and implement a strategy for compliance and maintain a long-term outlook on regulatory requirements. In fact, taking into account that the trend towards increased regulation is expected to continue (BCG 2013; Burns, 2010; Frost, 2013; Hornke, 2013; Whyte, 2012), adopting a flexible, long term view on business is absolutely critical in business survival. Considering that regulatory compliance impinges upon all parts of the business, as per the findings of this study, the adopted strategy needs to manage the process and minimise its impact on the business and available resources. In more detail, SMEs should engage immediately -if they have not done so already- in developing a strategy for REACH compliance so as to be prepared for 2018, when registering chemicals for smaller usages would come into full effect thus maximising the impact for small businesses. Similarly and even though it is only mentioned by very few respondents (6 out 118 in total), the potential competition law implications of current SIEF (Substance Information Exchange Forum) arrangements also needs to be addressed and dealt with.

With the financial, human resources and product portfolio implications already identified in this study, owners/managers are advised to carefully manage their already limited resources and weigh potential benefits against investment. As such, strict financial control needs to be exercised to manage the incurring direct or indirect costs to the business. Equally important is an investment in human resources in order to increase the level of expertise and regulatory competence in the company to deal with the increased regulatory requirements. This study identifies a rising need for SMEs to utilise experts, especially within smaller companies as owners/managers cite lack of skills and expertise. These experts could either be external consultants or new employees to the business leading to an increase in human capital. Based on the findings of this study and the well-documented lack of resources of SMEs, external consultants are deemed more adequate in the initial stages of the registration process - where more expertise is required - but eventually permanent employees are required to manage the process in the long term. Equally, the government, in order to further support small businesses, could potentially offer more access to training to SMEs managers to increase their expertise and competence levels and as such helping them avoid consultancy fees and/or increase in human resources. Furthermore, SMEs need a strong, clear focus on developing and adjusting their product portfolio while strengthening relationships with existing suppliers.

Above all, owners/managers have to manage the complexity of regulatory compliance and most particularly REACH which appears to be by far the most demanding piece of legislation. With this

study having established REACH as a very complex process for small businesses in the UK chemical distribution industry, SMEs are urged to utilise any sources of support available to them to comply. The main sources available are the European Chemicals Agency (ECHA) and the European Commission, the national Helpdesks foreseen under REACH, any initiatives set up by sector associations at the EU and national level, the Chamber of Commerce or even informal solutions such as support networks set up by companies. Owners/managers are advised to make contact with these organisations, utilise their services and maximise the benefit for their business. At this point, it is worth pointing out that, at the time of this study, there have been intrinsic differences across EU Member States in terms of resources and available capacity to support SMEs with REACH compliance. A clear need to investigate any differences in support for the UK, especially for SMEs, and how that compared to the rest of Europe is identified.

Based on the fact that the perceived added value of REACH for SMEs in the UK chemical distribution industry is found to be limited and owners/managers consider the market overregulated, it is imperative for policy makers to reinstate the benefits, build up the trust of the people affected and intensify their efforts to sell the idea to small businesses. In fact, people need to start seeing the benefits of REACH to their businesses and not just the cost. Communication about REACH, especially its intended goals, namely the health and environmental benefits, also needs to be significantly improved. Overall, this study raises serious concerns of whether SMEs would be able to cope with REACH in light of the enormous compliance efforts they have to undertake and concludes that they would require the support of the government and industry organisations.

5.4.5.2 Economic environment

Owners/managers highlight the many aspects of the economic environment and stress its effect on SMEs in the UK chemical distribution industry: '*...the economic environment significantly affects our business; unfortunately it is something you cannot control...*' (R5); '*...chemical production and consumption are tied to the economy...*' (R29). There is an overall agreement (45 respondents, 38%) that the economic environment has a significant impact on small businesses, affecting short and long term planning and thus it need to be taken under careful consideration. This is in line with the main body of literature where the effect of economic factors on how businesses operate and make decisions has long been established (Cateora and Graham, 2001; Wetherly and Otter, 2014; Worthington and Britton, 2009).

Generally, respondents recognise the fact that chemical consumption is closely related to GDP and economic growth and therefore interest rates, inflation and unemployment affect consumers and investors' confidence (with 40 owners/managers agreeing to the matter). Low confidence means that consumers do not spend and investors are less likely to take risks and invest, both of which has an adverse effect on SMEs: '*...it is simple...if people don't buy consumer products, chemical consumption would drop and we would sell less...*' (R43); '*...investors and private equity funds won't come anywhere near you, if they don't get a quick return on their investment...*' (R107); '*...the buying and borrowing power of smaller businesses is restricted...*' (R36); '*...if the market is doing well, we have better chances to be successful...*' (R8). This further supports contemporary research suggesting that periods of high demand conditions increase the chances for small business to survive and grow (O'Gorman, 2001; Dobbs and Hamilton, 2007). In fact, small businesses starting during a recession are found to have a greater chance to fail than firms that start during expansion periods (Lussier and Halabil, 2010; Lussier and Pfeifer, 2001). Similarly, any variations in the cost and availability of resources also influence their performance (Nickell, 1996; Smallbone and Wyer, 2000).

Owners/managers (38 in total, 32%) identify access to finance (funding) as the single, most important aspect of the economic environment; a factor that could potentially be very restricting to growth: '*...cash is king...*' (R52); '*...a business needs the financial strength to invest when required and to remain solvent during difficult times...*' (R39); '*...finance is the lifeblood of any business...*' (R29); '*...it is the bedrock of a good business...*' (R88); '*...business without cash is like running an engine on fumes...*' (R110). This finding is consistent with the work of many authors that recognise the importance of the availability of financial resources in a market and argue that a lack of available cash flow or external finance hinders SMEs success and growth opportunities (Amoros *et al.*, 2011; Calcagnini and Favaretto, 2012; Guo and Shi, 2012; Carter and Van Auken, 2005; Korunka *et al.*, 2010; Locke, 2004; Medina *et al.*, 2005).

Several respondents (28 in total, 24%) further comment that especially during recession periods, the UK banking sector is reluctant to lend money to SMEs because of high risk: '*...small businesses were always considered high risk as they have few assets...*' (R51); '*...banks are not very supportive in times of recession...*' (R62); '*...even companies with good financial ratings find it difficult to secure more funds...*' (R114). With many financial institutions restricting funds and private investors similarly holding back, that eventually hinders economic recovery: '*...as it has happened many times in the past...*' (R51). Business literature concurs that in times of recession access to finance is more difficult as small businesses come with a high level of uncertainty and low levels of collateral, making

it difficult for lenders to assess the risk of an investment and thus reluctant to lend (De Maeseneire and Claeys, 2012; Harrison *et al.*, 2004; Rutherford *et al.*, 2001). A good working relationship with the lenders is also considered paramount: *'...need to work closely with your bank...'* (R54); *'...have to keep your investor and lenders happy and informed...'* (R46) as it potentially increases their confidence in your business and *'...help secure financial backing for future opportunities...'* (R117).

A large number of respondents (42 out of the 45 that identified the economic environment as the most important factor, 36% of population) stress out the fact that all businesses, independent of their size and market conditions, need funding at some point in their life whether it is to start up, grow or cope with cash flow shortages. Regarding starting up, owners/managers agree that the vast majority of small businesses in the chemical distribution industry require financing at the start up stage with 35 agreeing on the matter. In the words of R108: *'...unless you are 100% self –financed, which is very rare, how else would you start?'* Funding also affects the capacity and confidence for future growth, expansion and investment into the business. Respondents express very strong views regarding the effect of available finance on small businesses: *'...it is the fuel to growth...'* (R64); *'...poor cash flow will kill a growing business...'* (R6); *'...if you can't finance your business then it will never take off...'* (R16); *'...funding is required in times of growth...'* (R50); *'...very difficult to be cash rich these days...'* (R18); *'...many companies rely on outside finance to grow...'* (R38). This finding further supports the view that financial support is an important obstacle to starting up of new businesses and a cause of slower growth and poor performance in all phases of business development (Alsos *et al.*, 2006; De Maeseneire and Claeys, 2012; Dobbs and Hamilton, 2007; Korunka *et al.*, 2010; Lussier and Halabi, 2010).

Similarly, even if a business has sufficient funding, it still needs to be able to deal with and manage unforeseen cash flow shortages. Several respondents (25 in total, 21%) highlight the fact that the chemical and chemical distribution industry is largely handled on credit terms and there is always a discrepancy between the supplier and customer payment terms; for instance, suppliers normally require payment in 30 days while customers normally require 60-90 days. In the words of R98: *'...In the chemical distribution industry, suppliers dictate short payment terms (30 days in Europe, upfront payment for China and the Far east) while customers demand long payment terms; we (distributors) are unfortunately in the middle...'* Managing payment terms and balancing cash flow under these conditions creates a further need for finance services and flexible borrowing options: *'...need to manage payment terms correctly to survive...'* (R41); *'...make sure you don't run out of cash...'* (R118).

Several owners/managers (22 in total, 19%) also comment on the fact that small businesses need to avoid and manage bad debts as these have a detrimental effect on their growth. During times of recession, an increase in bad debts is not uncommon and thus expected. Respondents recognise that losses due to bad debts put a considerable strain on SMEs and in extreme cases push them into bankruptcy. In fact, many cases of small businesses going out of business following bankruptcy of their largest customer are reported. At this point, there is another distinction between larger and smaller SMEs. Owners/managers are of the opinion that such losses are more easily absorbed by larger SMEs unlike their smaller counterparts where *'...the loss would hurt us a lot'* (R44). On the other hand, smaller SMEs could, at some point, be self-financed and become less dependent on external finance; for instance working through a bank overdraft: *'...we have been running our business on a bank overdraft with no issues for the last 10 years'* (R27). Larger SMEs find it more difficult to achieve that and hence they have to rely more on external finance, especially in times of growth and expansion: *'...there is no way we could run our business on an overdraft, we would be over it every month!'* (R66).

On a more positive note, several respondents (15 in total, 13%) argue that many opportunities for growth (and start-ups) are found in times of recession and that *'...it is not all doom and gloom...'* (R57); *'...there are always opportunities around...'* (R76). If a small business could *'...identify a niche market or service...'* (R42), *'...offer a unique and competitive product...'* (R87) that could *'...add value and produce a cost saving...'* (R49) then it would be successful. In fact, a number of owners/managers (11 in total, 9%) argue that many SMEs have been successful for that reason; despite the difficult economic environment they are able to offer savings while providing a better service. Recession is considered a good time to offer new, value-adding, cost-saving, innovative products as buyers are more open to products that give their company a competitive advantage. Respondents comment that this is exactly the way they manage to get access to larger organisations where, in times of recession, buyers are interested in discussing about savings and value-adding products: *'...before costs really became an issue, we were not important enough to the large multinationals; now that has changed...'* (R37). Furthermore, some owners/managers (10 in total, 8%) suggest that recession provides good opportunities for acquisitions as cash rich companies have a distinctive advantage over small companies affected by the economic turndown. In fact, acquisitions are viewed as a key part of their growth strategy which is in line with contemporary business literature (Districonsult, 2012; Hornke, 2013; Mortelmans and Reniers, 2012; Young, 2012b; Valk, 2012).

Overall, the findings of this study highlight the importance of the economic environment and its significant effect on the performance of SMEs in the UK chemical distribution industry; the

economy impinges upon every aspect of business activity, from starting up to expanding. Even though owners/managers consider the economy beyond the control of any business - let alone small businesses - and recognise the importance of government policies and interventions, this does not necessarily mean that SMEs should not be prepared to deal with the environment. In fact, SMEs, in order to avoid finding themselves in a disadvantageous position, need to be able to cope and adapt to current economic conditions, be flexible in their planning and maintain a proactive outlook as these conditions tend to change quickly.

Owners/managers are strongly advised to take a very careful consideration of the economic environment before making any type of investment or commitment to business ventures. This process entails engaging in financial planning, forecasting and incorporating economic conditions and variables into their business strategy. Cash flow and credit terms management, as part of strict financial control, are also identified as crucial to chemical distribution companies and should also be incorporated. Owners/managers should not be tempted to gain new business, no matter how lucrative it may seem, if the proposed payment terms from their customer are significantly longer than their supplier terms as this will create issues with cash flow. Furthermore, they should, whenever possible, make allowances for future losses due to bad debts and ideally build up a contingency fund for difficult times. The fact that many owners/managers may lack the skills to do so, needs to be addressed and would inevitably create the need for further training and the use of external advice in the form of consultants.

Even though there are many aspects to the economic environment, this study identifies access to finance as the most important element and further establishes the need for owners/managers and entrepreneurs to secure multiple sources of finance. SMEs in the UK chemical distribution industry have many different financial needs based on their size and stage in their development (starting up, expanding organically or through acquisitions etc.) and as such they need to take advantage and fully utilise all available options in the market(s) they operate. Based on the basic principles of the economic environment, SMEs are urged to look for more perfect capital markets where more financing channels and better access to capital and credit schemes are available. In fact, the greater the access to financial resources is, the more favourable this market would be to SMEs growth and innovation. A need to diversify sources of finance to include but not necessarily be confined to venture capital finance, leasing, factoring and invoice discounting and crowd funding is also recommended. Once funding is secured, SMEs are further advised to monitor cash flow and liquidity proactively, focus on planning and maintain a close and trustful relationship with their investors and lenders.

Similarly, owners/managers and prospective entrepreneurs should seek markets where government policies and support are available for SMEs and again utilise any resources available. The presence of a range of policy schemes such as the availability of grants and subsidies for small businesses, loan guarantees, increased direct lending, subsidised interest rates, tax exemptions, increased government export guarantees have an impact on their success. Furthermore, any public policies providing support to entrepreneurship such as special guarantees and loans for start-ups, government co-financing and business advice might potentially have a significant positive effect on entrepreneurial activity. Advice from relevant government agencies such as UKTI and the Chamber of Commerce should be sought. Overall, the government has a significant responsibility towards supporting SMEs growth and innovation and fostering favourable conditions for entrepreneurial activity. Providing access to capital for opening and improving the business, offering financial assistance to SMEs and increasing the number of centres or agencies that offer consultancy and expert services to explain about the financial support are a few of this study's recommendations.

Regarding finance options (funding), the findings of this study strongly suggest that these are dependent upon on the size of company. Smaller companies, mainly micro businesses, tend to be more flexible in their options and used personal funds, credit cards and loans from family while their larger counterparts refer to financial institutions and private investors. As SMEs grow from micro to larger business entities and even beyond SME level, owners/managers have to face the important decision of whether or not to accept external equity finance in return for part ownership of the business. As a word of caution, owners/managers need to accept the fact that if they accept external equity finance, they inevitably relinquish part of their control to either a financial institution or other individuals.

On a more positive note, it seems that there are many opportunities for growth for SMEs in the chemical distribution during periods of recession. In fact, the findings of this study strongly suggest that recession is considered a good time to offer cost saving, value-adding, innovative products as their customers are more open to products that could give their company a competitive advantage. As such, owners/managers should take the opportunity to identify and promote the right products and applications as a means to achieve sustainable growth. Recession also uncovers a number of opportunities for acquisition that similarly impact positively on growth. Cash rich SMEs with a strategic view to growth are encouraged to maintain an outlook for potential acquisition targets and take advantage of any opportunities as there will always be companies experiencing financial difficulties.

However, that creates a further requirement for financial resources and capital and a need to have standardised procedures in place to facilitate the acquisition process. It is up to the owners/managers of the business to address these needs.

