
*AN INVESTIGATION INTO
THE INFORMATION NEEDS
AND SEEKING BEHAVIOUR
OF CHIEF EXECUTIVE
OFFICERS IN IRELAND*

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This dissertation is submitted in partial fulfilment of the requirements for the Masters of Arts in Accounting.

Words:15,700

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ABSTRACT

OVERVIEW

The Chief Executive Officer (CEO) is the highest ranking official in the company who has the responsibility of formulating and executing strategy. The CEO is ultimately responsible for the performance of the company. It is commonly understood that information is a critical resource for CEO's in formulating strategy and obtaining an essential understanding of the environment in which the CEO operates. Increased technology and communications has meant that obtaining and analysing information is much easier than ever before. The difficulty for CEO's is determining which information they require to prevent information overload.

PURPOSE

The purpose of this research is to examine the nature of CEO work. In this research, the researcher will use Mintzberg's ten point framework to analyse the role of Irish CEO's in the 21st century. Furthermore, the researcher aims to illustrate the information needs and information seeking behaviours of Irish CEO s', and their insights into the usefulness of information systems.

FINDINGS

The research indicates that the role of CEO s examined is strategic in nature. Source quality, uncertainty and task complexity influence the information needs and seeking behaviour of CEO s. CEO s predominantly use internal personal and impersonal sources of information, requesting information from subordinate managers most frequently.

Chief Financial Officers are integral for the effective implementation of information systems, especially in larger more complex companies. However, the CFO is also responsible for information systems investment and development due to accounting and inventory control systems, especially in smaller firms who lack the resources to employ a Chief Information Officer

The problem of integrating information systems is a major problem experienced by companies in the research. High investment costs are also experienced by companies, especially by the largest companies with more complex operations and the smallest companies who suffer from lack of resources.

FUTURE RESEARCH

The research presents a foundation for further research in the area. Further exploratory research could be conducted on the work of CEO s, to provide a greater picture of their work. The research established that numerous companies included in the population employed a Chief Information Officer. There currently is a gap in the knowledge regarding their roles and the nature of the work in the Irish context.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to the following people, whose help and support made this dissertation possible:

- My research supervisor and research lecturer Michael Margey, for his time, dedication, comments and support throughout this dissertation.
- My family, especially my father and mother ,and my girlfriend whose encouragement, help and support throughout, made it possible to complete this dissertation.
- All the Chief Executive Officers who participated in the research.
- The library staff and lecturers who guided me throughout the year.

LIST OF ABBREVIATIONS

CEO	Chief Executive Officer
CFO	Chief Financial Officer
CIO	Chief Information Officer
IS	Information Systems

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CHAPTER 1

INTRODUCTION

1.1 PROLOGUE

In assessing the information needs of CEO it is imperative that we take account of the current context in which organisations must operate and survive. The last two years have been characterised by a very high level of uncertainty in the external environment driven by a deep crisis in the international banking and credit systems. Ireland has been severely affected in that the economy also has to cope with a serious property bubble, insolvent banks, lack of sufficient banking credit and comparatively low productivity.

Whilst Ireland has a relatively high cost base, it is still one of the most attractive locations for companies to do business primarily due to the favourable tax rate, educated workforce and its connections with Europe. Large multinationals account for a large portion of manufacturing and research companies which are located in Ireland. The 'Top 1,000 Companies' list consists the top companies located in Ireland based on their annual turnover. The list contains a number of the largest multinational companies in the world and the largest Irish indigenous firms.

Many of the top 1000 'Blue Chip' Companies in the banking and construction sectors (e.g Arnotts, Treasury Holdings, Allied Irish Bank, Bank of Ireland, Quinn Insurance and Mc Namara Construction) have suffered significantly in the crisis that has ensued. The state now relies on export led growth in traditional sectors such as agri business, manufacturing and services to restore employment levels.

More than ever the context calls for clear understanding of the contingencies coupled with the effective implementation of systems and processes to meet the strategic and sustainability information needs of the CEO. A critical and objective assessment of this mission critical role points to an ever increasing importance of the FD or CFO in supporting the modern CEO in the role of ensuring long term organisation sustainability.

1.2 RESEARCH AIMS AND OBJECTIVES

The research question is:

*“An Investigation into the information needs
and information seeking behaviour of Chief
Executive Officers in Ireland”*

The four key research objectives are summarised as follows:

1. *To investigate the nature of CEO work in Ireland*

The research aims to establish whether the work of CEO's mirrors that established by Mintzberg's (1975) famous study. The research findings will determine whether the roles (Interpersonal, Informational and Decisional) are experienced by CEO s' in Ireland in the 21st Century. The research will aim to clarify if CEO work is performed at an unrelenting pace, characterised by brevity and if CEO s spend most of their time working away from the office.

2. *To determine the information needs of CEO s' during the course of their work.*

This research explores the information needed by CEO 's to assist in giving direction to their firm. The research seeks to determine how often CEOs need information, their preferred format and whether they are satisfied that they have the information needed.

3. *To discover the information sources selected by CEO's and the reasons behind source selection.*

This paper will seek to determine what factors influence source selection and what barriers that exist in obtaining the information required. Also, the research will examine the information provided by the intelligence function.

4. *To establish whether CEO's are satisfied with the effectiveness of the information systems in place.*

The researcher looks to establish whether CEO's are satisfied with their current information system and with the information provided. The research will outline the main problems experienced by CEO's with their current IS.

1.2 RESEARCH JUSTIFICATION

The monumental research conducted by Henry Mintzberg in 1975 has inspired further empirical studies on CEO's. Research has been conducted on CEO's in various industries in different countries. As seen in Top executive rewards and firm performance: A comparison of Japan and the United States (Kaplan, 1994) and in "Cultural Constraints in Management Theories" (Hofstede, 1997), CEO's from different countries have different approaches to their work and to their use of information. Continuous learning amongst management on the nature of their roles and activities is important for successful careers and effective organisations (Maurer and Weiss, 2010).

"Information can be used to develop and sustain competitive advantage....Managers must understand how they should use information."

Marchand, 2001: 85

Companies face increasingly volatile external environments characterised by increased competition, rapidly changing markets, technological advancements, uncertain economic conditions and altering social environments (Wang and Haggerty, 2008). To combat these threats and effectively address external factors, CEO's must use superior information to detect emerging threats and opportunities in the environment (Sawy *et al.*, 1992). However, given the volume of information available, CEO's must be selective and eclectic in the allocation of time and energy to the information selection process: they have to be comprehensive and systematic in satisfying their information needs (Mintzberg, 1975). Research indicates that they limit and filter their research based on familiarity and experience (Liu, 1998). Furthermore, easy access to electronic information has led to the threat of information overload, which unmanaged, could prove to be a burden (Liu, 1998). This is because technology is used to "produce,

manipulate and disseminate information, which is generated quicker than it's processed" (Edmund & Morris 2000). It is important that CEO's are able to define their information needs and to determine an appropriate, effective and efficient method of gathering information relevant to the long term sustainability needs of their enterprise.

Design is fundamental to the success and effectiveness of information systems (March and Storey, 2008). Information specialists cannot influence the information needs of users, but they must have infrastructures in place to respond to their differing needs (Young and Watson, 1995). Kourdi's three stage framework outlines key issues to consider in developing an information system;

- 1) deciding what information is needed to enhance decision making
- 2) identifying when information is needed by the user
- 3) how best to display the data

(Kourdi, 2003).

In these times of greater uncertainty, researchers have stressed that it is essential that managers establish an efficient information gathering process in order to manage environmental risk and prevent information overload (Galbraith, 1973; Auster & Choo, 1994; Duncan, 1971; Kaye, 1995; Redman 2008). Significantly, the researcher has found no peer reviewed literature on the nature of managerial work carried out by CEO's in Ireland. This research project specifically aims to provide an insight into the current information gathering practices of a selection of CEO's from the top performing companies in Ireland.

CHAPTER 2

LITERATURE REVIEW

2.1 INFORMATION: A DEFINITION

Huber and Mc Daniel (1986) used the term information when referring to “*data that give meaning by reducing ambiguity, equivocality or uncertainty*”. Vuori (2006) used the term information to include all the sub terms and actors and variables in a company’s business environment. For the purpose of information behaviour research, Wilson (2006) states that the appropriate definition of information is “*an event communicated through a channel which transfers messages and factual data presented in a document or communicated orally*”.

2.2 INFORMATION CLASSIFICATIONS

Information has been classified differently in previous research. Pirttimäki (2004) categorised information into “hard” and “soft” information. Soft information is subjective, which consists of “*opinions, ideas, rumours, hearsay and market commentary*” (Peterson, 2004). Hard information is objective information that is quantitative in nature and can be easily stored and transmitted in impersonal ways (Peterson, 2004).

Dennis and Kinney (1998) classified information based on its degree of ‘richness’, with information providing quicker feedback being classed as richer information.

Alternatively, information sources can be categorised into internal personal, internal impersonal, external personal, and external impersonal (Auster and Choo, 1994). Personal sources are those that communicate the information directly to the manager whereas impersonal information is communicated to a large audience through a formal system (Kaye, 1995). Internal personal

sources include sub ordinates, managers and staff whilst internal impersonal sources include memos, financial and performance reports. External personal sources comprise business associates, customers and competitors and external impersonal sources consist mainly of publications and periodicals.

2.3 INFORMATION AND COMPETITIVE ADVANTAGE

Information is seen as an important source of competitive advantage (Porter, 1985). Information utilised in the strategic management process can be used to “*understand key stakeholders, stimulate innovation and present a valuable insight into the rapidly changing environment*” (Bosse *et al.*, 2010: 13) thereby contributing to better decisions (Redman, 2008). Information about key stakeholders also makes it possible to create new products or services, enter new markets and unearth more efficient methods of producing products (Bosse *et al.*, 2010). To enable better decision making, it is important that decision makers have the necessary information in order to manage the uncertainty and rewards associated with the decision (Redman, 2008).

Research also indicates that the rapid development in telecommunications and computers, (ICT) combined with its integration into “*integrated (convergent) systems*”, has improved the accessibility and processing of information (Kaye, 1995). Such development has resulted in new methods of transferring and global communication of information (Kaye, 1995).

Furthermore, studies from the late ninties support the view that information communication and dissemination is facilitated through relatively recent developments in software such as word processing, spreadsheets, presentation software and e-mail with the outputs presented in electronic (soft) or paper based (hard) formats (Degeoey and Ware, 1998).

Although relevant and accurate information can provide a source of strategic competitive advantage, irrelevant information can hinder and clutter the decision making process. Technological advances and the internet has meant that there are ever increasing amounts of (sometimes dubious) information sources available (Swash, 1998). However, the technology used to produce the information produces it “*quicker than any individual can*” (Edmund & Morris, 2000). This problem contributes to the managerial phenomenon termed as information overload.

2.4 INFORMATION OVERLOAD

In general, information overload is defined as “*a subjective experience of the insufficiency of time needed to make effective use of information resources available in specific situations*” (Savolainen, 2007: 10) or where an individual has ‘*too much information*’ (Eppler and Mengis, 2004: 19). Information overload arises due to a combination of the following; the nature of the information (its quantity, frequency, intensity, and quality), the person receiving it, processing, or communicating information, the tasks or processes that need to be completed by the individual, the organisational design and the misuse of information technology by the firm (Eppler and Mengis, 2004).

Firstly the nature of the information has an influence on the amount of information collected. If quality information is collected, it allows the individual base a decision using less information. Poor quality information leads to the individual seeking a greater amount of information to make a decision. Galbraith (1973) states that better co ordination through standards, good communications and procedures can reduce information overload. It has been recognised that the importance of the design of information technology is vital (Hevner *et al*, 2004). The improper use or design of information technology means that critical time and resources are wasted examining irrelevant information. An effective information system is designed to meet the information requirements of the end user thereby assisting the individual in the decision making process. However, an important and essential feature in

the information collection process and preventing information overload is the identification of the specific information needs of the user (Vuori 2006).

2.5 INFORMATION NEEDS AND SEEKING BEHAVIOUR

2.5.1 INFORMATION NEEDS.

Researchers of information science and organisational behaviour have studied information seeking behaviours using different research methodologies (Tan *et al.*, 2005). Over time, a greater understanding has been obtained of the concept of information needs and how they drive information seeking behaviours and use (Bruce, 2005).

Marti (1996) as cited by Vuori (2006) dissects information need into categories. According to this research, information needs are classified as

- 1) that which is wanted but not really needed.
- 2) that which is deemed to be needed, but which is deficient or lacking.
- 3) that which is required but for which the user is not aware is required ('wanted but not asked for')

(Vuori, 2006).

Similarly, Nicholas (2000: 34) defines an information need as "*what an individual would like to have*". This critically highlights the differential between what someone wants and what someone needs thereby sensing users to the need to prevent resource misuse in the information seeking and collation process (Vuori, 2006).

Likewise, Höglund and Persson (1985) as cited by Vuori (2006) posit that information can be usefully classified into 'objective' (what is thought to be needed) and 'subjective' (what an individual thinks is needed) forms.

Additionally, Aaltonen and Mutanen (2001:18) further clarify the definition of business information needs as “*the lack of information, understanding, or know-how required for a specific task which becomes evident when an organisation tries to solve problems*”. This definition is similar to, and echoes, Tan *et al.* (2005) who define information need as the demand for information due to a specific task or problem which in turn induces information seeking

Wilson (1981) states that needs arise due to a number of key factors viz

- 1 the preferences of the individual
- 2 the demands of the individuals’s work life
- 3 the environments (political, economic, technological, etc.) in which they operate.

He further states that barriers exist which hinder the satisfaction of these needs. Wilson (1999) combines the study of information seeking behaviour of Ellis (1998) with his own in which is succinctly illustrated by him in his framework as per Figure 1.

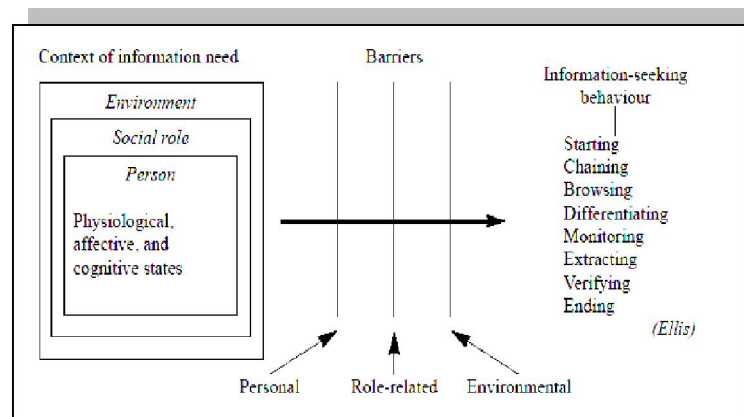


Figure 1: Relationship between information needs and seeking behaviour (Wilson 1999).