Following the presentation and analysis of the quantitative and qualitative data on the critical success factors for SMEs in the UK chemical distribution industry, further non-parametric testing is conducted. Samples comparison analysis is utilised to investigate whether there are any differences between the answers received or between the respondent categories while correlation analysis is used to investigate whether there is a relationship among the identified success factors.

5.4.6 Samples comparison analysis (Mann-Whitney U testing)

A further analysis of the identified critical success factors based on the demographic characteristics of the respondents and the company characteristics is conducted, in order to identify any variances in opinions among owners/managers and companies. The Mann-Whitney U test is utilised to test the null hypothesis that two populations are the same against an alternative hypothesis. The analysis compares the identified CSFs against different parts of the population and company characteristics with a scope to investigate whether there are any differences between the answers received or between the respondent categories (i.e. any difference in opinions between male and female participants or between businesses of different size). Notably, the 'Nationality' and 'Years or previous experience' of the respondents against the CSFs offer no statistical value and are not further investigated as all participants are British and have more than 10 years of relevant experience.

Following analysis, no statistically significant differences are found in the evaluation of the critical success factors (CSFs) based on the respondent's (age group, education level, position in organisation, time in current position and with current employer, number of previous business ventures and number of SMEs worked for) and company characteristics (business location, age and size of business, annual turnover and export sales). In more detail, all significance levels are found to be above 0.05 indicating a uniformity of opinions among the different parts of the sample (owners/managers and companies).

5.4.7 Correlations analysis (Spearman's rho correlation matrix)

Correlation analysis is used to investigate whether there is a relationship among the identified critical success factors. As the collected data are ordinal in nature, the analysis is based on the

Spearman's rank correlation coefficient (Spearman's rho). The co-efficient of correlation shows the strength of the relationship and can range from -1.00 to +1.00 (Pallant, 2007). If the relationship is perfect and one measure follows exactly from another, then the correlation value is 1.00. On the other hand if there is no relationship, then the correlation value is 0.00. If two measures are the exact opposites of each other, then the relationship is negative with a value of -1.00. Cohan (1988) suggests the following guidelines on the degree of relationship between two independent variables:

- $r = 0.10$ to 0.29 Small relation
- $r = 0.30$ to 0.49 Medium relation
- $r = 0.50$ to 1.0 Large relation

Also, the correlation co-efficient is statistically significant when it is sufficiently different from zero to exclude the possibility that the correlation between the two measures is achieved by chance; this is determined through the significance level (Sig. 2 tailed). The significance level is termed as the remaining risk that the similarity could have occurred by accident. For instance, if the significance level was 0.01 there would be a one in a hundred risk of this happening.

The Spearman r correlation matrix demonstrating the correlation between the identified critical success factors (independent variables) is shown in the following table.

Table 5.11: Spearman rho correlation matrix

		PriorExp	CRM	HC	MPD	Str.Plan	Econom	Legal-Reg	Eco-Enviro
EO	r	0.01	-0.092	0.026	-0.055	0.067	-0.059	0.161	0.158
	Sig.	0.918	0.322	0.777	0.554	0.468	0.528	0.082	0.087
PriorExp	r	1	0.085	-0.116	0.085	-0.092	0.048	.353**	.356**
	Sig.		0.359	0.21	0.36	0.321	0.607	0	0
CRM	r		1	.234*	0.155	-0.056	-0.344**	.297**	.302**
	Sig.			0.011	0.094	0.545	0	0.001	0.001
HC	r			1	0.155	-0.057	-.190*	0.09	0.087
	Sig.				0.093	0.539	0.04	0.331	0.349
MPD	r				1	.207*	-0.065	0.092	0.09
	Sig.					0.025	0.482	0.321	0.335

Str.Plan	r					1	0.081	-0.071	-0.074
	Sig.						0.383	0.443	0.424
Econom	r						1	-0.149	-0.151
	Sig.							0.107	0.103
Legal-Reg	r							1	.999**
	Sig.								0

EO: Entrepreneurial Orientation; **PriorExp:** Prior work experience and management skills; **CRM:** Customer relations management; **HC:** Human capital; **MPD:** Market and product development; **Str.Plan:** Strategic planning; **Econom:** Economic environment; **Legal-Reg:** Legal and regulatory environment; **Eco-Enviro:** Ecological and Environmental.

Following correlation analysis based on the Spearman r coefficient, the majority of the correlations are found to be low or moderate suggesting the absence of multi-collinearity between the success factors. However, a large correlation between the ‘Legal and Regulatory’ and ‘Ecological and Environmental’ factors is found ($R=0.999$, $Sig=0.000$), suggesting that the respondents consider the importance of these two factors strongly correlated. This is in line with the qualitative data collected (please see section 5.4.6 Business environment critical success factors analysis) where the vast majority of respondents consider the two factors very closely related and interlinked with each other in the context of the UK chemical distribution industry.

The correlation analysis also reveals a further two meaningful medium relationships: ‘Prior work experience’ and ‘Customer relations management’ with ‘Legal and Regulatory’ and ‘Ecological and Environmental’ (to be discussed under Regulatory compliance).

Owners/managers in the UK chemical distribution industry consider the importance of prior work experience and management skills closely correlated to ‘Regulatory compliance’. This relationship is justified as regulatory compliance commands high levels of expertise, a deep knowledge of the current legislation and an understanding of future trends (Eacott 2014; Flavell-While, 2012; Whyte, 2012). People with experience and prior knowledge in the industry are seen as more capable to cope effectively with the regulatory requirements and financial impact of REACH compliance on their businesses. In addition, the fact that small chemical distributors have to undertake the task of registrations, authorisations, implementing restrictions and communicating the results of chemical safety assessments (Flavell-While, 2012; Whyte, 2012), stresses even further the need for good management skills and careful handlings.

Strong regulatory trends inevitably create more regulatory requirements and command for higher levels of expertise. Consequently, customers turn to their suppliers (that being distributors or

manufacturers) for information, guidance and advice. Satisfying customer needs and offering a good service (through technical support and dealing effectively with customer enquiries) is seen as an integral part of customer service. The more a small business satisfies a customer need, in this case regulatory compliance, the better the customer service is considered, to the point where it creates a competitive advantage and become a means of differentiation from other distributors. This justifies the reason why owners/managers consider 'Customer relations management' and 'Regulatory compliance' correlated.

5.5 Challenges for SMEs in the UK chemical distribution industry

In an attempt to get a better insight into the UK chemical distribution industry, owners/managers are asked to express their views on the main challenges SMEs faced in the industry. The qualitative data collected contribute to a better and fuller understanding of the research problem and provide a richer, deeper view on the mechanisms of the selected industry. The data (challenges) are categorised, organised in themes and discussed and analysed in this section. The most important challenges identified are regulatory compliance, globalisation (leading to increased competition and strong consolidation trends), supplier management, human capital and access to finance.

Regulatory Compliance has been highlighted not only as a critical success factor but also as a significant challenge for all SMEs in the UK chemical distribution industry: '*REACH is the single biggest challenge for small businesses these days*' (R70); '*...it will be interesting to see how many small companies would achieve and survive compliance...*' (R110); '*...the biggest challenge would be to cope with the cost of regulatory requirements...*' (R45); '*...regulation keeps increasing in complexity...*' (R20); '*...small companies will struggle with the level of expertise required...*' (R69). The majority of owners/managers (80%, 95 respondents out of a total population of 118) identify compliance as the most important challenge.

Owners/managers consider regulatory compliance a significant drain on human and financial resources and highlight cost and resources implications with 60% of them (71 people) agreeing on the matter. Complying with regulatory requirements, coping with increasing bureaucracy and offering approved, registered products in the European market alongside all other existing operations is considered a tedious task for many small businesses: '*...you have to deal with too many things at a time...*' (R71); '*(regulation) ...needs continuous monitoring that takes time off selling our products...*' (R78); '*...keeping up to date with regulations is time consuming and complex task...*' (R111); '*...you need more experienced people to deal with the regulation part...*' (R65); '*...the costs of compliance are creeping up on us...*' (R100); '*...internal costs have increased to cope with REACH...*' (R106); '*...you have*

to come up with the money to support registrations' (R19). As a result, the need to recruit new people, invest in the business and allow for increased costs is considered a priority.

Similarly, many respondents (60 in total, 51%) comment that the increasing cost of compliance, as an increase of direct costs and advisory services, restricts the market and a number of distributors have to withdraw: *'...many small companies will have to leave the market; they won't be able to afford this...'* (R7); *'...many SMEs owners would be thinking about selling and exiting market now'* (R73). The same applies for manufacturers as they need to make a decision of whether to stay in a market or not but also for companies considering entering the European market (i.e. Indian and Chinese manufacturers): *'EU won't longer be a lucrative market anymore with such high registration costs...'* (R97); *'...the high upfront registration costs will put many manufacturers off...'* (R40); *'...entering the market will require higher costs an expertise'* (R32).

Owners/managers (35 in total, 30%) also view regulatory compliance as a further barrier to starting up a small business in the UK chemical distribution industry: *'...it is another challenge to consider if you are thinking of setting up something new...'* (R85); *'...starting up will require more initial financial capital and expertise then before...'* (R60) *'...it will affect spin offs...in the past it was easier for people to start their own business...'* (R23); *'...it will make entry more difficult'* (R26). They also express complaints about the increased bureaucracy that would eventually limit the flexibility of small businesses: *'...bureaucracy is killing the flexibility of smaller businesses'* (R1). Respondents conclude that the current regulatory requirements definitely make the start-up of a new business more challenging with 30 of them arguing the matter.

Many owners/managers also identify a positive side to regulatory compliance (35 respondents, 30%). In the words of R95: *'...if you can't do business in Europe, you might as well try your luck in other markets'*. Small distributors have the opportunity to explore other markets outside Europe that do not have such strict regulations and may be easier to do business with: *'...expand in markets that are not as heavily regulated as Europe...'* (R68); *'...promote your products (if possible) outside EU'* (R24). However, further financial and human resources challenges arise: *'...it is easier said than done...'* (R14); *'...you still need to manage the internationalisation process properly'* (R74).

Owners/managers also recognise globalisation as a major challenge for their businesses due to the fact that it is leading to increased competition and strong consolidation trends with 70

respondents (60% of population) arguing its importance. This is in line with the driving forces of the chemical industry as identified in the literature review.

The UK chemical distribution industry is characterised as a very mature, long established market and as such it is viewed as a very competitive environment with a large number of distributors present: *'...it is a challenge to survive under such competitive market conditions'* (R112). In more detail the respondents comment: *'...we are now competing on a global basis...'* (R103); *'...competition can come now from anywhere in Europe or even out of Europe...'* (R14); *'...we see intense competition from pan-European and global distributors...'* (R9); *'...with globalisation...we can enter other markets more easily these days but that goes both ways: others come in our markets too'* (R33); *'...we now have to worry about companies based half way across the globe'* (R17). Owners/managers (30 in total) highlight the fact that the biggest challenge for smaller businesses is larger national and global distributors entering their markets. Especially in the UK, they stress the fact that pan-European distribution agreements have already pushed smaller SMEs out of the market and have been putting increasing pressure on their businesses: *'...too many distributors too few suppliers'* (R11).

On the other hand, technology (mainly the internet) and the advances in global logistics make it easier for smaller companies with fewer resources to compete and source products on a global basis. Respondents recognise that globalisation opens more opportunities for growth as new markets become more available and new suppliers are found with 20 respondents agreeing on the matter. *'We can now reach markets where we previously had no access'* (R82); *'...many times our product will not even come through the UK...'* (R89); *'...the internet and a good logistics company made a massive difference in our business...'* (R109); *'...being smaller means we can compete more on pricing now in other markets...'* (R83) are a few of the most characteristic quotes. Especially with REACH implementation in Europe, where regulation is becoming more restricting for business, SMEs have the opportunity to explore and sell to other markets. Of course, that opportunity becomes a further challenge as SMEs have to find and allocate resources (human and finance) towards this and manage the internationalisation process.

There is a general agreement among owners/managers (55 in total, 47%) that globalisation also intensifies the already strong consolidation trends: *'...resisting consolidation would be a serious challenge for smaller businesses...'* (R15); *'...competing in many markets means we are more visible to our competition...'* (R94); *'...there are too many distributors and economies of scale have to be achieved by consolidation...'* (R105). Overall, respondents agree that, in a mature market, the best way for larger

companies to grow is through acquisitions and as such smaller companies become ideal targets for *'...cash rich, growth and margin driven, national and global distributors....'* (R34) that *'...have no option but to grow in order to keep their investor happy...'* (R48). In the words of R91: *'...there are far too many large companies trying to buy us at the moment'*. With larger distributors having a longer and deeper reach to the market, more resources, financial strength, better buying power and economies of scale and on the lookout for acquisitions SMEs *'...have to stay invisible'* (R47). In other words, the main challenge is to *'...keep your head down...'* (R55), *'...avoid being seen to be successful...'* (R58), *'...try not to attract too much attention...'* (R35) and *'...keep a low profile to avoid detection and being targeted as a potential acquisition'* (R113).

Regarding supplier management - which is highlighted by 70 respondents (60% of population) as major challenge - owners/managers identify two main challenges: maintaining existing suppliers and finding new ones. Based on the fact that *'...without suppliers, you have no products and thus no business...'* (R117), it becomes obvious that small distributors should *'...put a lot of effort into managing their sources'* (R41).

According to the respondents, SMEs should strive to become a reliable partner to their suppliers while building up their credibility, *'...so your suppliers can trust you and see you as a business partner'* (R2). Taking into consideration a shrinking manufacturing base in the UK and with a large proportion of global manufacturing moving to India, China and the Far East, owners/managers consider suppliers ever so important: *'...the challenge is to keep your suppliers content...'* (R56); *'...if you keep selling, they will keep supplying...'* (R84); *'...you need to maintain your good reputation or build one...'* (R37); *'...be seen as a preferred distributor...'* (R70); *'...protect your sources...others may tempt them to leave you...'* (R100); *'...get plenty of contacts in your suppliers' companies...'* (R16); *'...build good, strong relationships'* (R45). Respondents further recognise that in Europe, due to regulatory requirements, there will be a restriction in existing and new suppliers so *'...there could only be a few suppliers with registered products...you need to be in with one of them at least'* (R89).

A further challenge for SMEs in the UK chemical distribution industry is the need to keep adding new suppliers. Several owners/managers (35 in total) express the opinion that new suppliers are very important in growing a business and are viewed as the sole source of innovation for distributors with no R&D and manufacturing capabilities: *'...your suppliers will give you new ideas and come up with exciting products...'* (R32); *'...we can't develop new products or predict market trends'* (R86). Small distributors have to keep updating their product portfolio and adjust their offering to

customer requirements and market trends. Unlike larger companies with more resources, smaller companies have to rely more on their suppliers to do that: *'...suppliers can help you find new markets...'* (R61); *'...identify new applications...'* (R29); *'...provide with all data needed to sell the product...'* (R75); *'...provide the technical support you need...'* (R97); *'...do joint visit to support your business'* (R111).

Many owners/managers also identify human capital (50 respondents, 42%) as a challenge for small businesses in the UK chemical distribution industry. Several respondents comment that finding, attracting and retaining qualified and skilled people into their business has been getting increasingly difficult: *'...there is a lot of competition for good people'* (R42). In fact, there is a general agreement that, to start with, there is a distinct lack of skilled and qualified people in the industry: *'...we need more scientists, chemists, engineers...'* (R10); *'...there aren't enough technical people educated to a degree...'* (R109); *'...universities are not producing enough scientists...'* (R99); *'...we need more people with technical understanding and background...'* (R57); *'...need people with regulatory knowledge...'* (R36); *'...can't keep paying external consultants, they are too expensive...'* (R103).

In addition, many owners/managers recognise the fact that it is getting harder for smaller businesses to attract new employees with 35 respondents arguing the case. In their opinion this is due to two main reasons. Firstly, larger distribution companies offer better packages and career prospects: *'...we keep losing good people to the larger companies...'* (R38); *'...we can't afford to offer the same salaries and benefits...'* (R44); *'...larger distributors are very aggressive in their recruitment...'* (R23); *'...working for a global distributor is a high prestige job...'* (R66); *'...larger companies can offer many career paths...'* (R4); *'...you are part of a large machine'* (R105). Secondly, smaller companies are considered more high risk, a less stable working environment and more dependent on the market conditions: *'...young graduates think that we will go bankrupt...'* (R115); *'...difficult to see themselves working a long time for a small business...'* (R49); *'...we are seen as high risk employer'* (R19). Similarly, retaining employees was also highlighted as a challenge as: *'...large companies offer lucrative packages and prospects...'* (R71) and *'...try to poach our best people all the time'* (R64). The need to *'...keep your employees happy and content...'* (R93) and *'...give them no reason to leave your company'* (R26) is recognised.

Another aspect of human capital that several owners/managers highlight (26 respondents, 22%) is that of succession planning and the replacement of senior management (MD, Directors, and owners). There is an agreement that succession planning is extremely important to small businesses as it could potentially affect their operation: *'...there is a need for a smooth transition when the MD*

leaves...' (R53); *'...we will need to show that it is business as usual when I go...'* (R81). Succession planning is seen to *'...guarantee longevity...'* (R113), *'...ensure business continuity and stability...'* (R59), *'...demonstrate strategic thinking'* (R14), *'...build trust with employees but also suppliers and customers...'* (R13), *'...is a good sign of business planning...'* (R54) and *'...a way to sustainable growth...'* (R94). The fact that many small businesses do not have any business succession planning in place is highlighted by the respondents (10 owners/managers mentioned this issue) and is seen as a challenge for the near future: *'...it has to be done as soon as possible'* (R88).

Many concerns are also voiced about access to finance especially as SMEs need funding to stay in business, *'...need to keep floating and not running out of cash...'* (R51) and *'...fuel future growth'* (R58). Many owners/managers (56 in total, 47%) view securing finance a significant challenge, especially during recession times, as financial institutions and private investors consider small businesses as high risk and do not release funds. In fact, many respondents (26 in total) feel that being refused finance has nothing to do with their company performance but due to the fact that, during recession, *'...banks will simply not lend you money'* (R74). The need to *'...have a business plan to show what you will do with the money...'* (R79), *'...maintain your profitability...'* (R106) and *'...run a tight ship on payments and payment terms...'* (R46) is also highlighted in an attempt to secure finance. Maintaining a good relationship with your lenders and building a good reputation and credit history as a business is also considered critical in attracting and securing finance from investors or banks: *'...work closely with you bank...'* (R33); *'...keep your investors interested in your business...'* (R107); *'...pay on time, build and maintain a good credit score'* (R78).

5.6 Recommendations for SMEs in the UK chemical distribution industry

Further exploring the UK chemical distribution industry and in order to get a better understanding of its modus operandi, owners/managers are asked to offer their recommendations on success and sustainable growth. The qualitative data collected reflecting their opinions, contribute to a better and fuller understanding of the research problem and provide a richer, deeper view on achieving small business success in the selected industry. The qualitative data collected (recommendations) are categorised, organised in themes and presented in this section. Inevitably, the majority of recommendations revolve around the already identified critical success factors (CSFs). The general view is that if small businesses strive towards satisfying the CSFs then they will be successful. As a result, regulatory compliance, customer relations management, market and product development, human capital, strategic planning and financial resources form the largest part of the respondents' recommendations.

Regarding regulatory compliance, the recommendations are very simple and there is no room for misinterpretation: *'...there is no future for businesses that are not compliant...'* (R91), *'...compliance is the first thing to ensure you have before you start trading...'* (R98), *'...by 2018, all small distributors would need to register their products or exit the market...'* (R13), *'...if products are not registered, they can't enter the market'* (R43). Owners/managers (80 in total) view compliance more as a definite requirement rather than a recommendation: *'...it is the only factor that SMEs can't simply ignore, it has to be addressed...'* (R85); *'...it is the most restricting factor...'* (R104).

Respondents (72 in total) also address the need for SMEs to look after their customers (CRM) and maintain strong and long term relationships with them: *'...customers are your business...'* (R110), *'...tend to your customer needs...'* (R67), *'...become more than a supplier, be a partner to them...'* (R83); *'...lose your customer and you will be out of business'* (R48). At the same time, they recognise the need for small businesses to conduct their business in a professional and ethical way so as to build a good name and reputation in the industry: *'...people will deal with you upon recommendations...'* (R17); *'...in the chemical industry, reputation is important...'* (R96); *'...it is important to have a good name in the market'* (R65). Furthermore, respondents (54 in total) strongly recommend that SMEs stay close to their customer base so as to be able to cover their needs more effectively but more importantly to *'...read the market...'* (R12) and identify future trends.

Supplier management is also identified as an integral part of customer relations management with 65 respondents offering recommendations on this area: *'...treat your suppliers like your best customers'* (R52). The need to strengthen the relationship with existing suppliers and, at the same time, find new ones is highlighted: *'...been seen as a partner, not just an outlet for their products...'* (R77), *'...you need to be adding value to their products...'* (R55); *'...you always need a plan B, as in alternative suppliers...'* (R95); *'...don't be too dependent on a few suppliers'* (R97). As chemical distributors rely on their suppliers for products, managing the relationship becomes of significant importance. Similarly, with the chemical distribution industry being heavily reliant on the logistics industry to cover their transportation requirements, the need for a reliable, low cost partner in logistics is obvious: *'...a good logistics company will make all the difference...'* (R76); *'...with products coming and going all over the world, logistics is key.'* (R95).

Understanding the market (MPD) and its needs is one of the main recommendations given by a large number of owners/managers (63 in total): *'...know the players, customers and manufacturers...'*

(R34), *'...understand what market needs and align your offering accordingly...'* (R74), *'...be ahead of trends...'* (R28), *'...keep your finger on the pulse'* (R101). With the UK chemical distribution being a mature and well-established market, the need for differentiation in products and services is considered critical. Small businesses need to position themselves carefully in the marketplace, differentiate their offering from the competition, offer niche products with unique selling points and better and more personal services. The respondents' views are very clear: *'...any new and existing companies need to have a unique offering...'* (R12), *'...a value adding factor that will provide the differentiation is essential...'* (R76), *'...need to specialise more than generalise...'* (R97), *'...find the gap and service it'* (R102).

In general, owners/managers comment that the future of small businesses relies upon niche products in highly specialised, growth areas where there are better profits and less competition; for instance pharmaceutical and personal care applications, with 54 of them arguing this case. Mature, saturated or declining markets have to be avoided as they do not contribute to growth. Good market research to identify areas of growth and avoid stagnant markets is subsequently considered important. Respondents also advise that SMEs should not overstretch and lose focus but rather concentrate on their core strengths and competencies: *'...do not spread too thin...'* (R32), *'...focus on what you do best'* (R75). In the words of R69: *'...keep up to date with market developments and trends, be ready to adapt to changes quickly and focus on customer needs at all times.'*

In order for SMEs to be successful and maintain a positive outlook in the industry, they also need to invest in human resources. 30% of owners/managers (35 respondents) recognise the need to invest in *'...good people that would drive the business forward...'* (R39), *'...get enough expertise in...'* (R45) and *'...employ hard working, technically focused people dedicated to the business'* (R95). The fact that the industry has become more complex means that more qualified and skilled people are required in the future. In fact, many respondents (24 in total) highlight the need for the UK educational system to produce individuals with the required technical and academic skills for the specific industry: *'...universities need to produce more scientists...'* (R73); *'...there needs to be more focus on science jobs'* (R85). They further suggest that more rigorous entrepreneurial education should be offered in schools and universities to further support entrepreneurial activity in the UK. At this point, several owners/managers also argue that the industry needs to work more closely with the government to ensure that there is a national strategy in place to support SMEs competing on a global basis, with 18 of them agreeing on the matter. With an ever decreasing manufacturing base in the UK and chemicals production moving to other parts of the world, the need to formulate a strategy to counteract that

effect is dire: *'...we all need to work together to address the industry issues...'* (R37); *'...have to utilise all channels of communication to the government...'* (R4); *'...need more support from the government to increase our competitiveness'* (R16). In addition, respondents urge small businesses to explore all available avenues to obtain support from government funded organisations; for instance UK Trade and Investment (UKTI).

Strategic planning and particularly formulating and executing a business plan are also highly recommended by owners/managers (43 in total) in the pursuit of success and sustainable growth. The need for clear business objectives and subsequently a clearly defined strategy reflecting these objectives is deemed as *'...absolutely necessary in making your business successful'* (R82). *'Every company should have a reason for existing and a business plan to achieve this'* (R62), *'...the owner should decide the reason why he/she is in business and formulate a plan towards this...'* (R45), *'...the plan needs to be communicated so all employees work towards the same thing'* (R18) are some of the most characteristic quotes. Respondents (28 in total, 24%) further argue that it is irrelevant whether the business plan is formal or informal and recognise that many owners/managers of small businesses in the industry tend to have an informal business plan: *'...it doesn't matter if your plan is not hanging on the wall, as long as everybody knows what it is'* (R6).

Engaging in financial planning is considered as a very important activity for small businesses owners/managers in the UK chemical distribution industry with 35 of them offering recommendations on this area. First of all, the need to secure solid funding in the early stages of the business is viewed as critical: *'...you need proper financial support before you start...'* (R34), *'...very difficult to start a business venture without a good bank or keen investors...'* (R67); *'...even if you are self-financed, you will still need support at some point...'* (R17); *'...the better the finance in the beginning, the more chance for success...'* (R7). Once the initial capital is secured, proper financial control needs to be in place. Respondents (27 individuals) recommend that small business owners/managers manage profitability, cash flow and borrowing, have a strict control on business costs and regularly monitor payment terms and credit to suppliers and customers. In more detail: *'...do not stretch your finance too much...'* (R23), *'...margins are top priority...'* (R47), *'...keep business profitable...'* (R116), *'...do not run out of cash...'* (R58); *'...manage your P&L at all times...'* (R106). Respondents (20 individuals) also highlight the need to keep investing in the business to fuel growth and expansion. However, as a word of caution, they also recommend that small successful companies maintain a low profile in the market so as not to attract competition and become a target for acquisition: *'...keep your head down or you will be targeted'* (R45).

In their final comments, owners/managers strongly advise small businesses to avoid complacency, be flexible and embrace change. Flexibility and adaptability are recognised as two of the most important assets that SMEs in the chemical distribution industry have by several respondents (29 in total). The ability to keep changing and adapting to new market conditions quickly is considered a key to success and sustainable growth: *'...if you want to succeed, you can't keep still for too long...'* (R96); *'...you have to keep moving forward...'* (R24), *'...be flexible and adapt quickly...'* (R29); *'...market is changing all the time; you have to keep up...'* (R44); *'...small companies are quicker on their feet as they have less decision makers...'* (R55). In fact, many respondents (25 in total) believe that change - whether it is changing market demands, changing growth opportunities or changing regulations- is the one constant feature to be faced by chemical distributors in the future. As a result, only those companies that embrace these challenges to better serve their customers will see their business thrive.

5.7 Summary

This chapter has presented, analysed and discussed the findings of this study conducted among the owners/managers of SMEs in the UK chemical distribution industry. Initially, the demographic characteristics of the respondents and their companies are outlined. The average participant is male, over 50 years of age, British, educated to at least a degree level, with management responsibilities and a long service in his current company (over 6 years), with over 10 years or previous relevant experience predominantly in the private sector, having worked with at least 3 SMEs in the past and with previous entrepreneurial activity in the industry. Similarly, the typical SME operating in the UK chemical distribution industry is a long and well established business, located close to its customer and supplier base, trading for over 10 years, with an annual turnover between 10-50m EUR, employing between 10-49 people and with a reasonable exporting activity (10% of annual turnover on average).

The critical success factors for SMEs in the UK chemical distribution industry, as identified by the respondents, are then presented and analysed. In order of importance, legal and regulatory and ecological and environmental (which are discussed under regulatory compliance), entrepreneurial orientation, customer relations management, market and product development, prior work

experience and management skills, human capital, economic environment and strategic planning are established as critical factors in the success of SMEs in the specific industry. These are further distinguished in Entrepreneurial, Enterprise and Business Environment and qualitative data are collected to investigate the reasons why these are considered important.

The reliability of the survey instrument is assessed utilising Test-Retest. Following statistical analysis, the test-retest reliability coefficient indicates excellent reliability.

Further non-parametric testing is utilised to get a better insight in the identified critical success factors. Samples comparison analysis is used to investigate whether there are any differences between the answers received or between the respondent categories. The analysis concludes that there are no statistically significant differences in the evaluation of the critical success factors among the different parts of the target group.

Correlation analysis is also utilised to investigate whether there is a relationship among the identified success factors. The analysis reveals a strong correlation between the 'Legal and Regulatory' and 'Ecological and Environmental' factors (discussed under Regulatory complinace) and a further two meaningful medium relationships between 'Prior work experience' and 'Customer relations management' with 'Legal and Regulatory' and 'Ecological and Environmental'.

Further data, qualitative in nature, are also collected to identify the challenges that small businesses face in the UK chemical distribution industry. The most important challenges identified are regulatory compliance, globalisation (leading to increased competition and strong consolidation trends), supplier management, human capital and access to finance.

The recommendations of owners/managers on success and sustainable growth are also sought with the majority revolving around the already identified critical success factors (CSFs). The general view is that if small businesses strived towards satisfying the CSFs then they will be successful. Therefore, regulatory compliance, customer relations management, market and product development, human capital, strategic planning and financial resources form the largest part of the respondents' recommendations.

CHAPTER 6

CONCLUSIONS

6. Conclusions

The aim of this chapter is to provide the conclusions of this study to demonstrate how the research aim has been met. The contribution of this research on a theoretical basis is also discussed followed by the impact and consideration of implications on the stakeholders who are the SMEs owners/managers, entrepreneurs, the Government, policy makers, financial institutions, chemical manufacturers and suppliers and non-government organisations. Research limitations and recommendations for future research are presented.

6.1 Introduction

Even though a number of critical success factors (CSFs) for small and medium-sized enterprises (SMEs) are established in the business literature, the relative importance of each factor varies with the business environment; that is the industry and country these operate in. In effect, that means that while one factor may be of great importance in one industry or country, it may not necessarily be of equal importance in another (Alfaadhel, 2010; Benzing *et al.*, 2009; Cragg and King, 1988; Chawla *et al.*, 2010; Colin *et al.*, 2005; Dean *et al.*, 2000; Gibb, 2000; Kader *et al.*, 2009; Krasniqi *et al.*, 2008; Lawal, 2005; Lin, 2006; Ogundele, 2007; Rutherford *et al.*, 2001; Simpson *et al.*, 2012; Smallbone and

Wyer, 2000; Van de Van, 1993). The need for empirical studies to investigate the impact of the already identified success factors in a specific industry and within a specific country context is well established. Therefore, this research focused on SMEs operating in the UK chemical distribution industry with an aim to identify the critical success factors (CSFs) for their success and sustainable growth.