2.5.2 INFORMATION SEEKING BEHAVIOUR.

Information seeking is defined as “a process carried out to change the state of knowledge” (Marchonni 1995, cited by Zach 2005: 12) or as a process seeking “meaning” (Kuhlthau 1999: 4) to satisfy needs.

Wilson (1997) states that no-one but the person himself can know the person’s information needs. Therefore, no-one or third party can identify a person’s information needs. According to Butcher (1998), however, it is very hard for decision makers to articulate their information needs. Butcher argues that a frequent reason for this problem is that decision-makers do not know what information is available or they do not understand how it should be obtained or used in their position. We can only infer the nature of the information need based on the information seeking and use of the individual (Bruce 2005).

In Wilson’s (1999) model of information behaviour, information-seeking behaviour arises as a consequence of a need perceived by an information user. To satisfy this need, the individual proceeds to request formal or informal information sources. Wilson also draws attention to some significant limitations of his academic framework as his model of information behaviour provide only a map of the area: in doing so it highlights gaps in behavioural research. Fundamentally, this framework does not provide any explanation for the causative factors in information behaviour.

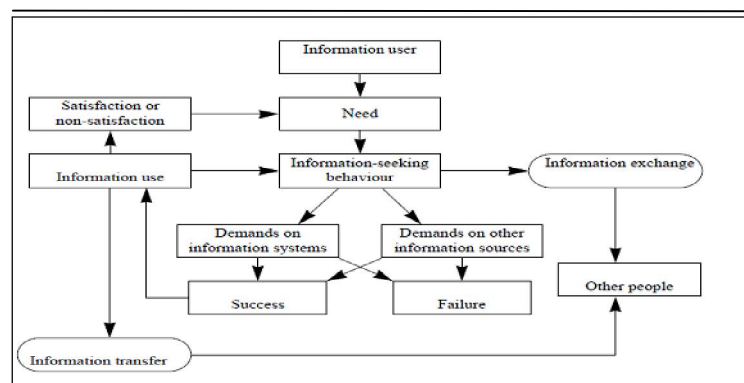


Figure 2: Information Process (Wilson, 1999)

2.6 SENIOR MANAGERS

Drucker (1974: 3) defines managers as those “*giving direction to their organisations, providing leadership and deciding how to use organisational resources to accomplish goals*”. A “jungle” of theory in the area of management has developed (Koontz, 1987), due to the attempts of researchers to conceptualise the nature of managerial work (Cunningham, 1979). Fells (2000) outlines Fayols (1949) functions of managerial work as planning, organising, co-ordinating, commanding and controlling. The work of Fayol (1949) was subsequently analysed and extended with variations depending on the position of a manager in the organisation (Carroll, Jerdee & Mahony, 1965). Subsequent research reveals that the time engaged in planning and organising increases due to the position of a manager as he ascends through the hierarchy in an organisation (Mintzberg, 1975; Daft *et al.*, 1988; 1987; Nord & Waller, 2004). This is aligned with theories positing that the primary role of the Chief Executive Officer and senior management is the formulation and successful execution of long term strategy (Greenwoods, Hinings & Ranson, 1980). On the other hand, the function of lower managers is short term in nature focusing on such issues defines as taking charge of the day to day running of the business, acting as disturbance handler and negotiator (Lau & Pavitt, 1983)

2.7 THE CHIEF EXECUTIVE OFFICER

The Chief Executive Officer is responsible for determining the organisations goals, strategy and design and adapting it to changing environments (Greenwoods, Hinings & Ranson, 1980). Therefore, the CEO is required to have increased awareness of the business and economic environment (Kraut *et al.*, 1989). According to Stewart (1991) and Roe (1977), the role of a CEO may vary slightly due to the structure and size of the company.

The CEO is the focal point for communicating any strategic change in an organisation, requiring leadership in its execution (Edwards 2000). In comparison with lower level managers, CEO's also play greater institutional roles, attending ceremonies and spending less time at the office conducting administrative work. The CEO participates in ceremonies as he is seen as the link to the external environment. As well as influencing their firm's direction, CEOs serve a unique organisational role communicating a vision, managing relations with key stakeholders and managing the firm's reputation.

The first key study into the nature of CEO work was that of Carlson (1944). The research was carried out on nine Swedish CEO's, which found that the work of CEO's did not resemble that suggested by previous management theories. Carlson believed that CEO's were more like "puppets" as there were no predetermined roles or activities. Rather, the nature of their work was determined by events in their work environment. The CEO according to Carlson only has control over determining the long term strategies of the firm and how information is made available to them.

The most renowned and oft quoted research on the work of CEO's is that of Mintzberg (1975). Mintzberg suggested that the key to becoming a successful Chief Executive Officer is to recognise the roles that one is expected to perform during the course of their work.

Five CEO's were studied through observation in medium to large companies in a diverse range of sectors. In his research, Mintzberg dismissed myths relating to the nature of managerial work. It was found that CEO's worked at a

relenting pace due to the open ended nature of the CEO’s job, with activities characterised by brevity, variety and fragmentation. Mintzberg dismissed the suggestion that the CEO has no regular duties to perform, finding that CEO’s frequently were required to attend ceremonial events and to communicate with the outside environment. Mintzberg also noted that CEO’s also favoured hearsay and gossip as they were accessed easier with a quicker response. Mintzberg’s (1975) research outcomes questioned Fayol’s theory in that he was of the belief that managerial work should be generalised into three areas, interpersonal, informational and decisional roles. This theory is illustrated in figure 3 below.

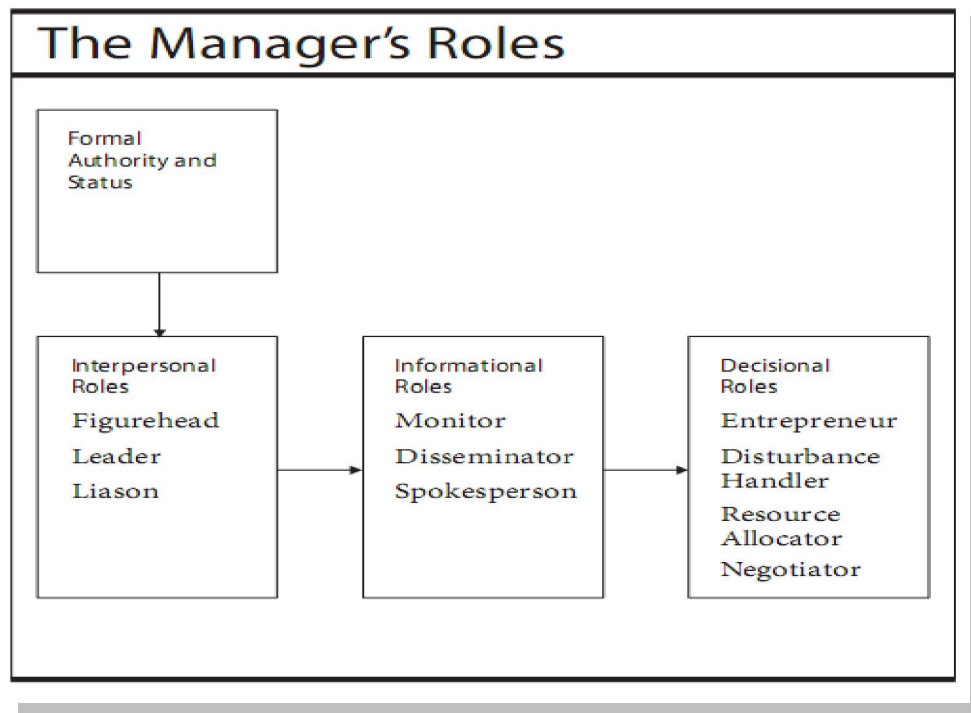


Figure 3: Mintzberg’s Managerial Roles (1973)

The CEO is recognised in this framework as having the “*formal authority of an organisation unit*”, with interpersonal roles; figurehead, leader and liaison (Mintzberg, 1990). As the figurehead, the CEO must perform some ceremonial duties which are important for representing the organisation. The CEO must act as the leader, motivating associates and coordinating the strategic goals of the organisation. It is well documented in leadership literature that a role of the

CEO is to help the organisation overcome crisis (Lucero *et al.*, 2009). Besides setting the direction for the organisation during a crisis, the CEO has the role of re-establishing confidence among stakeholders (Lucero *et al.*, 2009).

According to Mintzberg, CEOs play informational roles, acting as the focal point for information communication with subordinates and with contacts outside the organisation. Furthermore, it is reported by Mintzberg (1990), that 40% of the CEO's contact time is transmitting and communicating information. The informational roles of the CEO are to monitor and to scan the environment for important information from different sources.

Additionally and crucially, the CEO must also act as disseminator and spokesperson, communicating vital information with subordinates and contacts outside the organisation. Important stakeholders such as investors look to the CEO to communicate the strategic goals of the firm (Edwards, 2000). The informational role aids the CEO in formulating long term strategies and making sense of the environment of the environmental factors surrounding the company (Laitinen, 2009). This is a central task as the CEO acts as an entrepreneur in strategically positioning the firm to adapt to the ever changing environment.

The research of Kurke & Aldrich (1983) and Kotter (1982) found similar results and supported the seminal research of Mintzberg. Further research by Fells suggests that CEO's are mainly responsible for allocating resources and formulating long term goals (Fells, 2000). Luthans states that CEO s' spend much of their time meeting and giving information (Luthans, 1988). Hales 's (2000) findings emulate that of Mintzberg, outlining the main managerial activities in nine "*elements of managerial work*". Akella (2006) found that top level managers don't spend specific time on certain activities: rather their work is typified by performance at an unrelenting pace with most of their time spent at travelling, communicating and administrating paperwork.

More recent research based on the the Mintzberg model (Tenghlad, 2006) support the original findings of Mintzberg with two exceptions

1 managerial work is not fragmented

2 interruptions are not commonplace.

Most recently, Baker *et al.* (2009) observed that the managerial roles and skills of CEO s’ haven’t changed despite the relenting change in the business environment outlined by Kanter (1989) and Zaccaro *et al.* (2004).

In summary, the information a CEO acquires is aimed at identifying problems and opportunities so as to build mental models of the business (Mintzberg, 1975). Given the critical nature of the informational roles of the CEO, the ever increasing sources of information has created a theoretical opportunity for them to acquire information essential for making better decisions and creating long term superior competitive advantage. However, and ironically, the same potential source of advantage increases the threat of information overload which could also hinder the decision making process, thereby undermining the effectiveness of the CEO. Therefore, the ability of a CEO to determine an efficient information in the modern day management role process cannot be underestimated.

The key information processing activity involves effectively and efficiently acquiring, distributing and interpreting information (Vuori, 2006). Choo (1996) has developed an information management cycle which depicts the different stages in acquiring and using information (Figure 4).

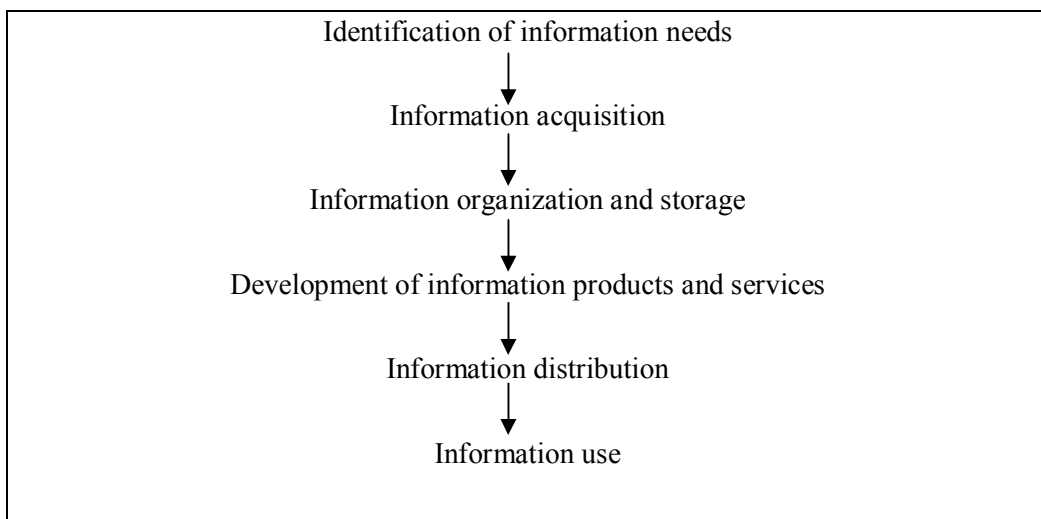


Figure 4 : Information Process (Choo, 1996)

2.8 INFORMATION NEEDS AND SEEKING BEHAVIOUR OF CEO'S

2.8.1 Information seeking.

According to Tan *et al.* (2005), information seeking is the purposeful seeking of information to satisfy a need. Environmental scanning is a form of information gathering (Mc Ewen, 2004). It involves the acquisition of information about events occurring outside the company in order to determine threats and opportunities (Aguillar, 1967). Decision makers' need business information from different sources, including those sourced internally and externally. Chief executives in high performing companies scan more frequently and more broadly in response to strategic uncertainty than those in low-performing companies (Daft, *et al.* 1988). It has been documented that the information used depends on the nature of the decision, the level in the organisation (Laitinen, 2009; Green, 2007; Liu, 1998) and the uncertainty and equivocality involved (Daft and Lengal, 1986; Daft 1987). Although the importance of information acquisition and environmental scanning has been well documented, Carland and Carland (2008) are of the opinion that the use of a formal, dedicated scanning unit is beyond the means of small firms, resulting in their dependence on informal sources that are personal, external, and informal. It is important regardless of the situation, that a CEO develops a wide variety of trusted sources (Redman, 2008).

Gorry and Morton (1989) integrated Anthony's (1965) categories of management activities and Simon's description of decision types (structured, semi structured and unstructured) into a model depicting the nature of decision making within a firm. Anthony (1965) first developed a classification of managerial activities to assist managers in understanding their activities and decision making process. To begin with, an important activity is strategic planning, which involves deciding on the objectives of the entity and how to allocate resources to achieve these objectives. Secondly, management control activities are that which managers ensure that strategy is being implemented efficiently and effectively. Operational control activities make sure that specific tasks are being carried out correctly. The reclassification framework of Gorry and Morton (1989) is useful in understanding and cogently

illustrating the information needs of the manager and the nature of different decisions.