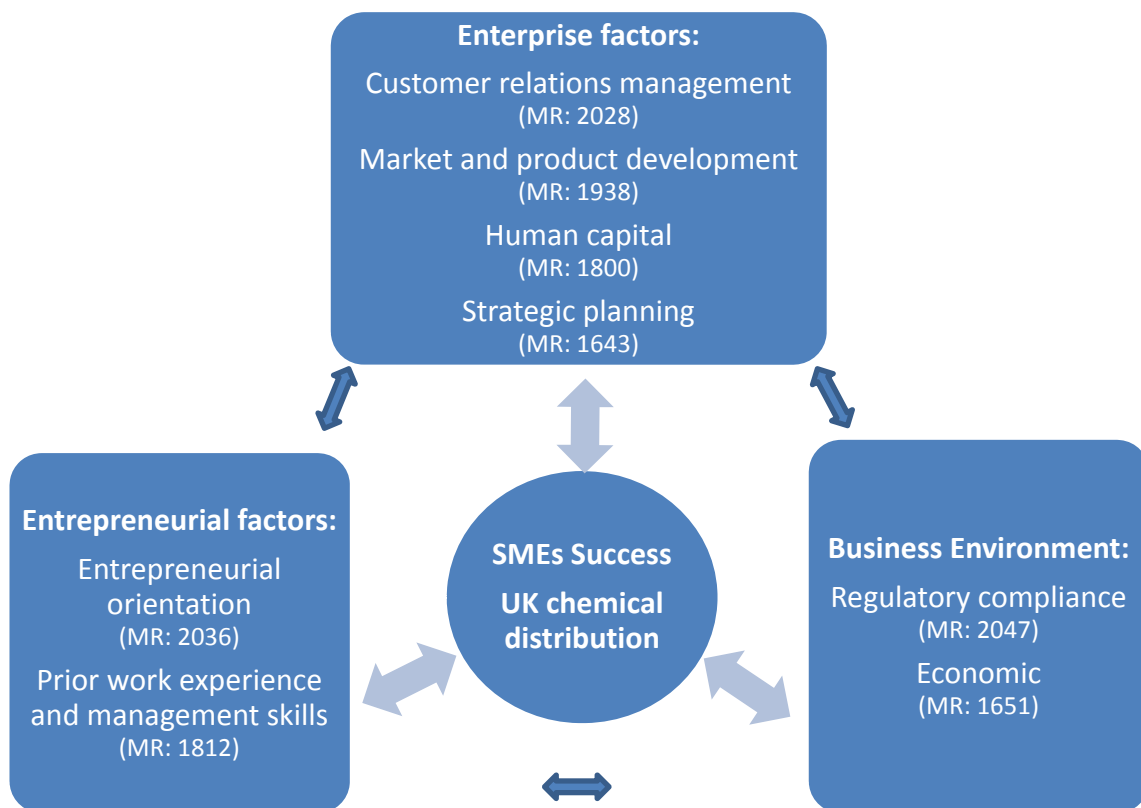
A number of success factors, twenty two in total, (please see Figure 2.2 in Chapter 2 for the full list) are identified from the critical review of the literature on small business and entrepreneurship and are classified in three categories: entrepreneurial, enterprise and business environment. Owners/managers in the UK chemical distribution industry ranked each suggested success factor based on its importance to the specific industry and provided a justification for that selection. This allowed the collection of rich qualitative data which offered an insight on the success factors and their importance in the specific industry. Similarly, owners/managers were asked to identify the main challenges small businesses faced and provide their recommendations on success and sustainable growth in this industry.

Overall and in line with small business literature (i.e. Dobbs and Hamilton, 2007; Islam *et al.*, 2011; Simpson *et al.*, 2004a), SMEs success in the UK chemical distribution industry is found to be dependent upon many factors being optimal simultaneously. In fact, it is a combination of factors and not a selected few that lead to business success; satisfying one or two factors does not necessarily guarantee success. In other words, this research recognises and establishes SMEs success as a multidimensional phenomenon, affected by both firm-internal (enterprise) and firm-external (entrepreneurial and business environment) factors. The general view of this study is that if small businesses strive towards satisfying the identified critical success factors (CSFs) then they will be successful and achieve sustainable growth. During this process and based on the fact that change is identified as the one constant feature to be faced by chemical distributors in the future, flexibility and adaptability are deemed very important assets for SMEs in the selected industry. The ability to keep changing and adapting to new market conditions quickly is also considered a key to success and sustainable growth, an area that is worth investigating further.

This study establishes a positive relationship between eight (8) success factors and SMEs success and sustainable development in the UK chemical distribution industry: Regulatory Compliance, Entrepreneurial Orientation, Customer Relations Management, Market and Product development, Prior Work Experience and Management Skills, Human Capital, Economic Environment

and Strategic Planning. Therefore, these factors are considered critical for small business success in the specific industry. This is the main theoretical contribution of this study, which is presented in detail in Figure 6.1 below. The interrelationships amongst the critical success factors alongside their relative strength (based on the Kruskall Wallis Mean Rank, MR) are also depicted in the same figure. The reasons why these factors are considered important, the challenges the industry is facing and any recommendations from owners/managers are all being amalgamated into the conclusions for each critical success factor, which are presented, in order of descending importance, in the following section.

Figure 6.1: Theoretical contribution



There are also a number of factors that have not been identified as critical to the success of SMEs in the UK chemical distribution industry. This study concludes that business networking, financial resources, the personality and education of the owner/manager alongside marketing and internationalisation, even though still important, have a smaller impact on the success and sustainable growth of small chemical distributors operating in the UK and are thus referred to as non-critical. The political, technological and socio-cultural environment alongside the age and size of firm and age and gender of the owner/manager are considered of particularly low importance. As this research, through the collection of qualitative data, focuses only on identifying and exploring the critical success factors, it is not possible (nor has it attempted) to provide any explanation on the reasons why the above are not considered critical. This may well become the basis for future research.

Nevertheless, the researcher recognises and it is certainly worth noting that a number of the aforementioned non-critical factors are incorporated, to a certain extent, into the identified CSFs. For instance, business networks are identified as an important part of the owners/managers' prior experience. Business contacts, anything from previous formal arrangements (i.e. joint ventures, alliances and distribution agreements) to informal networking (i.e. business clusters, business incubators, entrepreneurship clubs), are established as beneficial to small businesses by providing access to business ideas, resources, knowledge and capital while reducing risks. Similarly, the age of the owner/manager, in light of the experience, education, skills, financial and social capital accumulated over a long working career, is also mentioned under the prior working experience and skills success factor.

Furthermore, there is a significant overlap between the economic environment and financial resources with access to finance having been identified as the most significant element for both of these factors. The personality of the owner/manager and in particular those characteristics required for success and sustainable development, are discussed under entrepreneurial orientation. EO also incorporates elements of the political and socio-cultural environment as it establishes a lack of entrepreneurial education and the need to promote entrepreneurship and small business ownership, advisory services and SME-friendly policies. The educational level of owners/managers and its impact on small businesses form part of prior experience and skills and are also addressed under human capital.

Regarding marketing and as this is the management process responsible for identifying, anticipating and satisfying customer requirements profitably (CIM, 2015), many of its aspects are

incorporated, discussed and analysed in regulatory compliance, customer relations management, market and product development and strategic planning. Internationalisation, as a way to develop and expand into new markets, is also identified as an integral part of the market and product development. Last, the technological environment is partly incorporated into CRM as technology is found to provide a significant support role to SMEs such as ICT skills, e-CRM systems for customers and suppliers, websites, databases while the advances in global logistics allow small businesses with fewer resources to compete and source products on a global basis.

During this study considerable variations are identified amongst the participating SMEs based on their size, contradicting current thinking that assumes the SME category to be relatively homogeneous. The findings of this study support the argument that medium-sized firms (50-250 employees and 10-50m EUR per annum turnover) in the UK chemical distribution industry strategize, behave and react differently to smaller firms (micro and small firms, under 50 employees and under 10m EUR in turnover) due to a well-established lack of resources and capabilities. Significant variations are identified in all the enterprise (Customer Relations Management - CRM, Market and Product development - MPD, Human Capital and Strategic Planning) and business environment critical success factors (Regulatory Compliance and the Economic Environment). This study concludes that SMEs in the UK chemical distribution industry are not a homogeneous group and therefore different strategies need to be formulated based on the size of the firm. This is in line with the work of a number of authors arguing that different strategies are needed for different sized SMEs (Hillary, 2000; Laforet, 2008 and 2009; Merritt, 1998; Wilson *et al.*, 2012).

In particular, micro and small chemical distributors in the UK have a less sophisticated, more informal and intuitive approach to strategic planning. They are very market and customer oriented, focusing intensely on niche markets and specialised products and achieving growth through developing existing customers. Similarly, their approach to human resource management and development is equally informal while they tend to utilise their existing resources to the fullest, rather than attracting new, more skilled and highly paid employees. The relatively low bargaining power they have against their much larger suppliers and manufacturers, also commands their intense focus on developing and maintaining strong supplier relationships. Regarding their finance options, they are more flexible and can utilise personal funds, credit cards and loans from family alongside financial institutions and private investors. Last, the regulatory compliance strategy of small businesses is heavily dependent upon the available resources (human, finance and time) as these determine the

number of products they will register under REACH and the technical support they can provide to their customers.

Conversely, medium-sized SMEs in the UK chemical distribution industry are more committed, formally engaging and dedicating more time and effort to strategic planning. Due to the availability of resources and having utilised their existing customer base, they achieve growth through market and product expansion - increasing their geographical coverage and enriching their product range - and targeting new customers. These firms have more resources available, a better structure in place to manage human resources and offer more training and development opportunities. Depending on their growth strategy, they utilise a combination of recruiting and developing existing employees to increase their human capital. Due to their larger size and more bargaining power, they focus on managing the breadth of their suppliers and principals, establishing processes and avoiding conflicts in product portfolio. Regarding their finance options, they are less flexible and need to refer to financial institutions and private investors. The availability of resources is also reflected on their regulatory compliance strategy where they are more likely to register more products under REACH and offer a better technical support and expertise to their customers.

6.1.1 Regulatory Compliance

Despite the fact that SMEs, unlike their larger counterparts, are considered to be more flexible, adaptable and thus less being able to cope with the business environment more effectively, this study concludes that regulatory compliance can not be avoided. Inevitably, all SMEs operating in the UK and European chemical distribution industry have to fully implement the measures necessary to comply with regulations otherwise face the real risk of being excluded from the market. A compliance strategy needs to be developed and implemented while a long-term, flexible outlook on regulatory requirements, especially on REACH and competition law, has to be maintained. Keeping a low profile or adopting a *'just say yes'* approach would be meaningless.

Regulations, particularly REACH, impact greatly upon all other business success factors. Owners/managers have to carefully manage their already limited resources and weigh potential benefits against investment. Strict financial control is essential to manage the incurring costs (direct or indirect) to the business. An investment in human resources, so as to achieve the level of expertise and regulatory competence required, is necessary and highly advisable. Utilising external consultants is deemed more appropriate in the initial stages of the registration process - where more expertise is required - but in the long term permanent employees are needed to manage the process. Similarly,

SMEs need to develop and adjust their product portfolio based on regulatory requirements while strengthening relationships with existing and new suppliers.

Throughout the compliance process and as part of their strategy, owners/managers are strongly advised to utilise any sources of support available to them, for instance the European Chemicals Agency (ECHA), the European Commission and the Chamber of Commerce among others. In fact, this study raises serious concerns of whether SMEs are able to cope with the regulatory requirements without the support of the government and industry organisations due to a well-established lack of resources. On that basis, the government and relevant associations carry the responsibility and ought to reach out to SMEs to offer more support and access to resources and training in order to support small business activity.

The findings of this research strongly suggest that REACH is becoming overly burdensome, with that having a potential dampening effect on existing small business activity, entrepreneurial (start-up) activity and innovation. In fact, this study has reached the conclusion that the perceived added value of REACH for SMEs in the UK chemical distribution industry is limited and viewed it more as a necessity rather than a competitive advantage or unique selling point for small businesses. This finding directly contradicts the European Chemicals Agency's (ECHA) philosophy that REACH has been adopted not only to protect human health and the environment but also to foster innovation and enhance the competitiveness of the European chemicals industry. This study uncovers a serious divergence between the theoretical (intended by the policy makers) and actual (as viewed by owners/managers) effects this regulation has on small businesses that needs to be addressed immediately to ensure a successful implementation. Unfortunately, the overall stated objective to foster innovation and increase the competitiveness of the European chemical industry has remained rhetoric. Therefore, policy makers need to reinstate the intended benefits and intensify efforts to 'sell the idea' to small businesses. Communication about REACH, especially on its intended goals and benefits (health and environmental) needs to be improved. Failure to do so would severely affect the competitiveness of the European chemical and chemical distribution industry alongside small business and entrepreneurial activity in this industry.

This study, in line with business literature (BCG, 2012; Chemagility, 2008; Hornke, 2012; Mandery, 2014), concludes that REACH has already impacted negatively on SMEs with this effect expected to intensify in the coming years. In more detail, it is seen as a significant contributing factor in increasing the entry barriers for this market thus impeding entrepreneurial activity and new

business venture creation. As per Porter's five forces (in Wetherly and Otter, 2014) the presence of strong regulations, high initial capital requirements, difficult access to distribution, a requirement for economies of scale and a presence of large manufacturers make entry even more difficult. SMEs would struggle in the future to enter the European and consequently the UK chemical distribution industry. REACH has also reduced the number of suppliers and chemical products due to high registration costs and long returns on investments, thus creating oligopolistic market conditions and intensifying the already strong consolidation trends amongst distributors. Increasing regulations have further imposed a significant strain on human resources through an increase in the complexity and workload of the business and the need for more expertise, customer and technical services to satisfy requirements and on financial resources through direct (registration costs) and indirect costs (i.e. time, expertise required, potential external advice, training etc.). This, in turn, has led to price increases as companies eventually try to recover these costs and pass them on to consumers. Last, the heavy regulatory burden and high costs of producing and managing new products, has impacted negatively upon innovation and R&D activity.

6.1.2 Entrepreneurial Orientation

The findings of this research identify EO as a significant antecedent of business growth, a factor that has an overall positive effect on business performance and a source of differentiation or competitive advantage for SMEs in the UK chemical distribution industry. In fact, this study establishes a very strong relationship between EO and the longevity and long term performance of the business. Conversely, a lack of entrepreneurial orientation and attributes are further established as common reasons for small business failure and low entrepreneurial activity. In other words, should SMEs in the specific industry lack entrepreneurial behaviour - in means of risk-taking, innovativeness and pro-activeness - they are faced with stagnation and eventually failure, affecting the whole industry.

This research establishes EO as the single most important and influential factor in starting up a new business in the UK chemical distribution industry, with owners/managers stressing the fact that without the presence of an entrepreneurial spirit and outlook, a successful start-up is extremely difficult. This is no different to other start-ups (i.e. in other industries and countries) but reinforces its importance in the specific industry. Notably, the findings further reveal that EO does not only concern the birth of a business venture but is a firm level phenomenon and as such, is very relevant to all the managers and employees in a small business. Therefore, it is highly recommended that all SMEs

develop and maintain a strong entrepreneurial orientation and behaviour. Owners/managers need to constantly engage in those decision-making styles, practices, processes and behaviours that lead to entry into new or established markets with new or existing goods or services. They are also strongly encouraged to embrace innovation, become proactive and learn from crises and difficulties. A need for achievement, the motivation to create growth and a strong sense of purpose and determination are also essential elements and need to be developed.