Characteristics of Information			
	Operational Control	Management Control	Strategic Planning
Source	Largely Internal	—————→	External
Scope	Well Defined	—————→	Very Wide
Level of Aggregation	Detailed	—————→	Aggregate
Time Horizon	Historical	—————→	Future
Currency	Highly Current	—————→	Quite Old
Required Accuracy	High	—————→	Low
Frequency of Use	Very Frequent	—————→	Infrequent
	Structured	Semi Structured	Unstructured

Figure 6: Nature of information use in decision making (Gorry and Morton, 1989)

Subsequent research has found similar results to that of Gory and Martin. Managers who are involved in more complex and complicated decisions require a wider range of information (Hall, 2006, Laitinen, 2009). The research of Frishammar (2003) studied the type of information that was used in formulating long term strategic decisions. These soft and hard types of information were used by CEO’s, but the results suggest a preference by managers for soft information rather than hard. However, it is noted that respondents of this research showed a preference for using soft information at the beginning of the strategy formulating process and used hard information in the later stages.

Frishammar (2003) believed that the combination of the different types of information could be down to the nature of the strategic decision. Redman (2008) also recognises that the complex, less frequent decisions (strategic) requires more varied information. To complement the above findings, Hackner

(1988) suggests that soft information is used in offensive decisions whereas hard information is used in defensive decisions.

2.8.2 Factors effecting source selection.

Previous research has investigated the rationale behind for source selection. Accessibility (Fidel and Green, 2004; Sawyerr *et al*, 2000), quality and relevance (Vancouver & Morrison, 1995) have been grounds for source selection. Sawyer et al. (2000) found a correlation between perceived source accessibility and frequency of usage. An explanation for this behaviour is likely to be the high costs associated with environmental scanning (Frishammar, 2003).

According to Taylor (1991) and Choo (1992), accessibility is not an essential factor when used in unpredictable decisions, rather information quality is more important. Strategic decisions are presumed to be more unpredictable than routine decisions. Therefore, data accessibility is an issue likely to be observed in straightforward operational decisions. By contrast , high quality sources have been used for long term strategic decisions.

Past research on environment scanning has focused on the implications of perceived economic uncertainty on scanning, information and scanning methods used (Choo, 1994). CEO's in high performing companies scan more frequently and more broadly in response to strategic uncertainty than those in low-performing companies (Daft, *et al*. 1988). Decades of research (Daft *et al*. 1988; Sawyerr, 1993; Auuster & Choo (1992, 1993, 1994); Galbraith, 1974; Elenkov, 1997) have established a strong correlation between uncertainty, the frequency of scanning and the selection of sources. Personal and external sources are used more frequently where greater uncertainty is experienced (Choo, 1994). Performance is believed to be enhanced where there is richer media (personal and high feedback) for equivocal tasks (multiple and conflicting interpretations) and hard information for non equivocal tasks (Daft and Lengal, 1986). However the findings of Dennis dismiss the richness theory outlined by Daft and Lengal (1988), advising that multiple types of information should be used to improve decision making.

Also, it must be appreciated that rapid developments in ICT are a factor for consideration and can be a key driver in assessing all aspects of managerial behaviour as new forms of information technology and micro computers (e.g. blackberry mobile phone, I pad), are used: these enable key executives access a wide range of information types with round the clock access to MIS, e mail and the internet whilst out of the office, travelling or on vacation.

2.9 THE INTELLIGENCE FUNCTION

“The Intelligence function comprises the collection, analysis and dissemination of information about a company’s external environment to decision makers and strategists”

Porter, 1980

The CEO consults different subordinates within the decision making processes depending on the decisions at stake. Drucker (1975) emphasises that the fact the Chief Executive Officer should not be solely in charge of forming strategy, rather, the top executives should operate as a team with responsibilities in specific areas. Much of the research on Top Management teams support this theory that top managers contribute their knowledge and experience and collectively set the strategy of the organisation. Different companies in different industries and cultures develop differing consulting and decision-making relationships among the top level of the hierarchy (Buchen, 2005). It is the responsibility of the Chief Executive Officer to implement and successfully execute the strategy formulated by senior managers.

It is critical therefore, in this model of Managerial activity, that the organisation structure is designed to ensure effective communication of information between the executive leadership and the individuals responsible for providing information on the external environment (Fahey, 1999).

In addition to providing financial information, it has been found that Chief Financial Officers (CFO) are also responsible for providing information on the external environment and investing in information systems. According to

Dalton (1999) and Favaro (2000), the CFO adopts some of the key responsibilities of a Chief Executive Officer, by becoming more involved in the strategic process of the firm. CFO's are expected to support CEO's information needs through creating an effective system of gathering and analysing critical information on the company's performance.

The CIO role emerged as greater importance was being placed on information and information systems. Penrod et al. (1990: 2) define the CIO as "*the executive responsible for information policy, management, control and standards*". In addition to aligning information systems to company objectives and designing information systems to create value, a Chief Information Officer must have knowledge of what information is needed, how to present information to create value and provide critical information on the external environment to enable an effective managerial response. (Hawkins & Oblinger, 2007).

2.10 INFORMATION TECHNOLOGY

"Information systems are implemented within an organisation for the purpose of improving the effectiveness and efficiency of that organisation"

Hevner et al (2004: 15)

Rapid change in technology has meant that there are additional sources of information. Improvement in IT's performance and its capacity to communicate and integrate has improved the efficiency of information systems (Zammuto et al, 2007).

The development of smartphones and palmtops has enabled CEO's to communicate and view information on the move (Zeullig and Macker, 2008). Smartphones have developed from simple communication devices to 'handheld computers' which are capable of accessing e-mail and the web for research, processing word documents and presentations and receiving notifications from the main information system (Park and Chen, 2007). Furthermore, smartphones enable users to conduct online research and view

periodicals (, 2010). Recent groundbreaking developments in cloud computing enable smartphones and PDA's access to business information and to view reports on performance indicators, customers and competitors. Forecast rapid developments by systems providers in the area of Information systems will fully integrate smartphones and PDA's with the main information system through the use cloud computing, internet access and mobile applications.

Firms are investing heavily in information systems to improve its information process capabilities in an ever changing environment (Karimi et al, 2004).

With the development of more mass market proprietary off the shelf MIS products, even smaller enterprises have access to systems which traditionally would have been the preserve of large MNC s' (e.g. CRM Software)

The decisional and informational models created by researchers in the past have been used as the foundation for management information system design (Gorry and Martin, 1989). These models have shown the information needs of managers in different decisions, which is one of the fundamental principals upon which IS must be based in order to be successful and effective (March and Storey, 2008).

According to Fernandez *et al.* (2009), system characteristics, perceived usefulness and ease of use have an effect on the use and uptake of information systems by executives.

It is well documented that there is little difficulty in designing information systems for structured operational decisions. The difficulty lies in the design of information systems for high level unstructured strategic decisions (Baskerville and Pries Heje, 2008; March and Storey, 2008; Gorry and Morton). These types of decisions can be mission critical and are more typical in a rapidly changing external macro environment. Whilst there are Management Information Systems (MIS) that are specifically designed to support top managers in making unstructured strategic decisions through providing information, hard and soft, from numerous external and internal sources (Fernandez *et al.*, 2009), such information systems are prohibitively

costly to develop. Research suggests that they are rarely effectively designed for use (Pries-Heje and Baskerville,).

Previous research has found that effective MIS designed for CEO's must take account of the time famine of key executive.(Singh *et al.* 2002). The design of information systems is in a constant state of rapid scientific revolution and advancement (Kuhn 1996). Although information systems can assist a CEO in strategic decisions, a common cited problem is poor design, and that the systems are not always reactive or flexible to adapt to changing needs and the unstructured decisions of executives (Hevner *et al.*, 2004). A key criticism of that information systems developed frequently lack the appropriate design to analyse and present information (March and Storey, 2008)

2.11 CONCLUSION

Throughout the literature, it has been found that there is a positive correlation between management success and effective information needs assessment, information use and gathering (Goodman, 1993). In his study of Chief Executive Officers, Daft *et al.* (1988) also established that CEO's in high performing firm's utilised larger quantities of superior information. In effectively using superior information, executives can detect emerging threats and opportunities in the environment (Sawy *et al.*, 1992). It is therefore very important that Chief Executive Officers obtain and utilise up to date relevant strategic information to counter act increased competition due to factors such as globalisation, the rate of technological change and current economic and environmental uncertainty to enable the crafting craft of an effective sustainable organisational strategy.

When seeking information, managers do not have the energy or the time to be comprehensive and systematic so as to satisfy their needs (Mintzberg, 1975). In managing managerial resources, it is important that CEO's are able to effectively define their information needs and the best methods of seeking information in order to obtain relevant information in a cost efficient manner. A scan of literature in the Irish Context indicates that research of this nature has not been carried out recently, and secondary research hasn't unearthed empirical research of this nature.

Continuous learning in this sphere at Senior Managerial level is considered imperative for successful careers and effective management of organisations (Maurer and Weiss, 2010).

Design is fundamental to the success and effectiveness of information systems (March and Storey, 2008). This research will also be of great importance as it will define what CEO's require from their information system, providing a valuable insight for Chief Information Officers, information system specialists and designers, enabling a CEO to have an efficient information system in place. They cannot influence their information needs of users, but they must have infrastructures in place to respond to the different needs of the users (Young and Watson, 1995). Furthermore, De Leone and Mc Lean (2003) are of the belief that usage of the system and user satisfaction is an adequate measure of successful implementation of MIS. This research will illustrate whether CEO's are satisfied with current information systems and if there is any room for further improvement.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 AN INTRODUCTION

This Chapter will evaluate the various research philosophies, approaches and data collection methods in order to formulate an appropriate research methodological structure. The research methodology is important as it gives the researcher a sense of direction and a framework to conduct the research.

“The research design constitutes the blueprint for the collection, measurement and analysis of data.”

“..The plan and structure of the investigation as to obtain answers to research questions”

Saunders et. al 2009

3.2. RESEARCH PARADIGMS (RESEARCHERS PHILOSOPHY)

The research philosophy that a researcher adopts contains important assumptions about the way the researcher views the world, which in turn underpins the research strategy and the methods used as part of that strategy (Saunders et al., 2009). These assumptions will underpin not only the research strategy and methods, but how the researcher and the end user understand what has been investigated.

“The positivistic approach seeks the facts or causes of social phenomena, with little regard to the subjective state of the individual.”

(Colis and Hussey, 2003)

In adopting the positivistic approach, a researcher adopts the stance of a natural scientist (Saunders et al, 2009), believing that the methodological approach adopted in science may be applied in social research. The researcher will be concerned with facts rather than impressions. The researcher will be likely to use existing theory to develop hypotheses that will be tested and confirmed or refuted. In adopting a positivist approach, the researcher seeks to establish casual relationships between the variables (Colis and Hussey, 2003), through a highly structured methodology which facilitates replication of previous research (Gill and Johnson, 2002 as cited in Saunders et al, 2009). The researcher will use statistical analysis in order to determine the casual relationship between variables.

<p style="text-align: center;"><u>Advantages of Positivism</u></p> <ul style="list-style-type: none">• A positivist approach enables the researcher to test a larger sample• Results from research can be analysed easily• Research is carried out on clear theoretical objectives <p style="text-align: center;"><u>Disadvantages of Positivism</u></p> <ul style="list-style-type: none">• It does not take into account individual behaviour• Positivist research is not as detailed as that of Interpretivism• Explanations are rarely independent, rather intertwined with numerous explanations (Jankowicz, 2000)

Table 1: Advantages and Disadvantages of Positivism (Saunders et al, 2009)

“Interpretivism advocates that it is necessary for the researcher to understand differences between humans in our roles as social actors”

(Saunders et al, 2009)

Interpretivism is subjective in stark contrast to positivism. A researcher will have the view that the topic in question is far too complex to limit it to definite laws like in physical science. There may be social factors that have a significant effect on circumstances. The researcher will look at the reality behind the situations and look for motivating factors. Research is based on a small sample which seeks to unearth qualitative data regarding the complex relationships (Collis and Hussey, 2003). In summary, this approach looks at the society as the focus of research and establishes relevant facts, which the researcher uses to understand how and why individuals behave as they do.

Advantages of Interpretivism

- Allows the researcher gain a profound explanation of relationships between variables
- Research is more flexible

Disadvantages of Interpretivism

- Time consuming and only a small sample can be selected
- Requires the researcher to perform an in depth investigation into the relationship of variables
- Finding explanations in complex situations may be difficult due to the factors that have to be taken into account

Table 2: Advantages and Disadvantages of Interpretivism

3.3 RESEARCH APPROACHES

Saunders et al (2009) outlines three classifications of research purpose, exploratory, explanatory and descriptive. The classification selected depends on the individual research. Multiple classifications may be used.

Robson (2002) commented on how exploratory research is a valuable means of finding out “*what is happening: to seek new insights; to ask questions and to assess phenomena in a new light*”. (Robson, 2002, p.59 as cited by Saunders, 2003) Exploratory research is used when very little research has been carried out on the topic and the research aims to unearth new patterns, themes and ideas (Hair et al., 2007). In conducting exploratory research, the researcher will be better positioned to clarify concepts, gather explanations and achieve an in depth insight of the topic area ((Cohen, Manion, & Morrison, 2007)).

Explanatory research involves analysing a situation to determine the relationship between variables (Saunders, 2009). The research attempts to clarify how and why the relationship exists. Hair et al (2007) identifies the following four conditions which must exist when using explanatory research in testing for the ‘*cause and effect*’:

- 1) Time sequence: the cause must occur before the effect
- 2) Covariance: a change in the cause is a change in the effect
- 3) Non-spurious association: the relationship exists and it is not due to another factor which affects both.
- 4) Theoretical support: a logical explanation why the cause and effect relationship exists.

Descriptive research is designed to obtain “*data that describes the characteristics of the topic of interest in the research*” (Hair et al., 2007) or “*to portray an accurate profile of persons, events or situations*” (Robson, 2002 as cited in Saunders, 2009). Similarly Kumar (1999) describes the research as a systematic attempt to describe a problem, situation, phenomenon, service or attitude towards an issue.

3.4 RESEARCH STRATEGIES & DATA COLLECTION METHODS

In conducting a research, it is important that the researcher formulates a clear research strategy (Saunders et. al, 2009). Although each strategy can be used for exploratory, explanatory and descriptive research, some may be more appropriate for a positivist or interpretivist philosophy (Yin, 2003, as cited by Saunders et al, 2009).