This research further reveals that there is also a need to engage all employees in entrepreneurial styles, practises, processes and behaviours and encourage them to think and behave in novel ways on a continuous basis. The process of developing such an orientation should be properly managed, meaning allocation of time and resources. EO needs to be embedded deeply in the company and be part of the culture and day to day activities and not just a senior management activity. Establishing formal company processes and practises and providing training either through formal (for instance, external training courses through consultants, universities or colleges, government organisations etc.) or informal routes (internal training by more experienced and qualified employees) are highly recommended. It is also important that EO is expressed and communicated through the vision of the company and its mission statement, which, in the case of SMEs, originates from and reflects the vision of the owner/manager.

However, the findings of this study reveal that many small businesses lack a vision and a mission statement and stress the need for all SMEs in the selected industry to have one in place, even if that is on an informal basis. The vision and mission statement are the elements that bring all employees together, give them a strong sense of purpose and direction and act as a point of reference for any business activity. It is this study's recommendation that SMEs develop a strong vision and subsequently a mission statement reflecting and communicating the aims and objectives of the business. The need for clear business objectives, a focus on growth and strong initiative to drive the business forward are prerequisites for success throughout the life of the business. This vision needs to be communicated by the owners/managers and prospective entrepreneurs in a clear and effective way so as to be understood and accepted by all employees to maximise its impact.

This study further acknowledges that maintaining a flexible entrepreneurial orientation is vital in generating new business ideas and identifying new business opportunities in achieving long term sustainable growth. Findings suggest that entrepreneurially oriented firms are more likely to be innovative and venture successfully into new or existing markets. In other words, the entrepreneurial

orientation of the owner/manager enables the right types of innovation and entrepreneurial activities in the company thus facilitating product development and new market entry. Furthermore, entrepreneurially oriented owners/managers are in a position to identify and exploit the right opportunities and recognize threats and opportunities, positively affecting business continuity. Similarly, their ability to manage uncertainty and tolerate risk positively influences business performance under conditions of high market turbulence.

Overall, this study concludes that SMEs in the UK chemical distribution industry are faced with business stagnation and inevitably failure, if they fail to develop an entrepreneurial orientation and behaviour, with the main elements being risk-taking, innovativeness and pro-activeness. In fact, the findings strongly suggest that entrepreneurially oriented businesses are more innovative and venture more successfully into new or existing markets. This research further concludes that EO is indeed a firm level phenomenon, not just a senior management activity and thus relevant to all employees in a small business. A clear need for EO to be embedded deeply in the company culture and day to day activities, - as it does not only concern the birth of a business venture but affects a small business throughout its life- is also established. Similarly, a further conclusion of this study is the need for SMEs to develop a strong vision and subsequently a mission statement communicating the aims and objectives of the business and reflecting its entrepreneurial orientation.

6.1.3 Customer Relations Management

Taking into consideration the fact that chemical distribution is a service based industry - as distributors do not manufacture any products but only trade them - this study concludes that SMEs success and sustainable growth depend greatly upon providing excellent service and customer care. This distinct lack of manufacturing capabilities makes the service element a unique value-adding factor for this industry and as such it becomes imperative for SMEs to adopt CRM practices.

Customer Relations Management, defined by the owners/managers as the overall activity of identifying and satisfying customer needs, is established by this research as the cornerstone of business success and essential element to sustainable growth. Providing excellent service, maintaining good relationships and continuously delivering superior value to customers, providing tailor-made solutions and delivering innovation are the most important aspects identified. This research concludes that CRM is or has the potential to become a Unique Selling point (USP) for SMEs in the UK chemical distribution industry and a means of differentiation from the competition. In more detail, the findings suggest that smaller businesses offering good service differentiate themselves from larger

distributors, where contact is more impersonal and response times are much slower due to their sheer size and business model. The importance of CRM is also ascertained by the fact that many of the larger SMEs have included it in their mission statements and strategy, which further stresses the need for it to be an integral part of the business aims and objectives and for owners/managers to demonstrate a strong commitment to it.

The fact that chemical distribution companies do not have manufacturing capabilities also makes success dependent upon providing excellent service throughout the supply chain and not just to customers. Chemical manufacturers and suppliers need to be seen as an integral part of a small business - and its success - and as such, supplier management has to be incorporated in the CRM process. This research reaches the conclusion that manufacturers and suppliers are extremely important for distribution companies as they are their only source of raw materials and innovation and the ones with capabilities to develop and modify products. To that end, SMEs in chemical distribution need to develop and nurture strong, long term relationships with their customer and suppliers alike while continuously striving to identify and satisfy their needs. Capitalising on suppliers' manufacturing and innovation capabilities is crucial. Furthermore, staying close to customer and supplier base - through increased communications, participation in exhibitions, trade shows and industry related events - enables SMEs to keep in touch with the market and identify future trends. Any opportunities to become more integrated through alliances, joint ventures and any other form of cooperation should also be explored.

The findings of this research strongly suggest that repeat business - as a result of successful CRM activities- is crucial for small chemical distributors as a healthy base of existing loyal customers are essential to their survival and key to long term success. In fact, many long-established SMEs have been identified where the majority of their growth has been coming through covering existing customer needs and not necessarily from new customers. This means that, in the UK chemical distribution industry, there are many SMEs where the current level of business with existing customers is more than enough to fuel their growth. The findings indicate that this is normally the case for micro to small-sized businesses where, due to lack of resources, growth is more attainable through existing customers. Nevertheless, these findings should not undermine the significance of obtaining new customers which is also deemed essential for a healthy business and long term growth. Larger SMEs that have already utilised to the fullest their existing customers have to secure new customers to sustain their growth and replace lost business from competitors. Whichever the case, the findings ascertain that the cost of acquiring new customers is considerably higher than retaining them.

Therefore, the need to continuously maintain customer satisfaction and improve customer experience becomes obvious as is the need to dedicate resources into this area. To that end, utilising more sophisticated electronic CRM systems (e-CRM), in order to analyse customer and market data, is advisable. Similarly, internet and database technologies should be employed to facilitate CRM and improve marketing activities.

Considering that the customer services department or personnel is often the only interface a customer has with a company, CRM also has a significant impact on the company's reputation and influences potential referrals to future customers. The need for small business owners/managers to conduct their business in a professional and ethical way, so as to build a good reputation in the industry, becomes obvious.

6.1.4 Market and Product Development

Based on the absence of manufacturing capabilities, building up a well balanced portfolio of products and promoting that in the right markets, known as Market and Product development (MPD), is crucial in the success of SMEs in the UK chemical distribution industry. This research concludes that small businesses not only have to continuously enlarge, diversify and specialise their product portfolio but also expand their market reach in order to be successful and achieve sustainable growth.

Distributors with deep knowledge of local market demands and trends are expected to excel at category management and thus be highly competitive in the market. Good product knowledge enables them to select the 'anchor' products of leading suppliers in particular applications. Similarly, with manufacturing capabilities continuously developing and diversifying, the risk from substitute products also needs to be taken into consideration and managed properly. Commodities are more easily replaced by competitive products unlike specialities where the risk of substitution is much lower. The ability of chemical distribution SMEs to focus on narrow market niches and offer highly specialised products is therefore identified by this study as an antecedent of business success and one of the most effective ways of competing and surviving against larger chemical distributors and manufacturers selling direct to the market. Similarly, a clear need is established for small business owners/managers to differentiate their offering and focus on niche products and markets in order to achieve economies of scale and become more profitable, as these markets tend to command higher profit margins. During this process, financial and human resources have to be dedicated into building a balanced portfolio for the target markets.

The need for small chemical distributors to keep adjusting their product proposition and exploring new markets has also been highlighted. In fact, one of the biggest challenges identified by this study is developing a portfolio with chemical products that continuously and consistently reflects market demands and trends and complies with regulations. Product and application knowledge, technical support and service are essential elements in achieving that. Closeness to customers and suppliers and good communication with them - in a formal or informal basis - further facilitates the process of keeping up to date with the latest market trends and requirements as is participation in industry events.

During the whole process, a high level of proactiveness, flexibility and adaptability is required as, according to the findings, these are the basis for a stronger MPD and a way to increase SMEs competitiveness in the industry. This research further recognises the importance of all employees being involved in and given the opportunity to contribute to the MPD process alongside developing a constant awareness of new technologies, markets and competition. Therefore, product, application and market training implications should also be taken into consideration.

Once again, the importance of suppliers' management is highlighted. The findings of this study suggest that small chemical distributors need to obtain a good buying position and seek reliable sources and suppliers in order to implement a successful MPD strategy. SMEs can achieve sustainable growth through their existing suppliers by expanding into new product groups, new territories and extending distribution agreements. Similarly, they have the opportunity and should capitalise on suppliers' resources and capabilities such as testing, sampling, R&D and new product development (NPD) and in turn provide feedback on market trends and changes in customer preferences. The main conclusion is that there is an imperative need for owners/managers to engage more in supplier management, with the most important elements being knowledge development and sharing, development of business processes and investment in physical facilities or software in line with key suppliers systems and processes.

However, this study does raise certain concerns that an increasing commitment to particular suppliers entails a great degree of risk as small businesses become heavily dependent on those suppliers and thus caution is advised. Similarly, the fact that SMEs, due to their size and thus smaller volume of business, have a relatively low bargaining power against their much larger suppliers and manufacturers does raise further concerns about their relationship. Supplier management can potentially become a considerable strain on SMEs resources with findings noting an increasing pressure to owners/managers to adopt their principal suppliers' business processes to increase

knowledge sharing and integration. Concluding, caution needs to be exercised on the resources allocated to managing the MPD process as with supplier's relationships and expectations management.

6.1.5 Prior Work Experience and Management Skills

The study reaches the conclusion that an owner/manager's prior work and industry experience, management know-how, training and qualifications are beneficial and contributory to SMEs success operating in the UK chemical distribution industry. All these contributing factors in conjunction with prior knowledge of the products and their applications, raw materials, suppliers, regulatory requirements but most importantly customers and their needs, provide a solid basis upon which one builds a successful and sustainable business in the specific industry.

The findings suggest that prior experience is invaluable in shaping the strategy of the business. Experienced senior managers are more likely to avoid common pitfalls, have a solid outlook for the future, guide the company through difficult times and recognise the threats and opportunities in the environment in order to ensure sustainable growth. In fact, this research reveals that part of the success of small businesses in the chemical distribution industry is attributed to the experience and managerial skills of the senior management. Many senior managers started their businesses (and became owners in the process) based on ideas originating from their experience and their skill to identify gaps in the market. This study establishes a strong relationship between prior experience and skills (business ideas) and entrepreneurial activity (business creation) in this industry.

In further support, the findings suggest that the use of business contacts also instigates and facilitates new business venture creation. In fact, anything from formal arrangements (i.e. joint ventures, alliances and distribution agreements) to informal networking (i.e. business clusters, business incubators, entrepreneurship clubs) benefits the business by providing access to business ideas, resources, knowledge and capital while reducing risks. Based on the findings, chemical distribution SMEs are strongly urged to utilise every available business networking channel, engage in formal and informal networking and seek advice again in both formal and informal ways. Participation in any type of joint ventures, alliances, collaborations and formal distribution agreements; participating in industry specific conferences, business clusters, business incubators, university hubs and platforms, entrepreneurship clubs; becoming members of industry specific organisations i.e. the European Federation of Chemical distributors (FECC), the UK Chemical business association (CBA), the British Association of Chemical Specialties (BACS); working closely with government support

organisations i.e. the Chamber of Commerce and UK Trade and Investment (UKTI) and utilising business advisors and support personnel working with SMEs are strongly recommended. Furthermore, the use of informal sources of advice such as business friends, customers and suppliers also make a contribution to the business at no extra financial cost. Similarly, a long presence in the industry also boosts a person's credibility when dealing with other companies and financial institutions and potentially generates new opportunities.

Concluding, chemical distribution SMEs need to utilise the experience and acquired skills of their owners/managers to the fullest. Management know-how, prior product, market and industry knowledge, training and qualifications should be capitalised to increase their chances of survival and success and identify new business opportunities as a route to sustainable growth. In order to do so this study recognises the need for owners/managers to commit to personal and employee development, consider the provision of formal training from external companies or government programmes and invest resources accordingly. A further implication for them - and a significant responsibility at the same time - is to pass on any relevant experience, knowledge and transferable skills to their employees. This can be achieved through formal or informal ways.

6.1.6 Human Capital

Human capital is established as one of the most important resources for SMEs operating in the UK chemical distribution industry. This study ascertains that this is a very customer-focused and customer-facing industry with the human factor having a significant influence on business and further argues that the services offered by chemical distributors depend more on human rather than on technical or logistical resources. The already established fact that chemical distributors do not manufacture products further reinforces the importance of the element of service.

Overall, a continuous investment in human capital is considered essential for success and sustainable growth in this industry with any businesses failing to attract and retain quality employees destined to fail. SMEs with a higher degree of human capital, developed through access to employees with higher education, qualifications, extensive work and industry-specific experience, business contacts, relevant skills and training, are likely to achieve a better performance. This study further reaches the conclusion that people are an important source of competitive advantage against larger multinational distributors. Similarly, companies offering excellent customer service (due to employing better, more experienced people) are more likely to get repeat business and build up a good reputation.

Owners/managers need to demonstrate a strong commitment into continuously and systematically increasing the human capital of their businesses by allocating management time and resources. Attracting, recruiting, retaining, developing and rewarding qualified, skilled people alongside developing existing employees ought to be a business priority. Acquiring academic and professional qualifications, specialisation in certain products, industries and applications, business contacts and networking and any form of training (external or internal) to develop skills and knowledge are further ways to increase human capital.

Due to the technical and specialised nature of the industry, special focus has been given to recruiting individuals with industry-specific experience, skills and qualifications as this would have a bigger impact on the performance of the business. This research indicates that this is more the case for companies selling complex, highly specialised chemicals where the need to have knowledgeable, technically qualified and skilled workforce in the chemical industry to grow a business is imperative. Implementing customer relationship management (CRM) systems in order to analyse customer and market data, especially when referring to more specialised markets, is also considered important.

This study identifies two ways to increase human capital: by attracting individuals with high skills from the external labour market or internally developing the skills of current employees. Once again, this research establishes a further distinction between smaller and larger chemical distribution SMEs in their approach. Micro and smaller SMEs (under 50 employees, under 10m EUR in turnover) are more likely to utilise their existing resources to the fullest, rather than attracting new, more skilled and highly paid employees as these come at a high cost. They are also expected to be more informal in the process of attracting, recruiting, managing and providing training to their employees. Therefore, their focus seems to be more on capitalising on existing expertise, creating further training implications. Larger SMEs in the industry (between 50-250 employees, turnover between 10-50m EUR per annum) are expected to have more resources available, a better structure in place to manage their human capital and offer more training and development opportunities. Therefore, they are more likely to utilise a combination of both ways to increase human capital depending on their growth strategy i.e. if they want to expand geographically they need to recruit new people; if they want to specialise and increase their market share in niche markets, they are bound to offer more training etc. Concluding, and in line with small business literature smaller, SMEs are struggling to gain access to workforce, lack the resources to compete with and offered less secure employment than their larger counterparts.