3.4.1 Experiment

Experiments are used when there is a positivist philosophy adopted. They are often used in social science to casual links in variables (Saunders et al, 2009). This form of research is therefore exploratory or explanatory (Hair et al, 2007) in nature. Experiments are harder to conduct within real organisations (Easterby- Smith et al, 2003) and are usually conducted in laboratory settings (Saunders et al, 2009).

3.4.2 SURVEY

The survey strategy allows data to be collected from a large population and is usually associated with the deductive approach (Saunders et al, 2009). Surveys are usually conducted through questionnaires and interviews administered to a sample (Easterby- Smith et al, 2003). Although surveys are an economical method of collecting data from a large population, they must be carefully designed to ensure that the sample is representative and that the questionnaires are valid.

3.4.3 CASE STUDY

Robson (2002) as cited by Saunders et. al (2009) defines case study as *“a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence”*. Case studies provide an opportunity for the researcher to gain a deep insight through examining the phenomenon in a real life setting (Easterby- Smith et al, 2003).

3.4.4 OBSERVATION

According to Saunders et al (2009), observation involves *“systematic observation, recording, description, analysis and interpretation of people’s behaviour where the researcher attempts to participate fully in the lives and activities of the subjects”*. Observation is used for descriptive research and is used to obtain explanations for individual’s behaviour (Jankowicz, 2000).

3.5 DATA REQUIRED

3.5.1 QUANTITATIVE

Qualitative data is in the form that it can be analysed through statistical analysis (Hair et al., 2007). The quantitative approach is associated with numbers and quantifying the relationship between variables that can be illustrated by the use of charts, diagrams, tables and statistics. A quantitative approach is concerned with examining a particular situation without being formally involved and is useful when trying to establish a trend. This is collected predominantly through questionnaires (Saunders et al, 2009).

3.5.2 QUALITATIVE

The qualitative approach is based on meanings expressed through words and collection methods include tools such as interviews and observations (Hair et al, 2007). This method is subjective as it involves the individual's interpretation of events rather than focusing on facts and evidence. Interviews can produce solid information from open questions but it is time consuming both for the researcher and the individual being interviewed. The researcher must be careful to design interviews to reduce the threat of bias.

3.6 DATA COLLECTION METHODS

Research data can be collected through both primary and secondary sources.

3.6.1 SECONDARY DATA & PRIMARY DATA

Secondary data is information that has been previously collected on a topic, and can include both quantitative and qualitative data (Saunders et al, 2003).

Primary data can be collected using several methods. The researcher is to evaluate the benefits and limitations of each method to select the appropriate means to gather sufficient data for the research. The researcher must also take into account the limitations of cost and time.

3.6.2 QUESTIONNAIRES

A questionnaire is a data collection technique where individuals are asked to answer predetermined set of questions (Saunders et al, 2009). Questionnaires are primarily used for explanatory or descriptive research rather than exploratory research. However, questionnaires may also be qualitative in nature where it seeks the views and opinions of

<p><u>Advantages of Questionnaires</u></p> <ul style="list-style-type: none">• Allows a large number of issues to be addressed• Can be distributed to a large population• Data can be easily analysed• Less expensive than other methods• Permit anonymity for respondents• Respondents can complete questionnaires quickly and easily• Respondents have time to consider their answers• Standardised data enables comparisons to be made <p><u>Disadvantages of Questionnaires</u></p> <ul style="list-style-type: none">• Ambiguous questions are not clarified• It is possible to consult others before answering• Low response rate• No allowance for spontaneous answers• Responses cannot be supplemented with other information• Self selecting bias as some are not returned
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Table 4: Advantages and Disadvantages of Questionnaires

3.6.3 INTERVIEWS

“Interviews is a purposeful discussion between two or more people”

(Kahn and Cannell, 1957 as cited by Saunders, 2009)

Interviews may be formal in structure using standardised questions or they may be informal, where the interview resembles an unstructured conversation.

Structured interviews consist of a series of predetermined questions. Structured interviews are useful for collecting descriptive and quantitative data as a means of identifying general patterns, similar to questionnaires. (Saunders et al, 2009)

Semi structured interviews are non standardised questions which the researcher will have a list of themes and questions to be covered. This means that the researcher can alter the structure of the interview for different respondents and during the interview. This form of interview is useful for explanatory research.

Unstructured interviews are very useful for exploratory research. Unstructured interviews are informal, allowing the interviewer to discuss topics in depth with the interviewee. The interview would last longer than that of structured and semi structured. However, unstructured interviews are time consuming and cannot be compared easily with responses from other questionnaires. This restricts the sample size of research and they must be carefully planned to ensure their validity.

3.7 RESEARCH PROCESS CHOSEN

The research process chosen by the researcher will be outlined in this chapter with explanations for choosing the process adopted. The researcher followed the following process as outlined in Saunders (2009).

The definition of research questions is essential for the planning of the research process. The research questions were addressed by the research objectives, which were further broken into field questions. The research process was determined so as that it would be aligned with the research aims and objectives (Figure below).

Research Question: *An Investigation into the Information Needs and seeking Behaviours of CEOs in Ireland*

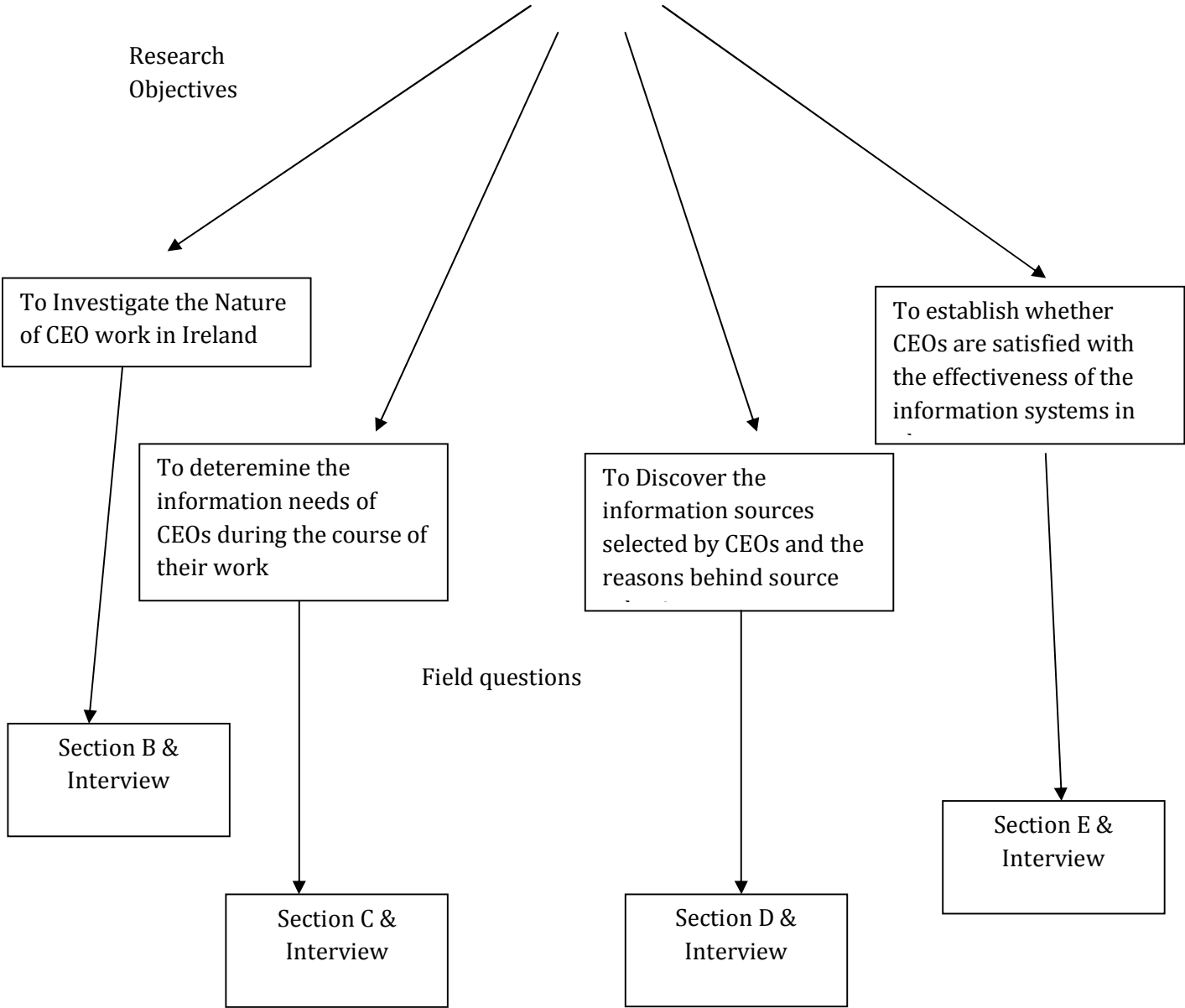


Figure 7: Research Design

The researcher has adopted an interpretive approach, given the benefits it provides in enhancing an understanding of the information needs of CEO's. Positivism was not adopted as the researcher is not statistically testing previous theories.

The main limitation is that both the researcher and the participants could introduce bias to the findings using this approach, depending on how they interpret the actual questions and findings.

However, the research methodology and the research questions have been designed to limit this possibility. Questionnaires have been rigorously pilot tested to reduce the threat of ambiguity and researcher/participant bias. The researcher asked three CEOs, not included for the purposes of the research to provide feedback on any problems in interpreting the questions. The researcher subsequently rephrased certain questions and reformatted the layout so as to reduce ambiguity and increase the response rate.

This research is both exploratory and descriptive. This research will aim to outline the nature of CEO work and clarify whether the roles of CEO's established by Mintzberg (1973) apply to CEO's in Ireland. Furthermore, the research will be exploratory in nature as it aims to determine the information needs of CEO's in Ireland where research in this area has not been carried out before.

As the research is both exploratory and explanatory, both quantitative and qualitative data will be sought. The researcher found many peer reviewed literature articles with relevance to this study, with the majority of these produced by highly regarded authors in the subject area. Although, some evidence of bias was discovered in certain pieces of literature, the researcher tried to overcome this by including contrary facts and opinions. However, the researcher found no previous peer reviewed studies on the information needs of CEO's in Ireland. The researcher aims to collect this data through primary research.

Various methods have been used in previous research of CEO's. Mintzberg (1973) and Kurke and Aldrich (1983) used observation in their study of CEO's. Carlson (1944) and used the diary method to study the work of top managers. Research by Auster and Choo (1993) and Frishammar(1997) used mailed questionnaires to determine the information seeking behaviour of CEO's.

The researcher has chosen survey as the research strategy to enable data to be gathered from a large population. Questionnaires will enable the researcher to collect data from the total population, the top 100 companies as listed on the Top 1,000 Companies The researcher was unable to conduct case studies or observations due to the time and cost limitations.

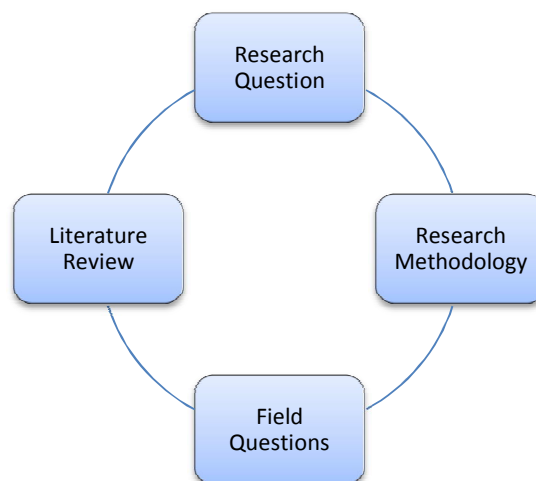
After reviewing the various research tools available, the researcher has decided that a combination of interviews and questionnaires were best suited to this particular research question. The researcher is of the belief that combination of both semi-structured interviews and questionnaires will accurately study the whole population.

3.8 CONSTRUCTING AN INSTRUMENT FOR DATA COLLECTION

3.8.1 QUESTIONNAIRE DESIGN

The validity and reliability of the data collected through questionnaires depends on the design of the questions and the structure of the questionnaires (Saunders et al, 2009). The researcher must carefully design individual questions, create a clear layout of the questionnaire form, present coherent explanation of the purpose of the questionnaire, pilot test the final design and carefully plan and execute administration.

The design of each question in the questionnaire was determined by the data sought (Saunders et al, 2009). The researcher ensured that the questionnaire was designed collect the precise data to answer the research questions and achieve the aims and objectives. The researcher has carefully analysed and subdivided the aims of objectives to ensure that the data required will be obtained.



Response rates, validity and reliability were maximised by:

- Careful design of individual questions
- Clear layout
- An explanation of the purpose of the questionnaire
- Pilot testing
- Carefully planned and executed administration

The wording and design of question have been designed to reduce ambiguity. The researcher also recognised the time constraints of the respondent (CEO's) in the design of the questionnaire. The researcher predominantly used closed questions which made it relatively straight forward to complete, thus increasing the response rate.

The following forms of questions were used by the researcher:

- **Open Questions:** Used where the researcher is unsure of the response. The space provided and the difficulties involved in analysing and comparing the responses must be taken into account.
- **List questions:** Select all appropriate responses from a list of items.
- **Category questions:** Select only one reply from a given set of categories.
- **Ranking questions:** Place something in order.
- **Rating questions:** These questions use a scale to assess the relative strength of opinion

The researcher decided to distribute the questionnaires by post, as he was of the belief that e-mails will result in a lower response rate due to the mass of e-mails a CEO will receive daily. The questionnaires were

addressed to the CEO's of the sample. A prepaid self addressed envelope was included to further increase the response rate.

3.8.2 INTERVIEW DESIGN

The researcher mailed letters to CEOs to arrange interviews. A follow up call was conducted where the researcher failed to receive a reply. Two interviews with CEOs were arranged in the month of July. An interview was also conducted with a domain expert in the area. The interview structure was sent via e mail to the CEO in advance of the interview. A semi structured approach was adopted (see Appendix). Both interviews were conducted at the CEOs office.

3.9 RESEARCH POPULATION

The population for the purpose of the research is the Top 100 companies as listed on the Top 1,000 Companies as listed by the Irish Times for 2010. The list is determined based on the turnover of private and publicly listed companies in Ireland. The list includes the largest firms based in Ireland in each sector. Questionnaires have facilitated the collection of data from the whole population.