This research argues that owners/managers in the UK chemical distribution industry need to keep a fine balance between developing and retaining existing employees and employing new individuals (mainly graduates or very experienced individuals as they would be the fuel for growth) if they want human capital to develop into a source of competitive advantage. Furthermore, they need to cultivate human capital across all levels within the hierarchy, keep their employees motivated, manage their expectations and provide opportunities for internal promotion as their business grows. This process requires further planning and forward thinking.

Above all though, SMEs owners/managers need to enhance their own capabilities to cope with the requirements and skills of running a business. This inevitably creates the need for personal development and training on the aspects of human resource management. In fact, as soon as a business grows and establishes a critical number of technically capable workforce, appropriate management of human resources is required to ensure superior organisational performance, thus making management training also of particular importance.

Last, the findings of this study reveal a shortage of highly skilled, technically qualified employees in the UK chemical distribution industry and highlight the need for the UK educational system to produce more individuals with the required technical and academic skills for the specific industry. Similarly, despite its importance to small business survival and success, the provision of entrepreneurial education and training has been found to be inadequate. The responsibility lies with the government and academic institutions to provide such education and training to people from a young age and reinforce entrepreneurial activity.

In summary, this research concludes that small businesses in the UK chemical distribution industry with a higher degree of human capital have more chances of being successful and achieving sustainable growth. Having identified a shortage of highly skilled, technically qualified employees in the industry, the findings strongly suggest that recruiting individuals with industry-specific experience, skills and qualifications has a bigger impact on the performance of the business. This study has also reached the conclusion that SMEs in this industry, depending on their size, have a different approach to developing human capital. Smaller companies have an informal approach and utilise existing employees while larger ones have a formal approach using a combination of recruiting new individuals with high skills from the external labour market and internally developing the skills of current employees. The study recognises that a fine balance between that the two approaches needs to be

kept and further establishes the need for SMEs owners and managers to attain and develop human resource management skills. In fact, this research concludes that owners/managers lack many skills in managing certain aspects of their businesses and acknowledges the need for further training and skills development.

6.1.7 Economic Environment

This research concludes that the economic environment has a significant impact on small businesses in the UK chemical distribution industry, affecting short and long term planning and thus it needs to be taken under careful consideration. Even though it can be argued that the economy is beyond the control of any business, SMEs still need to cope and adapt to economic conditions, be flexible in their planning and maintain a proactive outlook allowing for change. Owners/managers and prospective entrepreneurs are urged to consider the economic environment carefully before investing or committing to business ventures in this industry. This study identifies a clear need to engage in financial planning, control and forecasting and incorporate economic conditions and variables into the business strategy. Concurrently, it also reveals a distinct lack of the financial skills and know-how necessary to perform these tasks on behalf of the owners/managers. This gap in skills and knowledge needs to be addressed either through the provision of training or the use of external advice. In other words, chemical distribution SMEs have to invest in internal training courses or external consultancy and further utilise any available support from the government and any industry associations.

Access to finance is identified as the single, most important aspect of the economic environment, as it could potentially be very restricting to SMEs growth. The fact that all small businesses in this industry, independent of their size and market conditions, need funding at some point in their life (whether it was to start up, grow or cope with cash flow shortages) is established. The importance of access to funding becomes paramount when, especially during recession periods, financial institutions are reluctant to lend money to SMEs - because of their high risk and low collateral - and private investors similarly restrict access to funds further affecting small business growth. This research concludes that it is imperative for owners/managers and entrepreneurs to secure multiple sources of finance and fully utilise all available options in the market(s) they operate in. In detail, chemical distribution SMEs are urged to look for more perfect capital markets where more financing channels and better access to capital and credit schemes are available, especially when exporting. Similarly, it is important that owners/managers and prospective entrepreneurs seek markets where government policies (i.e. availability of grants, loan guarantees, subsidised interest rates) and support (i.e. the Chamber of Commerce and UKTI (UK Trade and Investment etc.) are available for small

businesses. Of course, once funding is secured, there is a still need to monitor cash flow and liquidity proactively, focus on planning and maintain a close and trustful relationship with investors and lenders.

Regarding sources of finance, the findings suggest that a distinction between SMEs in the specific industry is made based on their size. Smaller SMEs, mainly micro businesses, tend to be more flexible in their finance options and use personal funds, credit cards and loans from family. In fact, they could, at some point and with proper financial planning and control, become self-financed and thus minimally dependent on external finance. On the other hand, their larger counterparts find it extremely difficult to achieve financial independence and have to rely on external finance (financial institutions and private investors), especially in times of growth and expansion.

However, even if a business has sufficient funding, it still needs to be able to deal with and manage unforeseen cash flow shortages. The findings reveal that the chemical and chemical distribution industry is largely handled on credit terms and a discrepancy between the supplier and customer payment terms is not out of the ordinary. Managing payment terms and balancing cash flow under these conditions creates a further need for finance services and flexible borrowing options. Similarly, during times of recession, an increase in bad debts is not uncommon and small business need to be prepared. This research recognises that losses due to bad debts create cash flow shortages, put a considerable strain on SMEs and, in extreme cases, push them into bankruptcy. The latter scenario mostly applies to micro businesses depending heavily on very few customers. At this point, this study makes a further distinction between smaller and larger chemical distribution SMEs, with the first being more vulnerable and the latter being able to cope with bad debts more efficiently due to their size and funding options. Therefore, cash flow and credit terms management alongside building up a contingency fund for difficult times become crucial.

On a more positive note, this study recognises the fact that many opportunities for growth and business start-ups can be found in times of economic downturn in the UK chemical distribution industry. In fact, recession is considered a good time to offer new, value-adding, cost saving, innovative products as end customers are more open to products that give their company a competitive advantage. Larger distributors tend to offer a package of products which may not necessarily be competitive on all its individual components but offers an ease of handling and managing and is more convenient. However, during recession, buyers tend to be more focused on reducing costs than convenience and thus give the opportunity to smaller businesses, which can only

offer a number of products, to quote for the business. Similarly, buyers may be more open to new ideas and products that offer innovation and a differentiation for the competition. At this point, small chemical distributors have the opportunity to adjust their product portfolio, offer a more personal service and exploit their lower overhead costs and margin expectations in order to gain more business.

Last, recession provides good opportunities for acquisitions as cash-rich companies have a distinctive advantage over small companies affected by the unfavourable economic conditions. Small companies experiencing financial difficulties are not uncommon during an economic downturn. These can become lucrative acquisition targets for other small or larger SMEs looking to grow and having the means to pay for it. However, larger SMEs might find themselves in a more advantageous position due to the breadth of finance options they have.

6.1.8 Strategic Planning

According to this study, strategic planning for SMEs in the UK chemical distribution industry needs to be concerned with the setting of long-term organisational goals, the development and implementation of plans to achieve these goals and the allocation or diversion of resources necessary for realising these goals. Given the fast moving nature of the chemical distribution industry, the constantly changing trends in the market and regulatory compliance requirements, the need to plan ahead and get strategically positioned is of paramount importance. In fact, the findings suggest that only strong and focussed companies with a forward-looking strategy and mind-set will thrive in the UK chemical distribution industry and equally recognises that only those SMEs engaging in strategic planning are likely to achieve higher sales growth, margins on profit and employee growth. Similarly, this research concludes that planning is beneficial at all stages of the business, but most importantly in the start-up stage not only necessarily to guarantee success but to reduce the possibility of business failure.

Regulatory compliance, financial planning, human capital, customer relationship management, market and product development are all recognised as integral parts of the strategic planning process. The need for the owners/managers of chemical distribution SMEs to engage themselves in formulating and executing a clear strategy is imperative, regardless of whether the actual process is done in a formal or informal way. Strategic planning should be utilised to scan the business environment, anticipate new trends and handle future challenges so as to achieve sustainable growth. Furthermore, it needs to be used as a tool to express the intent, visions and company mission to all stakeholders but most importantly to the employees in order to get them aligned to the aims and objectives of the business.

Despite the undeniable importance of strategic planning, a number of owners/managers in this study admitted either not doing it formally or at least taking a more casual view to it. This reveals a further distinct difference between larger and smaller SMEs in the industry under investigation. Owners/managers of larger SMEs (between 50-250 employees, turnover between 10-50m EUR per annum) are more committed, engaging in formal planning, dedicating more time and effort to strategic planning and view it as an important part of their role. On the other side, owners/managers of smaller SMEs (under 50 employees and under 10m EUR in turnover) do not have a formal business plan in place but engage more in informal or 'intuitive' business planning. Overall, the findings of this research suggest that smaller SMEs in the UK chemical distribution industry have a less sophisticated, more casual approach to formal strategic planning than their larger counterparts. Lack of time due to multitasking, lack of expertise and business planning skills and inadequate knowledge of the planning processes are identified as the main reasons for doing so.

Considering the above mentioned and well-established lack of skills, this study establishes a clear need for policy makers and educators to assist small businesses owners/managers and entrepreneurs in the development of managerial, strategic thinking and planning skills. The research highlights the responsibility of the government and industry associations to increase the number of centres that offer consultancy and expert services to chemical distribution SMEs, and engage more experts in different areas; for instance IT, financial planning, marketing planning.

Last, the possibility that some small businesses might not seek to grow and hence do not purposely engage in strategic planning - or do so in a very informal way - is uncovered. This study reveals that maximising profitability is not necessarily the only motivating factor and that more personal, non-economic reasons drive certain micro business owners in this industry. This creates the need to define critical success factors and business performance based on the needs and wants of their owners/managers.

In summary, this research concludes that SMEs in the UK chemical distribution industry need to engage themselves into strategic planning throughout the life of the business and further recognises the importance of getting strategically positioned, particularly during the start-up stage to reduce the risk of failure. However, it has also identified a lack of strategic planning skills on behalf of small business owners/managers and established the need for further training and skills development. This study also reveals a difference in the approach chemical distribution SMEs adopt towards

strategic planning depending on their size with smaller ones having a less sophisticated, more casual approach than their large counterparts that are more formally involved. Nonetheless, one of the main conclusions reached in this research is the fact that it doesn't matter whether the actual strategic planning process is conducted in a formal or informal way as long as SMEs undertake the task; it is more the end result that is crucial for small business rather than the way it is done.

6.2 Research contribution

This research addresses the gap in knowledge on the critical success factors (CSFs) for small and medium-sized enterprises (SMEs) operating in the UK chemical distribution industry, further investigates the reasons why the selected success factors are considered important, identifies the challenges small businesses face and makes recommendations for SMEs success and sustainable growth in the specific industry. This study makes significant contributions to knowledge on a theoretical level and to practice in the form of implications for the stakeholders in the industry.

6.2.1 Theoretical contribution

This research addresses a well-established gap in small business success in the UK chemical distribution industry as it is the first study to provide an integrative perspective of critical success factors (CSFs) for SMEs in this sector and there lies its original and significant contribution. By identifying the factors critical to the success and sustainable growth of UK chemical distribution SMEs, this study fulfils the need for more empirical studies in the specific research area (as per Figure 6.1 presented earlier), contributes to the knowledge and expands the literature on SMEs, entrepreneurship and small business success.

In detail, the findings contribute and extend the current body of literature on small business success and growth, further supporting the fact that critical success factors are relative and tend to vary with the business environment - the country and industry - SMEs operate in (as per Alfaadhel, 2010; Colin *et al.*, 2005; Cragg and King, 1988; Dean *et al.*, 2000; Gibb, 2000; Kader *et al.*, 2009; Krasniqi *et al.*, 2008; Lawal, 2005; Lin, 2006; Ogundele, 2007; Rutherford *et al.*, 2001; Simpson *et al.*, 2012; Smallbone and Wyer, 2000; Van de Van, 1993). Similarly, this research comes to the conclusion that

SMEs success and sustainable growth is dependent upon many factors being optimal simultaneously and recognises small business success in the UK chemical distribution industry as a multidimensional phenomenon, affected by both firm-internal (enterprise) and firm-external (entrepreneurial and business environment) factors. This further supports and expands the current theory that a combination of factors are contributory to success (as per Dobbs and Hamilton, 2007; Islam *et al.*, 2011; Lussier and Halabi, 2010; Laforet, 2008 and 2009; Simpson *et al.*, 2004b). This study also concludes that SMEs in the UK chemical distribution industry are not a homogeneous group and therefore different strategies need to be formulated based on the size of the firm. This contributes and expands existing theories that different strategies are needed for different sized SMEs (as per Hillary, 2000; Laforet, 2008 and 2009; Merritt, 1998; Wilson *et al.*, 2012).

The findings of this study, especially the in-depth analysis of the challenges they face in their business environment and recommendations for success from an owner/managers' perspective, also enhance the understanding of SMEs in the UK chemical distribution industry and their *modus operandi*. They further provide an academic base for decision makers (existing owners/managers and potential entrepreneurs) and a common language for academics to discuss and study factors crucial for the success of SMEs in the specific industry.

Specifically and due to the fact that, at the time of this study, there has been no prior research in this area in the UK and very limited in Europe, this academic work makes a significant contribution to and expands the knowledge and literature on the chemical distribution industry in the UK. In fact, not only does it provide an insight and better understanding of the industry but it ultimately offers a framework specifically designed for SMEs success in this important, well-established and yet understudied industry. Furthermore, it sheds more light and offers an insight into what chemical distributor are and the services they offer.

Last, the findings can become the basis for education providers (i.e. schools, colleges, universities etc.) to enrich entrepreneurial education and increase the extent to which training in creating or managing SMEs is incorporated within the education and training system. In detail, this research gives valuable insights to educators on materials that could be potentially included in new courses specifically designed for this industry or in generic courses to promote entrepreneurial activity and business creation. Hopefully, this study can be used as a basis to improve research aimed at studying and predicting small business and entrepreneurial success and business start-ups, facilitate creating a culture to encourage entrepreneurial activity and stimulate further research into the chemical and chemical distribution industry.

6.2.2 Contribution to Practice

This research offers an insight into SMEs operating in the UK chemical distribution industry and in-depth analysis of the critical success factors, challenges and recommendations for sustainable growth and success. The findings have several implications to a number of stakeholders referring to the specific industry. In detail, this study has a significant contribution and benefits: (i) SMEs owners/managers and entrepreneurs (ii) the Government, policy makers and financial institutions and (iii) Industry (chemical manufacturers and suppliers) and non-government organisations. Overall, the findings provide the tools to all stakeholders to formulate a strategy to support SMEs in being successful, achieve sustainable growth and strengthen them against failure.

In addition and due to lack of official statistical data, a full, comprehensive and up to date list of SMEs operating the UK chemical distribution industry (as per sampling frame) has been produced for the first time. It is worth noting that, prior to this research, there has been no information available on the number and characteristics of small businesses operating in the specific industry. A total of 180 chemical distribution SMEs (as defined by the European Union), located in the UK, not being part of a larger organisation and with no manufacturing activity and capability, have been identified and their characteristics and views of their owners/managers have been collected and discussed. This further increases practical knowledge into the specific industry and the small businesses operating in it.

6.2.2.1 SMEs owners/managers and entrepreneurs

A significant contribution of this study is the fact that the findings (critical success factors, challenges and recommendations) offer business owners/managers a much better understanding of the industry and requirements for success. This research provides valuable information to support SMEs in this business sector in achieving sustainable growth. An in-depth knowledge of the factors affecting small business success in the specific industry and the recommended business practices contribute towards an improvement in SMEs performance, increasing their competitiveness and ensuring business continuity.