3.10 DATA ANALYSIS

The data collected from the questionnaires will be analysed with Microsoft Excel. The questions used in the questionnaire are mainly closed questions which allow the answers to be analysed efficiently. Open questions will have to be categorised.

The analysis will involve:

- Preparing and inputting the data into Excel
- Choosing the most appropriate tables and diagrams to explore and present the data
- Choosing the most appropriate statistics to describe the data
- Choosing the most appropriate statistics to examine the relationships and trends in the data

(Saunders et al, 2009)

The interviews were recorded and the interview will be transcribed shortly after the interview has taken place. The interviews were analysed by summarising the key points that emerge from the interview (Saunders et al, 2009).

3.11 CREDIBILITY OF THE RESEARCH

The research has ensured that results from primary research are valid, reliable and generalisable. The researcher is confident that the questionnaires and semi structured interviews “*measures the attribute it is supposed to measure (validity)*” (Easterby Smith et al., 2003), “*consistently measures the concept (reliability)*” (Hair et al, 2007) and results in findings that are representative of a larger population (generalisability) (Saunders et al, 2009).

3.12 ETHICAL ISSUES

The research has been conducted in an ethical manner at all times. The researcher has conducted all primary research with professional integrity and strict confidentiality. All interviews have been recorded with the permission of the interviewee. Questionnaires were designed to ensure that the respondents remained anonymous. An ethics form has been submitted and the research has been approved by the ethics board in the college.

3.13 LIMITATIONS OF THE RESEARCH

The researcher incurred the following limitations in conducting the research:

- Time
- Financial
- Location of the researcher
- Size of the college

The constraints meant that certain research techniques could not be adopted. The researcher had to conduct the research as part of the Master of Arts in Accounting programme and it was to be completed by the 31st of July 2010. As a result, the researcher only had the month of June to conduct primary research. The researcher was not funded to conduct the research. This limited the articles available to the researcher and the sample selected. Furthermore, the researcher was unable to obtain access to literature due to the size of the college.

3.14 CONCLUSION

This research was carried out to investigate the information needs and seeking behaviours of CEO's in Ireland. The research was designed to ensure the data required to fulfil the aims and objectives of the research have been collected.

The research adopted an interpretive approach which is explanatory and descriptive in nature. Quantitative and qualitative data was collected through semi structured interviews and questionnaires. The questionnaires were distributed to the top 250 companies listed on The Top 1,000 Companies as listed by the Irish Times. Data collected will be analysed using excel.

The final chapters will involve a report of the findings and an analysis of the findings. Chapter four reports the findings of the data collected, while chapter five, the final chapter, concludes the dissertation with an overview of the study, the analysis of the data and its implications for CEO's.

CHAPTER 4

DATA FINDINGS AND ANALYSIS

4.1 INTRODUCTION

The findings of this research are based on the results of the questionnaires distributed to the targeted top 100 CEOs. Furthermore, the researcher conducted semi structured interviews with two CEOs of the top 100 companies as listed on the Top 1,000 Irish Companies.

In total, 25% of the questionnaires were returned. Additionally, there were three questionnaires returned uncompleted as it was company policy not to participate in questionnaires. The researcher also received two emails and one voice mail indicating that the CEO will return the questionnaires in mid August on return from annual leave.

The researcher was satisfied with the response rate as the average quoted in research textbooks is normally ranging between twenty and thirty percent (Cohen, Manion, & Morrison, 2007)

The interviews conducted with the CEOs and a selection of domain experts strengthened the insight into the specific nature of the respondents managerial work and information needs. The researcher attempted to arrange an interview with fifteen CEOs by mail. Follow up calls were conducted where one CEO failed to respond despite repeated calls. Two semi structured interviews were conducted during July.

4.2 DATA PREPARATION PROCESS

The researcher followed the data preparation process as outlined in Saunders (2009). On receipt of the questionnaires, the researcher examined the questionnaire for ambiguity, consistency and completeness. One partially completed questionnaire response was omitted as it did not comply with the methodology.

The responses were coded to facilitate the researcher in inputting and subsequently analysing the data efficiently in a Spreadsheet (Microsoft Excel 2009). In doing so, each questionnaire was double checked to ensure that the data was entered correctly. Subsequently, the researcher used graph and chart tools in Excel in order to analyse and graphically present the findings to support the research conclusions. The researcher use Excel to investigate whether relationships existed between the field questions.

4.2 COMPANY PROFILE

Respondents included representatives from various industries. Manufacturing accounted for 36% of the respondents with communications and food processing each accounting for 14% of the respondents. The remaining 46% were made up of one respondent each from the following industries; Engineering/energy, food sales, media, telecom s', utilities, wholesale distribution, computer and retail.

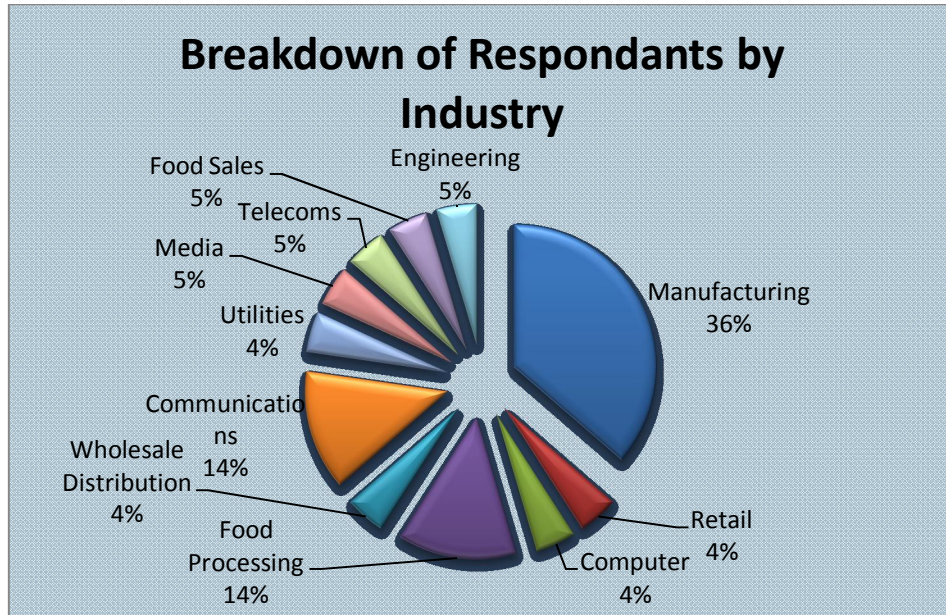


Figure 7: Breakdown of Respondents by Industry

Ireland is renowned for its attraction of multinationals, and Foreign Direct Investment Organisations accounted for the majority of respondents (55 %) to the research. The Indigenous Sector was also well represented (45%). Of the ten FDI companies, six (60 %) were located or Head Officed in the USA, two were UK (20%) and the remaining two were Mainland European Companies (20%).

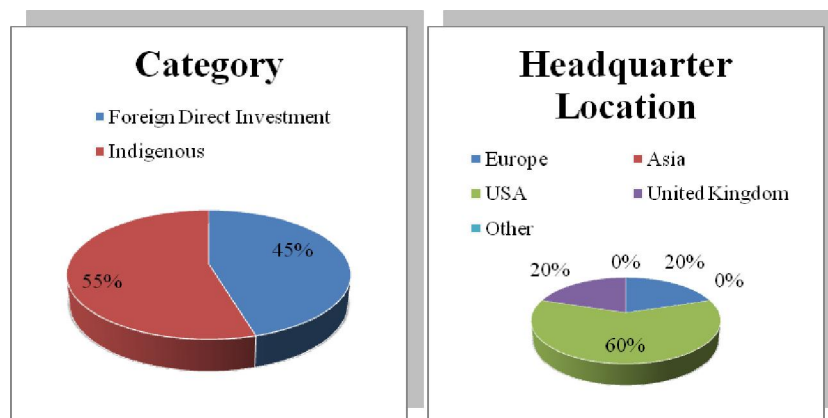


Figure 8: Respondents by Category

As respondents were amongst the top companies located in Ireland, the companies researched had significant turnover. 52% of the respondents had turnover greater than one billion euro per annum. 43% of the respondents had a turnover between €250 million and €500 million and 14% consisted of CEO's working for companies with turnover between €501 million and €1 billion euro.

The substantial turnover of the companies illustrates the comparative significant scale of the companies who responded in this research project.

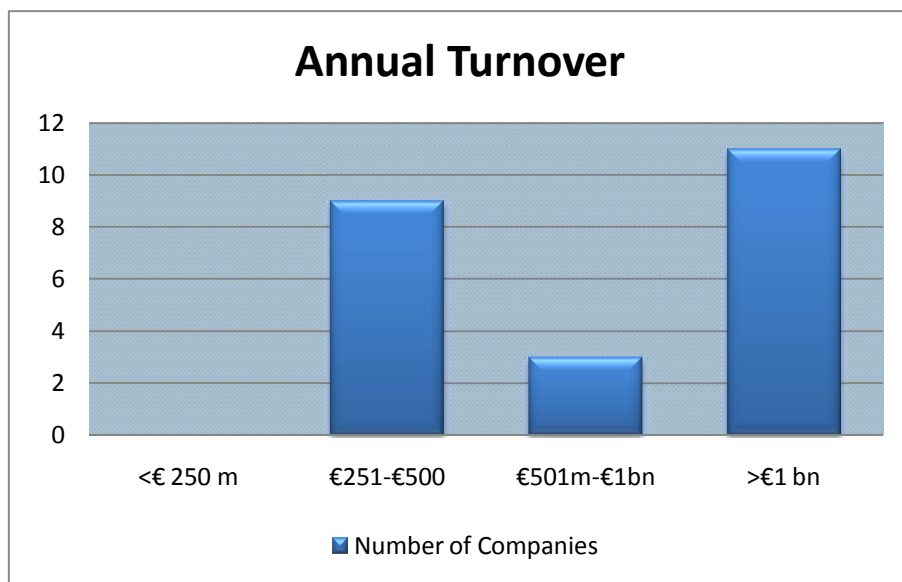


Figure 9: Annual Turnover

The CEOs also managed companies which employed a significant number of Irish employees with eleven (50%) companies employing over 750 people. The remaining companies employed significantly less.

In addition to the foregoing, the Chart below graphically illustrates the significance of these Companies as employers in the Irish Economy.

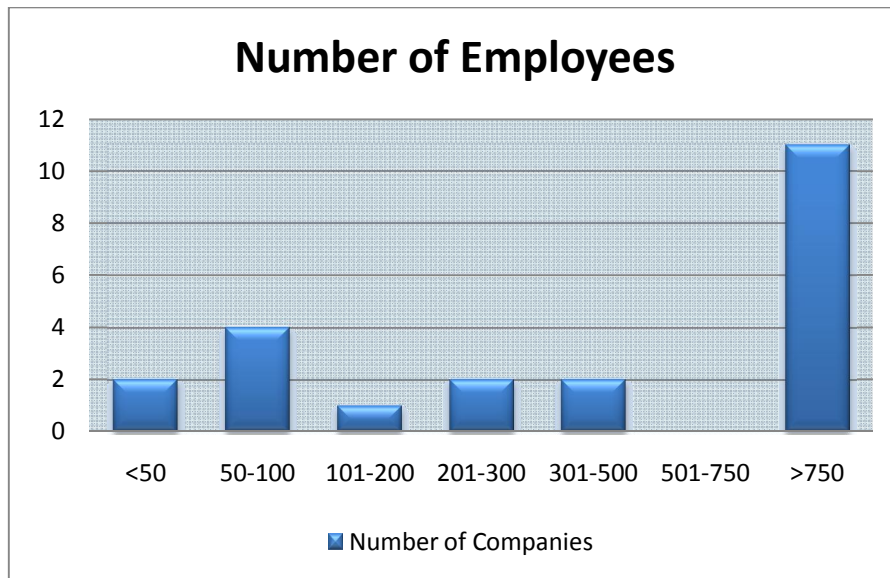


Figure 10: Number of Employees

4. 3 CEO PROFILE

4.3.1 Experience

The research found that the CEO positions on the companies were all male (100 %) and this factor surprised. However, this falls outside the scope of this research.

As regards service as CEO, ten (45 %) respondents had less than five years experience. Five (23%) CEOs had between 6 and 10 years experience and five (23%) respondents had experience of between 11 and 15 years. Interestingly, in the Irish Context, there were no respondents with CEO experience in their organisations greater than 20 years. There is no evidence in the responses to support the view that larger firms selected CEO's based on Managerial Experience.

The data is represented in Figure 11 below.

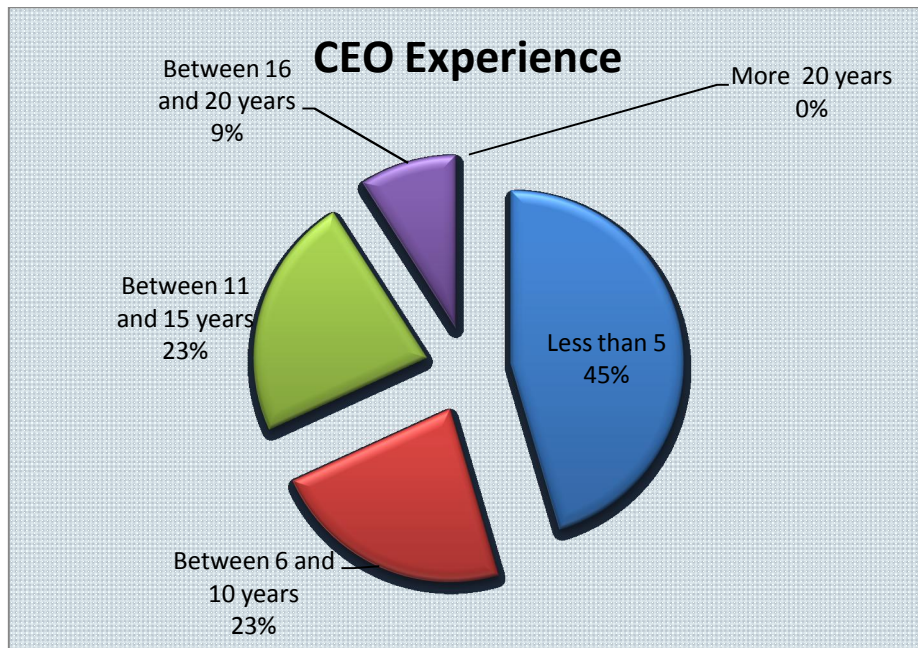


Figure 11: CEO Experience

4.3.2 Educational Qualifications

Twenty seven per cent of CEO's have a postgraduate qualification and eighteen per cent had a degree and a professional qualification. Fourteen per cent of CEO's have a postgraduate qualification and a professional qualification and fourteen per cent had a doctorate.

After further investigation, the researcher could not establish a correlation between educational attainment and organisational size / scale. However, the respondent CEO s with lower qualifications, (level 6 or 7) were employed by the smallest companies. The level of Educational attainment is illustrated in Figure 12 below.

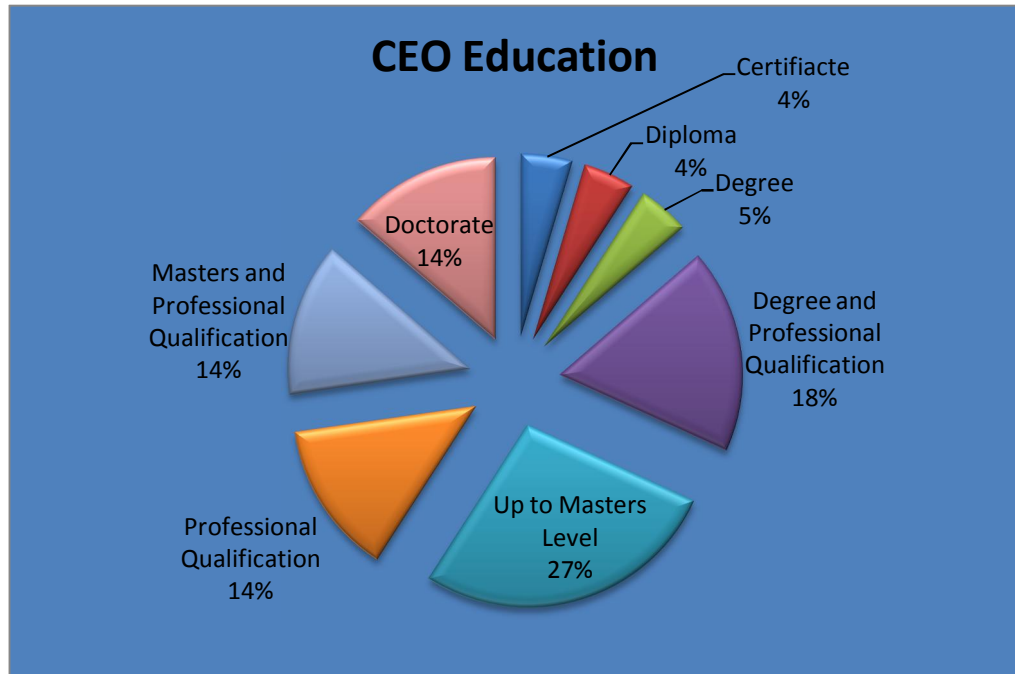


Figure 12: CEO Education

4.4 THE NATURE OF MANAGERIAL WORK

The responses of the Questionnaire and Interview Survey to the key managerial roles are illustrated below in Figure 13

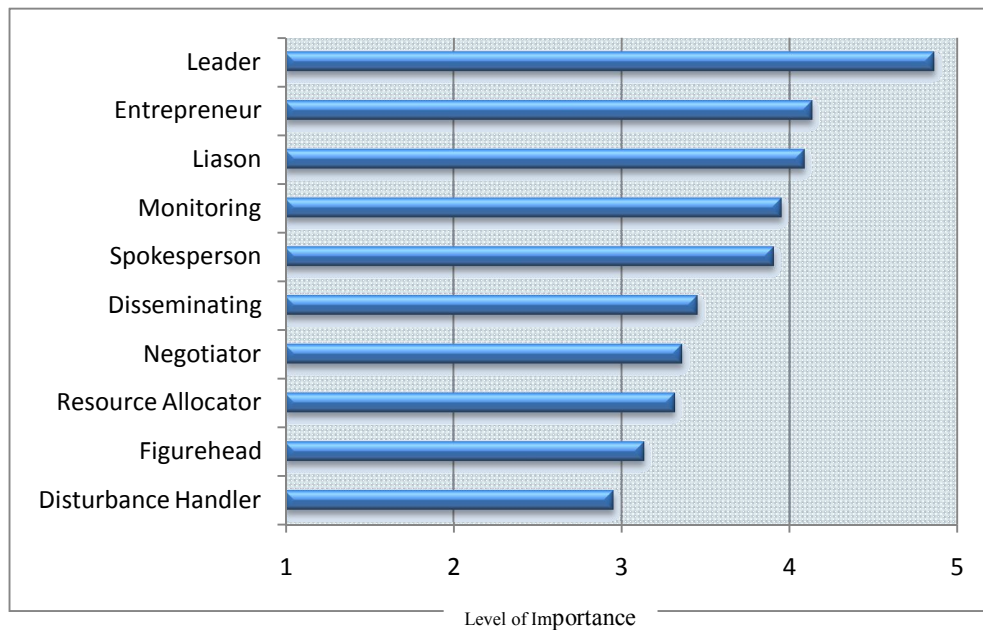


Figure 13: The Importance of Mintzbergs roles

The findings in relation to Irish Top 1,000 Companies support the findings of Mintzberg (1975) and Daft et al (1988), and confirm that the routine operational roles are less important for CEOs. Leadership was deemed the most important role (4.863636). This supports the academic research which posits that despite varying theories on the nature of CEO work, a common principle is that the CEO is responsible for motivating associates, demonstrating leadership and coordinating the strategic goals of the organisation (Montgomery, 2008).

Entrepreneurship in this survey is established as the second most important role: this is in alignment with the view that a primary role of the Chief Executive is to determine strategy in constantly changing environments (Mintzberg, 1990). The findings of the research project also confirm that monitoring, scanning the environment and communicating with contacts in order to obtain information is important to support the executing of the strategy. Significantly the interview with the domain expert (SME Sector) explicitly supported the view and findings of the questionnaire, that the entrepreneurship and monitoring roles are very important. He was clearly of the view that the main role of the CEO could be distilled into a statement that the CEO 's role was to *“implement strategy to maximise shareholder value”*. The domain expert also elaborated and highlighted the importance of the CEO to *“stay close to the market and understand customer needs”*..

In the role of spokesperson, CEOs consider it important to communicate the performance, organisational direction and business strategy with directors, shareholders and other important organisational stakeholders.

Of less importance were the roles associated with tacit decisions, disseminating, negotiator and resource allocator. Of least importance was the role disturbance handler which suggests that CEOs allocate this role to subordinates. These roles are the roles of lower level managers in line with the research findings of Daft *et al.*, 1987; Nord & Waller, 2004). These

non strategic roles and are therefore of less importance to Irish based CEO s as per the responses. The research findings did not establish a link between organisational size / scale and the importance attached to specific CEO Managerial Roles.

Findings elsewhere in this research support the theory that the strategic roles are the most important as identified by CEO s surveyed. The results are consistent with the theories first established by Anthony (1965). In this regards, respondents were of the firm view that strategic decisions were most important in their role as CEO whilst operational decisions were of less importance. This is best and most succinctly illustrated in Figure X below.

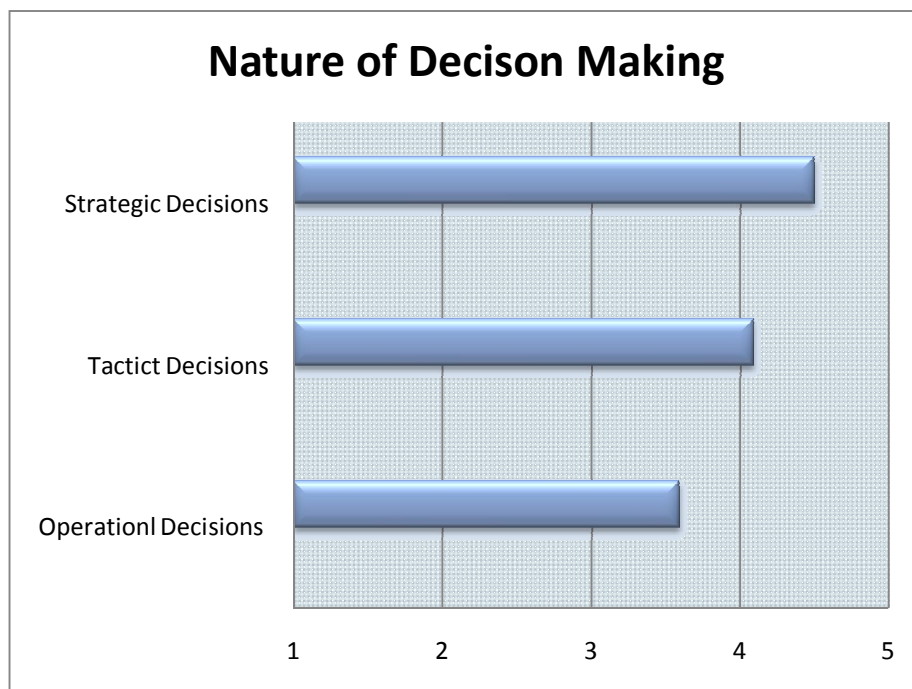


Figure 14: Nature of CEO decision making

Further investigation using cross tabulation did not unearth any relationships or correlation between company size and the importance placed by CEO s on each type of decision as per the Anthony framework above.

4.4.1 FOLKLORE OR FACT

Mintzberg’s Framework was selected in the survey to elicit and verify the nature of CEO Work in the Irish Context.

4.4.2.1 Brevity & Fragmentation

Findings demonstrate that eleven CEOs agree and ten CEOs disagree that CEO work is characterised by brevity and fragmentation. This is consistent with the research findings of Tenghlad (2006). By way of illustration, during the course of an interview, one CEO respondent stated

“I try being proactive in my work and plan my work with the use of a schedule”.

In order to further analyse the responses, in relation to work characterisation, the researcher cross tabulated the responses to the size of the company. The findings presented no evidence that either size or company type had any relationship with this theory.

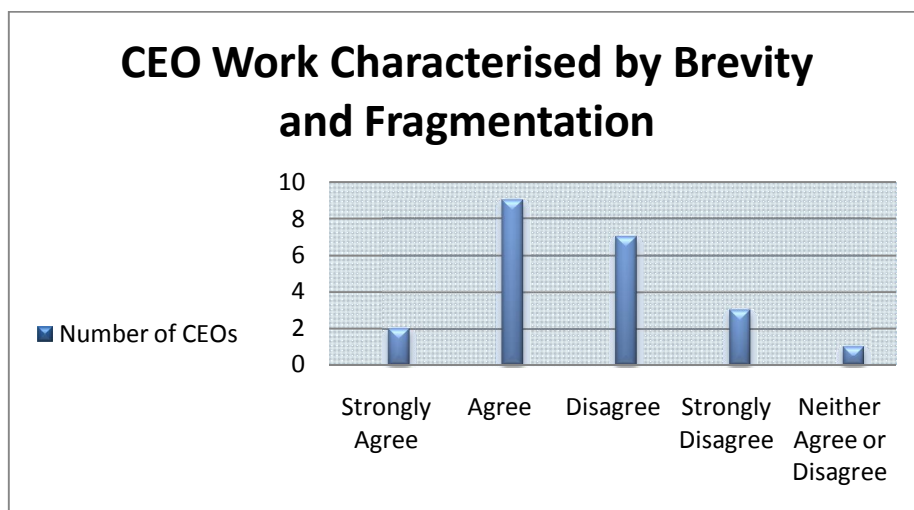


Figure 15: CEO work is characterised by brevity and fragmentation

4.4.2.2 Relenting Pace of Work

Sixty four percent (14) of CEOs agree that their work is performed at an unrelenting pace.

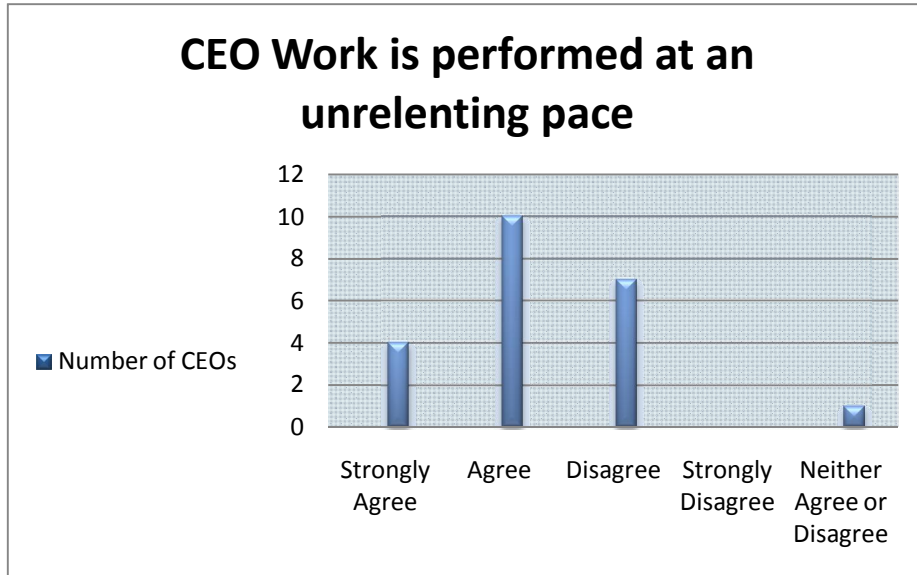


Figure 16 : CEO work is performed at an unrelenting pace

More respondents of the larger companies agreed with this statement in contrast with of CEO s’ of smaller companies. The domain expert agreed with the statement that CEO work is performed at an unrelenting pace and stated that it was *‘performed at an unrelenting pace and involving significant multitasking given the scale of companies’*.

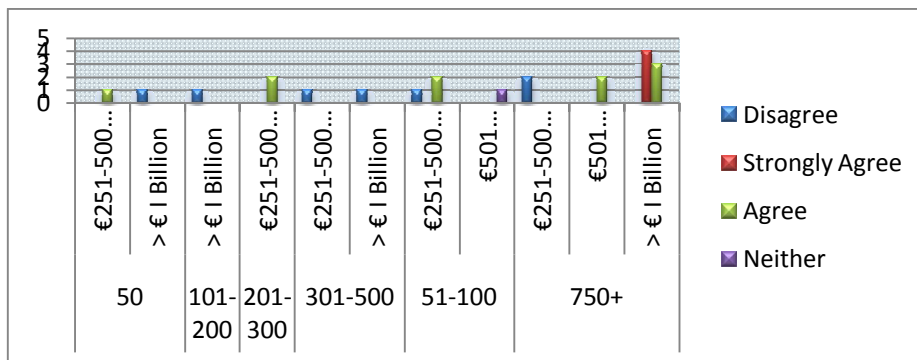


Figure 17: Cross tabulation Size of Company and Pace of work

4.4.2.3 Time spent away from office.

The Chart below best illustrates the responses of CEO s to this statement regarding CEO Activity.