In more detail, SMEs can use the set of CSFs identified in this study as a list of items to address when developing a new strategic plan, ensuring that the essential issues and factors are covered during implementation. This would enable them to make the right strategic decisions and address challenges in the early stages. Similarly, as part of the overall strategy, owners/managers can use the findings to develop and implement a regulatory compliance strategy with a long-term outlook and utilise these recommendations to overcome current and future regulatory challenges. This study also

provides chemical distribution SMEs with valuable advice on how to develop and nurture strong customer and supplier relationships, cultivate human capital and turn those into a competitive advantage against larger competitors. This research further provides advice on the choice of products and markets for small businesses and helps them develop a portfolio that reflects market trends. Owners/managers can draw on these findings on how to secure funding and better access to finance, how to deal with the economic environment and its changes and lastly how to take advantage of any downturn in the economy to grow their businesses.

Existing owners/managers can further utilise the findings of this study to run their businesses more efficiently and effectively - by concentrating their efforts and resources to the areas that really make a difference in their business -, plan and prepare for the future - including CSFs in their planning process and addressing any issues in the very early stage - and improve their decision-making process by basing their decisions on facts and experts' views. Furthermore, this research identifies common pitfalls in the specific industry - for instance the detrimental effect of securing funding and maintaining a healthy cash flow as well as the hidden costs of regulatory compliance - and offers some initial advice on how to address these. Chemical distribution SMEs can take these into consideration when planning their business activities, identify and address weaknesses such as lack of funding, low compliance levels, inadequate product mix, and thus strengthen them against failure.

Similarly, the identified CSFs, challenges and recommendations can be utilised by owners/managers in the specific industry to uncover and address training needs such as strategic and financial planning skills, lack of technical and regulatory expertise, product knowledge etc. Furthermore, this research identifies the characteristics necessary to develop an entrepreneurial orientation and offers advice on how to instil EO in a small business thus SMEs can become more entrepreneurially active. This study further assists SMEs to identify and tap into under-utilised or previously unknown sources of support; for instance government organisations (UKTI, ECHA) and industry associations (FECC, CBS, BACS) where they can seek advice and services on areas such as regulatory compliance, funding, exporting and training.

For prospective entrepreneurs, those individuals thinking about starting a new or are in the process of starting a new venture in the UK chemical distribution industry, this research offers useful insights and advice on how to increase the chance of being successful and avoid pitfalls. In simple terms, the theoretical framework of this study (set of CSFs, challenges and recommendations) can be utilised to assess the market, identify any unfavourable conditions in the early stages of the start-up

process, be the basis of strategic planning and ultimately become a checklist to achieve growth in the later stages. Overall, this research provides a set of tools for the prospective entrepreneur not only to assess the probability of success or failure before starting a business but also how to make it successful in the long term. In fact, the researcher believes that this research could potentially increase the entrepreneurial activity in the specific industry. By providing an in-depth analysis of this industry sector, it makes it more attractive and approachable to entrepreneurs.

6.2.2.2 Government, policy makers and financial institutions

The findings of this study do not only provide a better insight into SMEs operating in the UK chemical distribution industry but also offer an in-depth view of the specific industry and thus have several implications on the Government, policy makers and financial institutions in the UK. CSFs identified in this study act as a list of items to address when developing their strategy, ensuring that the essential issues and factors are covered during implementation.

First of all, this study offers advice and provides useful information to the above aforementioned stakeholders on how to effectively and efficiently support SMEs in the specific industry, facilitate and promote growth, strengthen them against failure and therefore increase the market and industry competitiveness. Based on the findings, a more focused approach to supporting new and established small businesses, while promoting business start-ups and enhancing entrepreneurial activity, may be developed. More complete, targeted and tailor-made support packages can be offered alongside comprehensive business advice and counselling services. Especially when unfavourable conditions are noted, for instance a downturn in the economy or lack of funding, an assistance programme tailored to the needs of these specific groups might be implemented to support small business activity.

Similarly, as it is not possible for the Government to assist all SMEs in the industry, the findings of this study can be used to identify growing small businesses and ones with potential high growth capabilities and provide more directional support to them. In other words, offer more targeted support to high potential needing companies and start-ups that have a better chance of growing and becoming successful. If public policy makers use the identified success factors to assess a firm's potential for success, limited resources such as government aid, loans, advisory services etc. could be reallocated towards higher-potential firms benefiting the industry and society in general.

The Government and policy makers may also utilise the findings to address weaknesses and challenges in the current system, highlight areas of improvement and most importantly identify any gaps in policies and support where more intervention is required by the government, policy makers and financial institutions (i.e. securing funding, access to finance, finance options, grants, credit terms, training provision and education etc.). In more detail, this study has already highlighted the need to reduce regulation in this industry and further increase SMEs confidence in the upcoming REACH deadline. A characteristic lack of regulatory expertise (SMEs are not ready for REACH) alongside other training needs (mainly management and planning skills) have been uncovered. These could become the basis for more government intervention. The government and policy makers may use the findings of this study to address the issues of overregulation, offer more support to SMEs in regulatory matters to increase their expertise and competences or even consider reducing regulation. Similarly, this research could potentially act as the basis to build up training courses, specifically designed for SMEs, to address the lack of management and strategic planning skills but also to increase entrepreneurial orientation. Lastly, this study's findings can also be used by the stakeholders to offer more targeted support to SMEs to secure finance while making more sources of finance available to them.

Overall, the Government, policy makers and financial institutions may utilise the findings of this study to develop and implement policies directed at SMEs; improve the effectiveness of interventions flowing from support policies; improve and develop the necessary support infrastructure; extend the nature and the range of advice and offer training and education for SME owners, managers and employees.

6.2.2.3 Industry and non-government organisations

Due to the fact that this research is the first academic study in the UK chemical distribution market it provides a valuable insight into the industry and thus has significant implications for chemical manufacturers, suppliers and relevant non-government and business associations.

Based on the findings of this research, manufacturers and suppliers are able to get a deeper, more complete understanding of the market and SMEs operating in it. Therefore, they are in a position to evaluate, formulate and implement their distribution channel strategy in a more efficient and effective way. Overall, this study provides the tools (set of CSFs, challenges, recommendations) to evaluate the strengths, weaknesses, capabilities and potential of SMEs when these are considered part of the channel strategy, identify the best fit and increase the chances for a fruitful relationship.

Initially, this study offers enough information to facilitate the decision-making process of whether or not to work through a small chemical distributor. Overall, there are several manufacturers that either prefer working with larger, national or international distributors or sell directly into the markets they have an interest in as this model best fits their strategy. Should chemical manufacturers and suppliers decide that working with a small chemical distributor is the best fit for their business, this study can be used to establish the selection criteria, provide key performance indicators (KPI), assess strengths and weaknesses and generally support the evaluation and selection process. In other words, these findings allow manufacturers to make informed decisions regarding the assessment and selection of small chemical distributors. Similarly, they can be the basis for managing the relationship effectively once that has been established, and thus increasing the chances of it becoming successful. Also, the findings can be used as tools to manage and conduct regular reviews to assess performance, set targets and formulate strategy.

Non-Government, industry specific organisations such as the European Federation of chemical distributors (FECC), the Chemical Business Association (CBA) and the British Association of Chemical Specialties (BACS), also benefit from this research as it increases their understanding of the industry, especially from a small business perspective, and offers valuable advice on SMEs success and survival. These will be able to use the set of CSFs, challenges and recommendations of this study to better understand their members' requirements ultimately offering better, more targeted support and advice to them. For instance, this research identifies lack of funding and regulatory compliance expertise as two main areas of concern; perhaps these associations can offer more support and advice on these areas to sustain and promote SMEs activity. Similarly, they can help them develop in the critical to their success areas (customer and supplier management, market and product development, skills, training etc.) as identified by this research.

This study also provides the knowledge for these associations to approach and recruit new members, especially SMEs that have always been difficult to approach or the ones that did not see a value in joining before. Having a better knowledge of the critical factors for small businesses, they will be able to improve their offering targeting the areas and services that really matter to their members. Once again, regulatory compliance, access to finance and management skills would be of value.

6.3 Limitations of this study

As with any academic work, this research may suffer limitations which could potentially have an impact on the findings and the subsequent recommendations put forward. These limitations, which are distinguished in conceptual and methodological, are presented below.

At the time of this study and to the knowledge of the researcher, there were no or very limited financial data available on the performance of the participating companies -in means of turnover and profitability over a period of time- and as such there was no way of evaluating whether these were indeed successful or not. In fact, in this study, due to the lack of financial information, performance could not be used as the dependent variable and therefore the identification of the CSFs was based on the opinion of the owners/managers and not on an objective measure of success. In an ideal situation where financial information was available (perhaps as part of future research), it would be possible to verify whether owners/managers in this industry were indeed running a successful company or not and therefore further validate their opinion on the success factors.

As the subject is a new academic study and due to the absence of official statistical data, the researcher had to utilise a combination of academic and industry sources to compile a list of the target population as none was available to match the criteria of the study. The researcher recognises that there may have been limitations in collecting sufficient information regarding the actual number of enterprises and as such allowances should be made for omissions and human error. Also, due to the dynamic nature of the industry and the presence of strong consolidation trends, the total number of SMEs operating in this industry could have easily changed after the study was conducted.

Due to the size and breadth of the literature in the area of SMEs and success factors, the researcher made the decision to focus only on the factors that were supported by a satisfactory number of authors and disregarded ones mentioned very few times in the business literature. In addition, many factors relating to the same area were deliberately grouped together for means of simplicity and efficiency, for instance 'market development' (MD) and 'product development' (PD)

into 'market and product development' (MPD). Similarly, certain success factors with the most characteristic ones being personality, entrepreneurial orientation (EO) and prior work and management skills appear to have multiple dimensions. Even though an extensive literature review has been conducted, the fact that some of them may have not been fully acknowledged in this study and/or misinterpreted by the respondents remains a possibility.

The researcher also recognises that there are a number of methodological limitations when employing a mixed methods research. Even though it can be an effective design to use, the researcher needs to be well versed in both quantitative and qualitative research methods, knowing how to mix each method effectively and how to avoid the major challenges of the design such as collinearity. Issues in design, sampling, analysis and reporting are common. Despite every effort made during this study to address these issues, human and administrative errors were always a possibility.

This study also employs content analysis as the chosen method of analysis for the collected qualitative data. Even though the nature of that data is confirmatory and explanatory in nature and supportive to the primary aim of this research, it is acknowledged that content analysis is a purely descriptive method that describes what is there but does not reveal the underlying motives for the observed pattern. In other words, it describes the 'what' but not the 'why'.

One last methodological limitation is the fact that the researcher is not in a position to know whether the planned person (owner/manager) provided the answers to the questionnaire or whether it was completed by another colleague or a less senior person (i.e. assistant). Similarly, it is not possible to check the truth of the answers but have to rely on the good will of the respondents.

6.4 Future research

This research opens new avenues for the researcher and through successful dissemination may motivate others to work further in small and medium-sized enterprises (SMEs) and the chemical and chemical distribution industry. In fact, as this study is the first to research the specific industry, there are several recommendations for future research.

First of all, as the identification of the critical success factors is based on the perception of owners/managers (non-financial measure), consideration should be given to conducting a future study based on an objective measure of success (financial measures). Independent growth measures, such as increase in turnover and/or profitability should be used once financial data become available.

Even though this research identifies the critical success factors for small businesses in the selected industry and offers a more in depth view on their importance, the researcher recognises that investigating the mechanics of each success factor individually and in more depth would certainly be of academic value. As this research employs content analysis, which is a purely descriptive method and one that does not reveal any underlying motives, utilising more advanced qualitative methods (i.e. thematic analysis) that could produce richer data and offer a deeper view, would be highly recommended. Furthermore, due to the dynamic nature of the industry and the presence of strong globalisation and consolidation trends, it would be very interesting to investigate whether success factors would change with time. Longitudinal studies can be conducted to explore further.

Furthermore, as the basis of this study has been the fact that CSFs are dependent upon the industry and country SMEs operated in, it is certainly worth investigating whether there would be any differences (if any) in CSFs for small and medium-sized chemical distributors operating in different geographical areas or between SMEs operating in different industries. With the trend towards increasing globalization, cross-national CSFs-SMEs models become more valuable. This would be an opportunity to test the success factors in other countries and industries to further examine the predictor variables on a cross-national and cross-industry scale. An excellent starting point would be investigating CSFs for SMEs in different countries within the European Union -with it being a well-established and mature market- perhaps expanding the same research into the emerging markets such as Brazil, Russia, India, China and South Africa (BRICS) where future growth is expected. Similarly, comparing and contrasting SMEs operating in different industries but in the same country (for instance the UK) would also be of interest.

As this study concentrates on the critical factors that contribute to success, there is further scope to examine the converse; that is factors that contribute to or prevent failure. An investigation and more in depth analysis of SMEs failure into the specific industry could instigate future research. On the same basis, the definition of small business success is provided to respondents to ensure uniformity of opinions and eliminate any potential methodological weaknesses. Maybe in future research it would be useful to attempt exploring and explicating how business owners/managers and industry experts define success and failure in this industry. Furthermore, further research could build evidence on whether or not business owners/managers' values and success criteria change as they develop their businesses. Perhaps a longitudinal study would be most appropriate on this occasion.

This research also highlights a need to investigate non-financial measures of success for SMEs operating in the chemical and chemical distribution industry as a number of companies of that nature are identified. Conducting a study to investigate SMEs that are not focused on growth but are managed on non-financial reasons and to the needs and wants of their owner-manager, would be of academic and business value.

Current thinking assumes SMEs to be relatively homogenous when, in fact, there could be considerable variation within the SME category. Several scholars argue that SMEs cannot be considered a homogeneous group and that different strategies are needed for different sized SMEs (Hillary, 2000; Merritt, 1998; Wilson *et al.*, 2012). Similarly, research by Laforet (2008 and 2009) suggests that medium sized firms may behave differently from smaller firms in terms of their strategic orientation and innovativeness. Even though this research investigates SMEs in the UK chemical distribution industry as a homogeneous group, several differences between micro, small and medium companies are identified, with significant variations noted, and are thus worth investigating further. Finding ways to categorize SMEs into homogeneous clusters and exploring the role of success factors within these different clusters could be quite useful especially given the growth in the small business sector of the economy. On that basis, further research into the transition process of micro business into small, then medium and then large companies, identifying the requirements and challenges, how to facilitate transition and ensure success in the process, would be of academic interest. This would further require and instigate more research into micro businesses that have always been very difficult to reach and obtain data on.

Last but certainly not least, it is worth investigating further into supplier management and relationships as it has been found to be critical for SMEs in the selected industry. A paradox exists in small business organizations; although effective buyer-supplier relationships are essential to the success of small businesses, these organizations may not have the purchasing and selling power in terms of managerial resources to implement them. Investigating and developing a clearer and more accurate picture of buyer–supplier relationships within small businesses in the chemical and chemical distribution industry is highly recommended. On a similar basis, establishing CSFs from a supplier and manufacturer’s point of view -as this research focused on a distributor’s point of view- would be very interesting indeed. It is the researcher’s view that deploying qualitative methods to get more in-depth information on the specific success factors, comparing CSFs between different countries and perhaps conducting a longitudinal study to establish whether these factors change over a period of time, would also be avenues of research worth exploring.

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**Appendix A: Critical Success Factors in the UK chemical distribution industry
Questionnaire**

**Critical Success Factors for SMEs in the UK Chemical Distribution Industry
Questionnaire**

1. What is your gender?

- Male Female

2. What is your age group?

- 18-29 30-49 50-60 Over 60

3. What is your nationality?

Please state: _____

4. What is your highest level of education attainment?

- GCSEs A-Levels Bachelor's Degree
 Master's Degree PhD Professional Qualifications
 Other Please state: _____

5. What is your position in your organisation?

- Owner CEO/MD/Director Senior Manager
 Other Please state: _____

6. What is your function in your organisation?

- Sales role Management role Technical role
 Other Please state: _____

7. Please state your job title and describe your main responsibilities

8. How long have you been working in your current position:

- Less than 3 years 3-5 years 6-10 years More than 10 years

9. How long have you been working with your current employer:

- Less than 3 years 3-5 years 6-10 years More than 10 years

10. Please indicate years of previous relevant experience before your current position

- No experience Less than 3 years 3-5 years
 6-10 years More than 10 years

11. What is your previous experience?

- Private sector Government/Public sector Own Business
 Family business Voluntary
 Other Please state: _____

12. Please indicate how many business ventures you have been involved in?

- None Less than 3 3-5
 6-10 More than 10

13. Please indicate how many SMEs you have worked for?

- None Less than 3 3-5
 6-10 More than 10

14. How long has your business been trading for?

- Less than 3 years 3-5 years 6-10 years More than 10 years

15. How many employees does your business have?

- Less than 10 10-49 50-250 More than 250

16. Please indicate the annual turnover of your business

- Less than 2m EUR 2-10m EUR 10-50m EUR More than 50m EUR

17. Please indicate what percentage of the annual turnover of your company are export sales.

- More than 30% 20-29% 10-19%
 5-9% Less than 5% None

18. Where is your business located in the UK?

- North West England North East England Midlands South West England
 South East England Scotland Wales N. Ireland

19. Entrepreneurial Factors

Please indicate the importance of the following entrepreneurial factors in the success and sustainable growth of SMEs in the UK Chemical Distribution industry.

	Very unimportant	Unimportant	Neutral	Important	Very important
	1	2	3	4	5
Age of Owner/Manager					
Education Level					
Entrepreneurial Orientation					
Gender of Owner/Manager					
Personality					
Prior Work Experience & Management Skills					

20. From all the above entrepreneurial factors, in your opinion, which is the most important one to foster the success and sustainable growth of SMEs in the UK Chemical Distribution industry?

Please explain why.

21. Enterprise Factors

Please indicate the importance of the following enterprise factors in the success and sustainable growth of SMEs in the UK Chemical Distribution industry.

	Very unimportant	Unimportant	Neutral	Important	Very important
	1	2	3	4	5
Age of company					
Business Networks					
Customer Relations Management					
Financial Resources					
Internationalisation					
Human Capital					
Market & Product Orientation					
Marketing					
Size of company					
Strategic Planning					

22. From the above enterprise factors, in your opinion, which is the most important one to foster the success and sustainable growth of SMEs in the UK Chemical Distribution industry?

Please explain why.

23. Business Environment Factors

Please indicate the importance of the following environmental factors in the success and sustainable growth of SMEs in the UK Chemical Distribution industry

	Very unimportant	Unimportant	Neutral	Important	Very important
	1	2	3	4	5
Political Environment					
Economic Environment					
Socio-cultural Environment					
Technological Environment					
Legal/Regulatory					
Ecological & Environmental					
Advisory Service					
Access to Finance					

24. From the above factors, in your opinion, which is the most important one to foster the success and sustainable growth of SMEs in the UK Chemical Distribution industry? Please explain why.

25. From the entrepreneurial, enterprise and environmental factors, which one do you consider to be the most important to foster the success and sustainable growth of SMEs in the UK Chemical Distribution industry?

Please explain why.

26. In your opinion, which is/are the biggest challenge(s) for SMEs in the UK chemical distribution industry?

27. What is/are your recommendation(s) for SMEs success and sustainable growth in the UK Chemical distribution industry?

Appendix B: Critical Success Factors in the UK Chemical distribution industry -Retest
Critical Success Factors for SMEs in the UK Chemical Distribution Industry Questionnaire - Retest

1. Entrepreneurial Factors

	Very unimportant	Unimportant	Neutral	Important	Very important
	1	2	3	4	5
Age of Owner/Manager					
Education Level					
Entrepreneurial Orientation					
Gender of Owner/Manager					
Personality					
Prior Work Experience & Management Skills					

2. Enterprise Factors

	Very unimportant	Unimportant	Neutral	Important	Very important
	1	2	3	4	5
Age of company					
Business Networks					
Customer Relations Management					
Financial Resources					
Internationalisation					
Human Capital					
Market & Product Orientation					
Marketing					
Size of company					
Strategic Planning					

3. Business Environment Factors

	Very unimportant	Unimportant	Neutral	Important	Very important
	1	2	3	4	5
Political Environment					
Economic Environment					
Socio-cultural Environment					
Technological Environment					
Legal/Regulatory					
Ecological & Environmental					

Appendix C: Critical Success Factors in the UK chemical distribution industry Information Sheet



Leeds Metropolitan University

Participant Information

Title of Study: Critical Success Factors (CSFs) for Small Medium Enterprises (SMEs): An empirical study in the UK Chemical Distribution Industry.

Principal Investigator: Evripidis (Evri) Lampadariou

Introduction

You are kindly invited to participate in this research study. The following information is provided in order to help you make an informed decision whether or not to participate. Please read carefully the information below and sign the statement if you are willing to participate in this research.

Background Information

Small Medium Enterprises (SMEs) are considered to be a very effective mechanism to generate employment and promote economic growth and as a result their success or failure has a great impact on the economy and subsequently the society. SMEs have a strong presence in the Chemical Distribution Industry as well and play an important role in its overall growth and performance. As a result, identifying and further exploring the Critical Success Factors underpinning their success or failure in the specific industry becomes of significant importance. Even though there has been considerable research in the small business area and several Critical Success Factors (CSFs) have been identified, it is equally recognised that each factor's importance varies with the industry and the country SMEs operate in; meaning that while one factor maybe be of great importance in one industry and/or country it may not necessarily be of equal importance in another. Based on the above, it becomes evident that even though there is a number of CSFs for SMEs established in the business literature, these factors have to be further tested and validated for each individual industry in a specific country, in this case the UK Chemical Distribution Industry.

Purpose of this study

The purpose of this research is to address the gap in knowledge regarding the success factors of small businesses in the UK Chemical Distribution industry. This research aim is to identify the Critical Success Factors for SMEs operating in the UK chemical Distribution industry with a view to support their sustainable development. The research investigates the identified CSFs for the chosen industry to determine their relevant importance; that is the extent that they affect business success and offer recommendations based on the results. The recommendations of this research will be used to support both new SMEs entering the market but also existing businesses seeking to improve performance. Please note that for the purpose of this study, traditional financial criteria, that is sales growth (increase in sales turnover) and/or increase in profitability (profits and/or margin) – are used to define SMEs success. Participants are kindly requested to adhere to this study's definition of success when responding to the questionnaire.

Procedures

If you volunteer to participate in this study, a survey will be conducted and several open and closed questions will be asked to address critical success factors in your business. Participation in this study will require approximately 30 minutes of your time. This survey can be undertaken at or away from your place of work.

Possible Risks or Benefits

The study aims to benefit the chemical distribution Industry and those people directly/indirectly involved in it. This survey is specifically designed in a way so as to minimise your time away from work. The information gained from this study will help to investigate SMEs in the UK Chemical Distribution industry and identify the Critical Factors for their success and sustainable development.

Participation and Withdrawal

Your participation in this research study is voluntary. You are free to decide not to participate in this research study or to withdraw at any time without consequences of any kind. Upon your request to withdraw, all information pertaining to you will be destroyed. Your decision will not result in any time loss of benefits to which you are otherwise entitled. You may also refuse to answer any questions you do not want to answers and still remain in the study. This research study has been reviewed and received ethical clearance through the Leeds Metropolitan University Research Ethic Committee. If you have questions regarding your rights as a research participant, please contact Professor Simon Robinson, the Research Ethics Coordinator, on the following email: s.j.robinson@leedsmet.ac.uk

Anonymity and Confidentiality

Every effort will be made to ensure confidentiality of any identifying information that is obtained during the course of this study. The information provided by you will remain confidential and no individual names will be used to secure personal beliefs. Nobody apart from the principal investigator will have access to it. Your name and identity will be kept confidential at all times during this research study. All the data that were collected will be destroyed 5 years after the completion of this research. However, the data obtained may be published in journals or conferences but your name and identity will be kept strictly confidential.

Available Sources of Information

If you have any further questions or enquiries, please do not hesitate to contact me on: *Leeds Metropolitan University, The Rose Bowl, Leeds, LS1 3HB, mobile: +44 (0) 7776146471, email address: e.lampadarios@leedsmet.ac.uk*

Thank you in advance for your co-operation.

Kind Regards

Evri Lampadarios

Appendix D: Critical Success Factors in the UK chemical distribution industry Informed Consent form.



Leeds Metropolitan University

Informed Consent Form

Project Title: Critical Success Factors for Small Medium Enterprises: An empirical study in the UK Chemical Distribution Industry

Voluntary Consent Form:

I have read and understand the information on the form and I consent to volunteer to be a subject in this research study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I agree for the contents of this study to be used for research purposes. I have been given the opportunity to ask questions about the study and I have had my questions answered satisfactorily. I have read and understood the procedures and the risks involved in this study. I have received an unsigned copy of this '*Informed Consent Form*' to keep in my possession.

Name (Please printed):

Signature:

Date:

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study and have answered any questions that have been raised.

Investigator Signature:

Evrpidis Lampadarios

Email address: e.lampadarios@leedsmet.ac.uk

Appendix E: Statistics

Descriptive statistics - Demographics owners/managers

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	112	94.9	94.9	94.9
Female	6	5.1	5.1	100.0
Total	118	100.0	100.0	

Age Group

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 30-49	26	22.0	22.0	22.0
50-60	81	68.6	68.6	90.7
Over 60	11	9.3	9.3	100.0
Total	118	100.0	100.0	

Nationality

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid British	112	94.9	94.9	94.9
Non British	6	5.1	5.1	100.0
Total	118	100.0	100.0	

Education

	Frequency	Percent	Valid Percent	Cumulative Percent

	A Levels	9	7.6	7.6	7.6
	Bachelor's Degree	63	53.4	53.4	61.0
	Master's Degree	21	17.8	17.8	78.8
Valid	PhD	19	16.1	16.1	94.9
	Professional Qualifications	6	5.1	5.1	100.0
	Total	118	100.0	100.0	

Position

		Frequency	Percent	Valid Percent	Cumulative Percent
	Owner	24	20.3	20.3	20.3
Valid	CEO/MD/Director	94	79.7	79.7	100.0
	Total	118	100.0	100.0	

Function

		Frequency	Percent	Valid Percent	Cumulative Percent
	Sales	20	16.9	16.9	16.9
Valid	Management	94	79.7	79.7	96.6
	Technical	4	3.4	3.4	100.0
	Total	118	100.0	100.0	

Time in Current Position

		Frequency	Percent	Valid Percent	Cumulative Percent
	Less than 3 years	11	9.3	9.3	9.3
	3-5 years	23	19.5	19.5	28.8
Valid	6-10 years	35	29.7	29.7	58.5
	More than 10 years	49	41.5	41.5	100.0
	Total	118	100.0	100.0	

Time with Employer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 3 years	9	7.6	7.6	7.6
	3-5 years	17	14.4	14.4	22.0

6-10 years	30	25.4	25.4	47.5
More than 10 years	62	52.5	52.5	100.0
Total	118	100.0	100.0	

Years of Previous Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid More than 10 years	118	100.0	100.0	100.0

Previous Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Private Sector	87	73.7	73.7	73.7
Valid Own business	31	26.3	26.3	100.0
Total	118	100.0	100.0	

Number of Business Ventures

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid None	8	6.8	6.8	6.8
Valid Less than 3	35	29.7	29.7	36.4
Valid 3-5	62	52.5	52.5	89.0
Valid 6-10	5	4.2	4.2	93.2
Valid More than 10	8	6.8	6.8	100.0
Total	118	100.0	100.0	

Number of SMEs worked for

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 3	57	48.3	48.3	48.3
Valid 3-5	57	48.3	48.3	96.6

	6-10	4	3.4	3.4	100.0
	Total	118	100.0	100.0	

Descriptive statistics - Companies

Years of Business Trading

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Less than 3 years	5	4.2	4.2	4.2
	3-5 years	8	6.8	6.8	11.0
	6-10 years	12	10.2	10.2	21.2
	More than 10 years	93	78.8	78.8	100.0
	Total	118	100.0	100.0	

Number of Employees

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Less than 10	31	26.3	26.3	26.3
	10-49	57	48.3	48.3	74.6
	50-250	30	25.4	25.4	100.0
	Total	118	100.0	100.0	

Annual Turnover

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Less than 2m EUR	13	11.0	11.0	11.0
	2-10m EUR	27	22.9	22.9	33.9
	10-50m EUR	78	66.1	66.1	100.0
	Total	118	100.0	100.0	

Export Business

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid More than 30%	18	15.3	15.3	15.3
20-29%	13	11.0	11.0	26.3
10-19%	35	29.7	29.7	55.9
5-9%	9	7.6	7.6	63.6
Less than 5%	27	22.9	22.9	86.4
None	16	13.6	13.6	100.0
Total	118	100.0	100.0	

Business Location

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid North West England	28	23.7	23.7	23.7
North East England	47	39.8	39.8	63.6
Midlands	17	14.4	14.4	78.0
South West England	3	2.5	2.5	80.5
South East England	14	11.9	11.9	92.4
Scotland	5	4.2	4.2	96.6
Wales	3	2.5	2.5	99.2
N.Ireland	1	.8	.8	100.0
Total	118	100.0	100.0	

Table 1: Assessing Normality (Kolmogorov–Smirnov test)

Success Factors	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Age	0.312	118	0.000
Education	0.423	118	0.000
Entrepreneurial Orientation	0.518	118	0.000
Gender	0.326	118	0.000
Personality	0.385	118	0.000
Prior Experience	0.401	118	0.000
Enterprise Age	0.331	118	0.000
Business Networks	0.363	118	0.000
Customer Relations Management	0.514	118	0.000
Financial Resources	0.342	118	0.000
Internationalisation	0.284	118	0.000
Human Capital	0.385	118	0.000
Market Product Orientation	0.465	118	0.000
Marketing	0.272	118	0.000
Enterprise Size	0.387	118	0.000
Strategic Planning	0.350	118	0.000
Political Environment	0.278	118	0.000
Economic Environment	0.298	118	0.000
Socio-cultural Environment	0.434	118	0.000
Technological Environment	0.409	118	0.000

Legal/Regulatory Environment	0.524	118	0.000
Ecological Environment	0.520	118	0.000

Table 2: Spearman rho test - Correlation Coefficients (r_s) for success factors

Success factors	Correlation Coefficient
Age	0.919
Education	0.909
Entrepreneurial Orientation	0.976
Gender	0.916
Personality	0.928
Prior Work Experience and Management Skills	0.946
Enterprise Age	0.935
Business Networks	0.963
Customer Relations Management	0.954
Financial Resources	0.951
Internationalisation	0.972
Human Capital	0.968
Market Product Orientation	0.974
Marketing	0.945
Enterprise Size	0.949
Strategic Planning	0.956
Political Environment	0.946
Economic Environment	0.979
Socio-cultural Environment	0.963
Technological Environment	0.932
Legal/Regulatory Environment	0.987

Ecological Environment	0.989
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