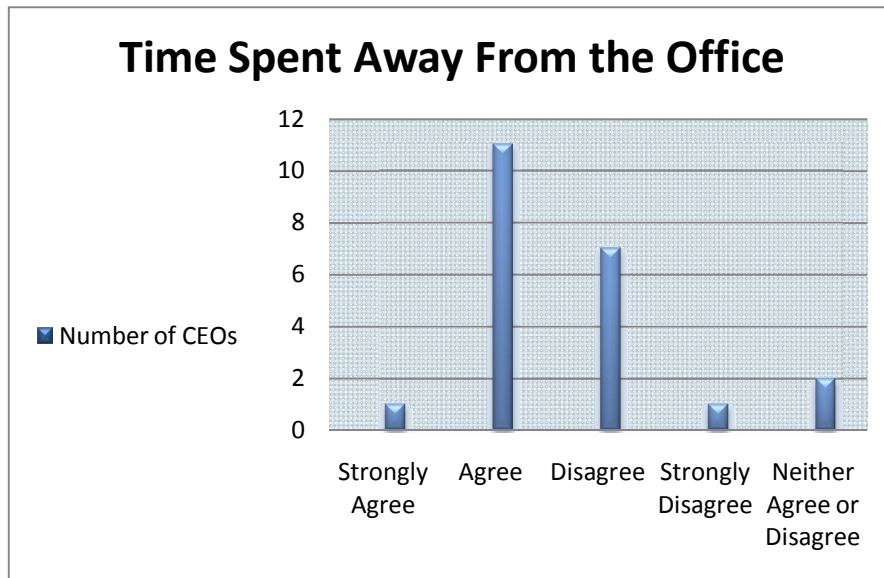


Figure 18: CEOs spend most of their time away from their office

Fifty five percent (12) of CEOs agreed that most of their work away from the office and thirty six percent (7) disagreed. Interestingly, 81% (9) of CEOs of indigenous firms agree that they spent most of their time away from office and this might be a n interesting project for additional research(Head office Location etc?).

A mere 27% (3) of CEO s from FDI companies agreed that they spent most of their time away from their office. During the interview with the CEO, the CEO commented on how he is required to “*spend a lot of time in the marketplace interacting with key customers and stakeholders to ensure that we are close to the market and emerging trends and identify opportunities*”.

Office	FDI	Indigenous	Grand Total
Neither	1	1	2
Strongly Disagree		1	1
Disagree	7		7
Agree	3	8	11
Strongly Agree		1	1
Grand Total	11	11	22

Table 3: Cross tabulation between time spent away from the office and company type

4.5 INFORMATION NEEDS OF CEO S

4.5.1 Frequency

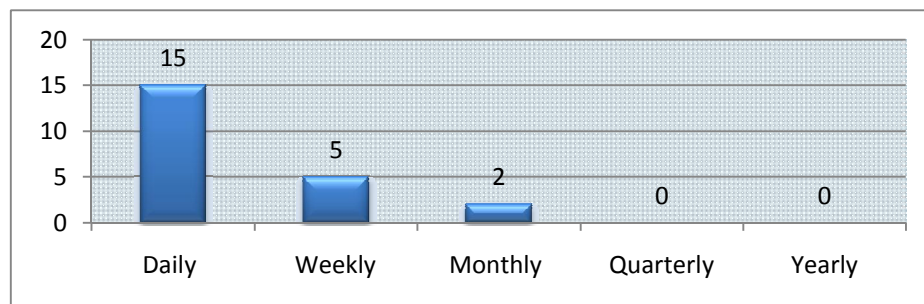


Figure 19: How often CEOs actively seek information

The researcher noticed that fifteen CEO’s (68%) actively sought information daily with five (22%) actively seeking information weekly. Only two CEOs (10%) sought information monthly. This CEO stated

‘it is critical in the current climate that CEOs are provided with information daily on working capital management, cost controls and general operations’

The researcher subsequently analysed the relationship between education and the information seeking behaviour of the CEOs. The results found that the CEOs with a certificate sought information weekly and the CEO with a diploma sought information monthly. This suggests that the CEOs with the lowest qualifications sought information less frequently than those with higher qualifications. By

contrast, this survey indicates that most (70-80%) of the CEOs with higher qualifications actively seek information daily.

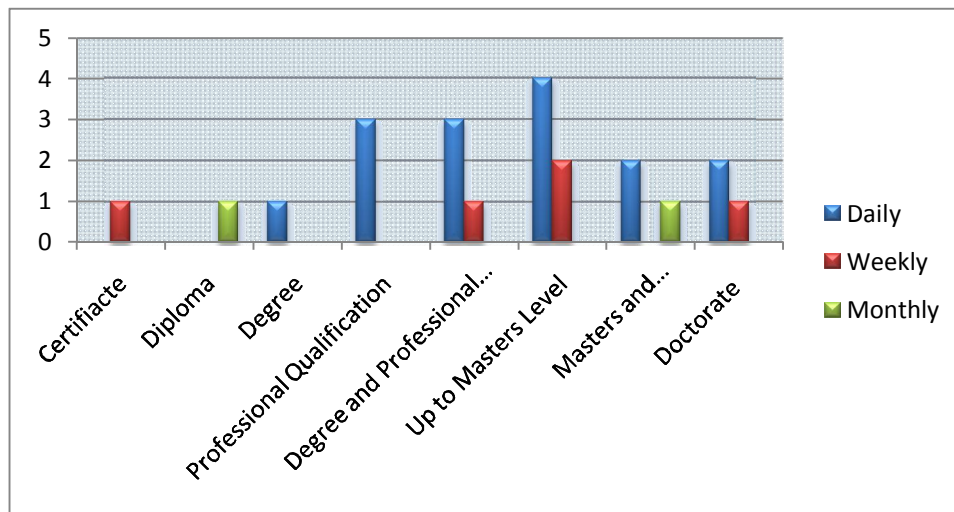


Figure 20: Relationship between frequency of Information sought and the education of the CEO

However, the researcher also investigated the relationship between the size of company and the seeking behaviour of the CEOs responsible. The findings revealed that a strong correlation existed with larger enterprises seeking information more frequently. It should be noted

- All of the CEOs of the companies with turnover greater than one billion euro actively sought information daily.
- Two CEOs (66%) of companies with turnover between €501 and €1 billion actively sought information daily with the remaining CEO seeking information weekly.
- In the smaller companies, only two CEOs (33%) sought information daily, with four (44%) seeking information weekly and two (23%) seeking information monthly.
- All the CEOs that sought information monthly were CEOs for smaller companies.

- No correlation was established in this survey between CEO experience levels and the frequency of the information sought.

The chart below illustrates the relationship as per the responses received.

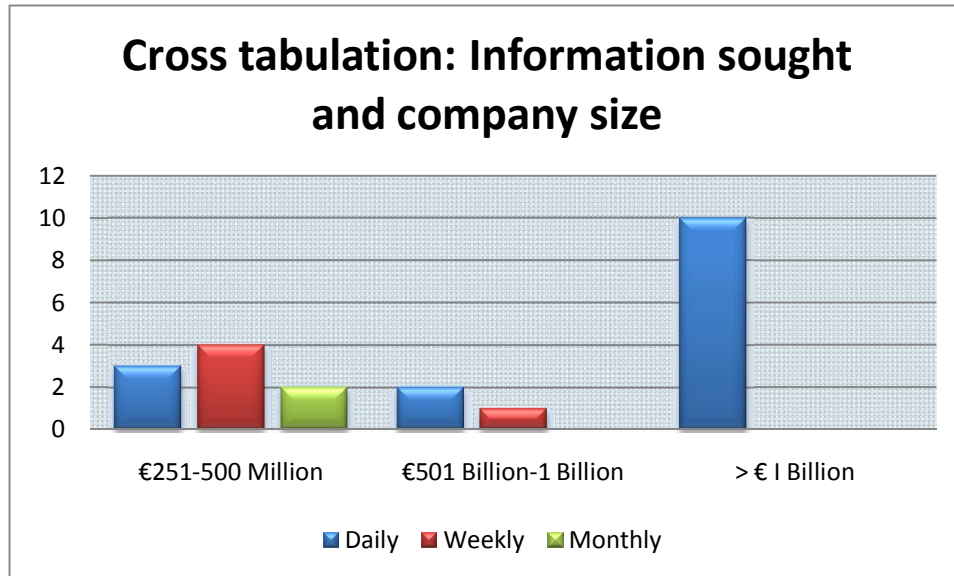


Figure 21: Relationship between frequency of Information sought and the size of company

4.5.2 Preferred Information Format

Previous research established that CEOs preferred information to be transferred orally. Findings from this research illustrates that CEOs prefer information to be presented in a numerical format. Graphical format was the second preference for CEOs. The results are at variance with the results of previous non Irish based research where it was stated that that CEOs preferred to receive information orally (Mintzberg, 1975; Auster and Choo, 1995)

1	Numerical Format
2	Graphical
3	Text
4	Electronic Based
5	Oral
6	Paper Based

4.6 USE OF INFORMATION TECHNOLOGY

The research findings show that all CEOs use laptops to display and communicate information with only eight using PCs. The respondent of the second interview indicated how *“the laptop is connected to a screen in the office rather than using a desktop and a laptop”*. Figure XX is a graphical representation of research findings in this regard.

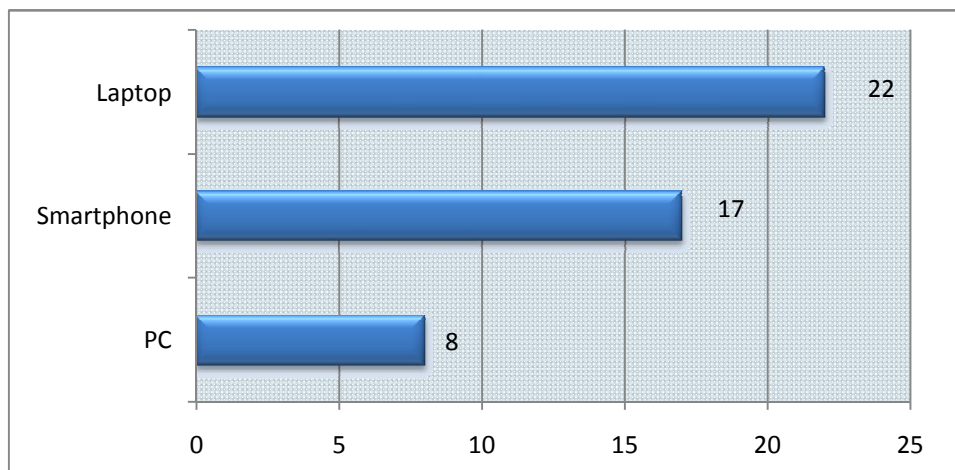


Figure 22: Information Technologies used to view Information

Seventy seven per cent of CEOs use smartphones to communicate and view information. It is interesting to note that of the five CEOs who stated that they did not use a smartphone, three CEOs did not believe that CEOs spent most of their time working away from the office and only two agreed. This may imply that CEOs who do not work away from the office frequently do not require a smartphone. The domain expert highlighted the importance of the smartphone in *“maintaining contact with customers and stakeholders after work hours who operate in different time zones or whilst away from the office”*.

Laptops were used to view performance indicators and for using e mail and communicating.

Performance Indicators	14
E mail and Communications	13
Periodicals	9
Competitor Research	8
Customer Research	8
Planner/ Schedule/ Diary	8
Supplier Research	7

Table 4: Information viewed on laptop

E mail and Communications	16
Planner/ Schedule/ Diary	9
Periodicals	6
Performance Indicators	5
Competitor Research	2
Customer Research	2
Supplier Research	2

Table 5: Information viewed on Smartphone

E mail and Communications	7
Competitor Research	7
Customer Research	7
Performance Indicators	6
Periodicals	4
Supplier Research	4
Planner/ Schedule/ Diary	3

Table 6: Information viewed on a PC

Generally, CEOs were satisfied with the access to information they need in regards to performance indicators, competitors, customers and suppliers.

Almost all of the respondents believed that they had sufficient evidence regarding performance indicators. Only one CEO was of the opinion that they lacked sufficient information regarding performance indicators. This respondent had a degree qualification and had a lot of experience (Between 16 and 20 years).Sixty eight per cent of the respondents were of the opinion that they had sufficient evidence with regards to competitors.

Eighty per cent of respondents believed that they had sufficient information regarding their customers.

4.8 INFORMATION SOURCES

Respondents used subordinate managers, budgets/ forecasts and financial statements most frequently. In addition, the respondents often sought information from internal reports, information systems and subordinate staff. Research by Auster and Choo (1995) found that CEOs preferred newspapers and periodicals to subordinate managers. An interesting point to note is that information systems were used least often by CEOs

1	Subordinate Managers
2	Budgets/Forecasts
3	Financial Statements
4	Internal Reports
5	information System
6	Subordinate Staff
7	Internet
8	Newspapers/ Periodicals
9	Business Associates
10	Customers
11	Competitors
12	Suppliers
13	Government Publications

The researcher subsequently analysed the relationship between source accessibility and quality with source selection.

The researcher discovered that source quality influences source selection. These results are consistent with earlier studies of Auster and Choo (2001) who established that source selection by Canadian CEOs was based on perceived source quality and source accessibility. There is a weaker relationship between source accessibility and source selection.

Frequency and Accessibility	0.399886
Frequency and Quality	0.938670

Table 7: Factors affecting source selection

The researcher further analysed the effect of perceived economic uncertainty on the quantity of data collected. As expected, respondents considered the economic environment to be most uncertain. This is due to the current economic recession.

	Column 1	Column 2
	Uncertainty	Information Gathered
1	Economic	Customer
2	Customer	Competition
3	Competition	Economic
4	Regulatory	Technological
5	Technological	Regulatory

Table 8: Environments in order of uncertainty (column 1) and in order of the frequency of information sought

Correlation results have shown a relatively strong relationship (0.437865159) between the uncertainty of the environment and the amount of information gathered. This may suggest that perceived uncertainty influences the amount and nature of information gathered found by Daft *et al.* (1987) and Karimi et al (2004).

Respondents ranked time as the barrier which prohibited the collection of the required information. This is in agreement with previous research which held that CEOs do not have time to be systematic in seeking information (Mintzberg, 1990).

1	Time
2	Resources
3	Lack of Knowledge of what is needed
4	Cost

Table 9: Barriers to Collecting Information

The results are also consistent with previous research which stated that the size of company and the resources available prevents the CEO from

obtaining all the information required. From the findings, 50% of the CEOs of the smallest companies and 0% of CEOs of the largest companies considered resources as the main barrier to collecting the required information.

	Company Size		
	€251-500 Million	€501 Billion-1 Billion	> € 1 Billion
Rank			
First (Main Barrier)	50%	40%	0%
Second	38%	40%	55%
Third	12%	20%	45%

Table 10: Resource as a Barrier to collecting the required information

The findings did not show a strong correlation between lack of experience or education and the lack of knowledge regarding what information was needed. However, lack of knowledge regarding what information is needed was ranked fourth in the barriers to collecting information for the CEOs (2) with the greatest experience (between 16 and 20 years).

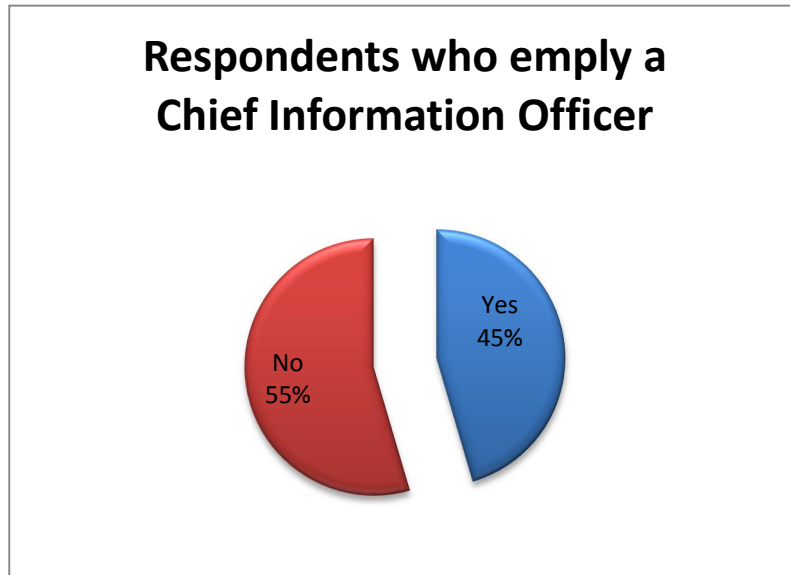


Figure 28: Number of CEO s who employ a CIO

Forty five per cent of CEO s employed a Chief Information Officer. This cannot be compared with previous research in Ireland as there is no research on CIO s in Ireland to date.

Only 27 % of indigenous firms employed CIO s compared to 55% of FDI companies. Fifty per cent of the largest companies employed a CIO whereas only 30% of the smallest companies employed a chief information officer.

These results indicate that CEO request information on the external business environment from the Chief Financial Officer.

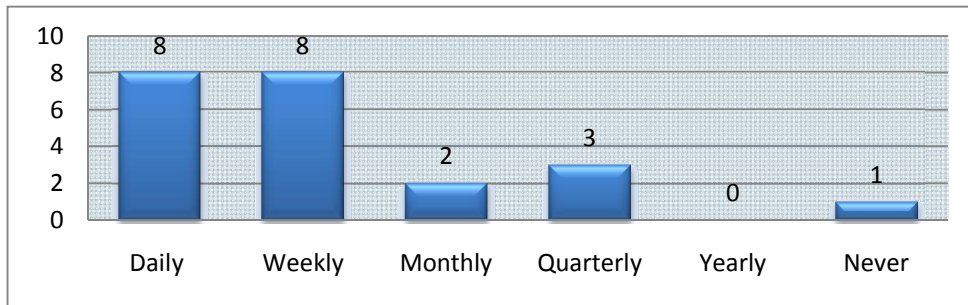


Figure 29: Environmental Information obtained from the CFO on the external business environment

These results suggest that CFOs have more responsibilities than just maintaining accounts and providing information on performance indicators. These findings were cross tabulated with the presence of a CIO. There is no indication that a CEO requests more information on the external environment from the CFO where a CIO is not part of the top management team.

	CIO		
CFO Information	No	Yes	Grand Total
Daily	4	4	8
Weekly	4	4	8
Monthly	2		2
Quarterly	2	1	3
Never	1		1
Grand Total	13	9	22

Table 11: Cross Tabulation of the frequency of information sought from the CFO and the employment of a CEO.

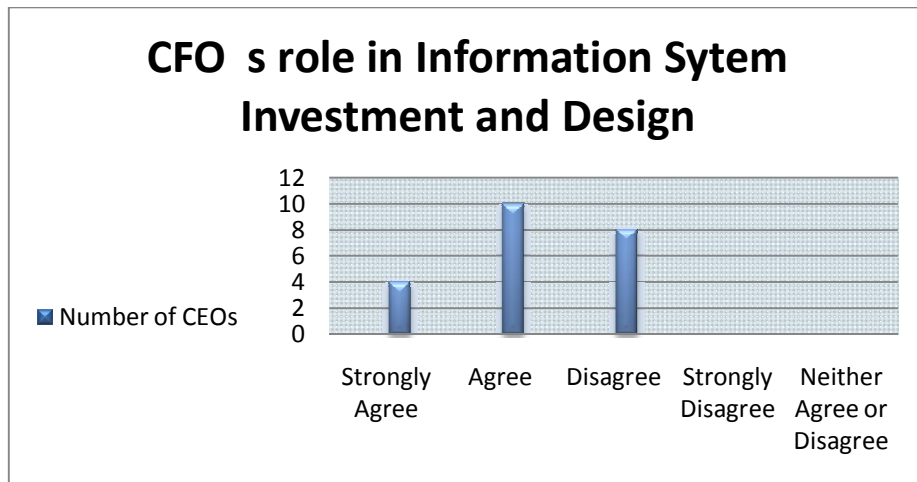


Figure 30: Chief Financial Officer in charge of IS investment and development

Sixty four per cent of CEOs agreed that the CFO is in charge of Information systems investment and continuous development. After further investigation, 75% respondents agree that the CFO is in charge of IS where there is no CIO employed and there are less than fifty employees. This suggests that the CFO has the responsibility to provide information on the external environment when there are fewer resources within the firm.

In the interview with domain expert was of the opinion that the CFO has a “*lead role in managing information systems, especially in smaller organizations, and supplying critical information to the rest of the team*”. However, the CEO of a larger company interviewed did not fully agree that the CFO is in charge of the information system development within in the firm. The CEO held that the IT “*specialist is in charge of the development of Information system investment and design*”. Yet, he considered that the CFO was involved in information systems development because of its role in “*accounts production and inventory control*”

Only 5% of respondents (1) don't have information systems in place. The company is a smaller company involved with engineering/energy. Seventy six per cent of respondents were satisfied with their management information system.

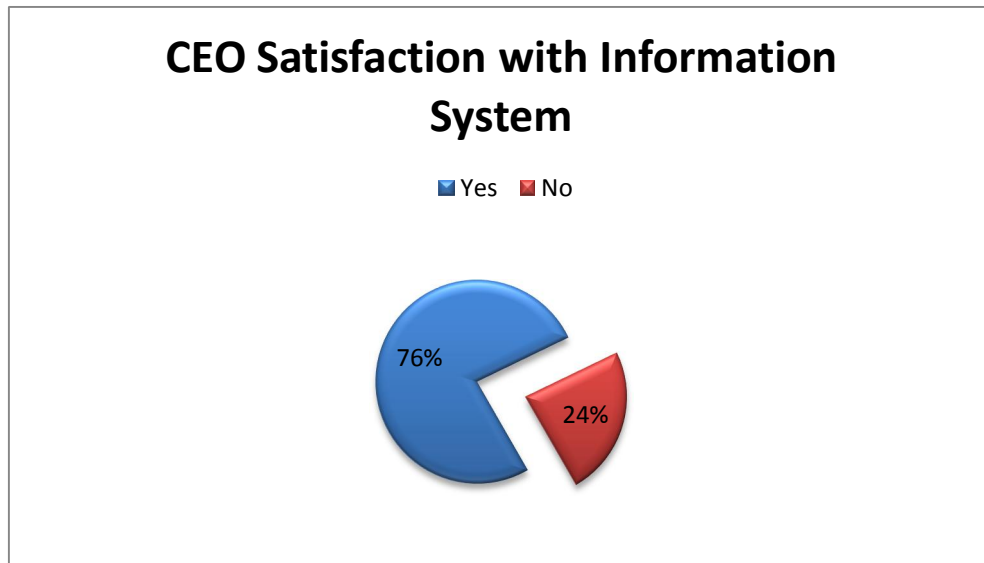


Figure 31: Satisfaction with information System

Seventy eight per cent of respondents who employ CIOs are satisfied with the information system and sixty nine per cent of respondents were satisfied where no CIO was employed.

Count of Satisfaction	Employees						
Satisfaction	50	101-200	201-300	301-500	51-100	750+	Grand Total
No			1			4	5
Yes	2	1	1	2	4	6	16
Grand Total	2	1	2	2	4	11	22

Table 12: Cross Tabulation of Size, Information system satisfaction and employment of CIO

Interestingly, four of the five (80%) of respondents who were not satisfied with their information system were from larger companies with more than 750 employees. Seventy five per cent of these respondents who were not satisfied with did not have a CIO as a member of the top management team. These findings are consistent with (Earl and Feeny, 1995) who found that CIO s contribute to the efficient design and application of Information systems.

Count of Satisfaction	Employees	750 +	
	CIO		750+ Total
Satisfaction	No	Yes	
No	3	1	4
Yes	2	4	6
Grand Total	6	5	11

Table 13 : Cross Tabulation of the satisfaction of CEOs with their information systems in larger companies and the employment of a CIO

The argument that the CIO is responsible for effective IS is further strengthened by the responses to the final question of the questionnaire. Of the four respondents who do not have any difficulty with their information system, three of them employed a CIO. Therefore 33 % of the respondents, who employed CIOs, were satisfied with their information systems and had no problems that need to be addressed.

CIO	Problems /Difficulties: None
Yes	3
No	1

However, the results indicate that the following problems exist with the remaining 67% of companies who employed CIO s.

High Capital Reinvestment	5	50%
Integration of Information Systems	4	40%
Storage Issues	3	30%
Inappropriate Format/Design	2	20%
Timeliness of Information	2	20%
High Running Costs	1	10%
Inadequate Information	1	10%
Difficulty of use	1	10%
Technical Obsolescence	1	10%
Inaccurate Information	0	0%
Outdated	0	0%

Table 14: Problems Experienced by Companies who employ a CIO

The findings indicate that integration of information systems is a problem for the CEOs. Further analyses indicate that this is more of an issue for companies who do not employ a CIO (67%) than those who do (40%).

The most common problems CEOs experienced with their information systems were integration of information systems and the high reinvestment costs.

Rank	Problem
1	Integration of Information Systems
2	High Capital Reinvestment
3	Timeliness of Information
4	High Running Costs
5	Inadequate Information
6	Inappropriate Format/Design
7	Difficult to Use
8	Storage Issues
9	Technical Obsolescence
10	Outdated
11	Extraction of Information

Table 15: Problems experienced by CEOs (regardless of CIOs) of Information Systems

High capital reinvestment was a common problem for all CEOs regardless of the size of the company. However it was experienced by 42% of the largest companies with turnover greater than €1 billion.

		High Capital Reinvestment
Turnover	Employees	1
> € 1 Billion	50	
	101-200	
	301-500	1
	750+	3
> € 1 Billion Total		4
€501 Billion-1 Billion	51-100	
	750+	
€501 Billion-1 Billion Total		
€251-500 Million	50	1
	201-300	1
	301-500	
	51-100	1
	750+	1
€251-500 Million Total		4
Grand Total		8

Table 16: Cross Tabulation- Company size and the problem of High Capital Reinvestment

The findings indicate that integration of information systems is a problem for the CEOs. Further analysis indicates that this is more of an issue for companies who do not employ a CIO (67%) than those who do (40%).

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

“An Investigation into the information needs and seeking behaviour of Chief Executive Officers in Ireland”

5.1 INTRODUCTION

Numerous studies on the nature of CEO work have been carried out since the famous study of Fayol (1949). There is a tome of literature on the scanning behaviour and the information needs of CEOs, with many research projects and academic articles highlighting the importance of using information in a strategic and efficient manner as the basis for creating sustainable competitive advantage. Several studies have examined the nature of CEO work and in various cultures and industries using different methodologies.

However, there is a paucity of reliable or printed research in the Irish Context on the nature of CEO work, information needs and seeking behaviour.

This research undertook to investigate the nature of CEO work, their information needs and seeking behaviour, and aimed at providing an invaluable insight into the practices of CEOs in the top Irish 1,000 companies.

This chapter will discuss the findings and outcomes of the research questions, comparing and contrasting them to previous research. Furthermore, this study will highlight the limitations of this research project and will outline possible approaches for future research.

5.2 AN INVESTIGATION INTO THE NATURE OF CEO WORK

Mintzberg (1975) modified the theory established by Fayol (1949), classifying CEO work into three roles: Interpersonal, Informational and decisional roles. The role of the CEO as per these findings are perceived to be strategic in nature, with the formulation and implementing of the company strategy deemed to be key.

The empirical findings are consistent with theories of CEO roles in literature which outlined the significance of strategic roles. A literature scan indicates that there whilst Mintzbergs roles are considered most important to CEOs, very little empirical work has been undertaken to rank the role importance

However, some work has been done in this field. Of Mintzberg's ten roles, this research indicate that strategic roles are considered most important as compared to operational roles. In contrast to the findings, of Pavett and Lau (1983), this research suggests that leadership was regarded as being very important to CEOs.

However, findings in this research indicate that the spokesperson, liaison and entrepreneur roles are important to Irish CEOs, which is in consistent with the research of Alexander (1979) and Paolillo (1981).

This research project confirms the importance of Mintzberg's monitor role. Therefore, statistically significant levels of CEOs have responded that having an in depth understanding of the external environment coupled with continuously formulating strategy as being essential.

The findings that strategic decisions are most important further sustains the theory that CEO work is strategic in nature with more traditional operational roles being delegated to subordinates.

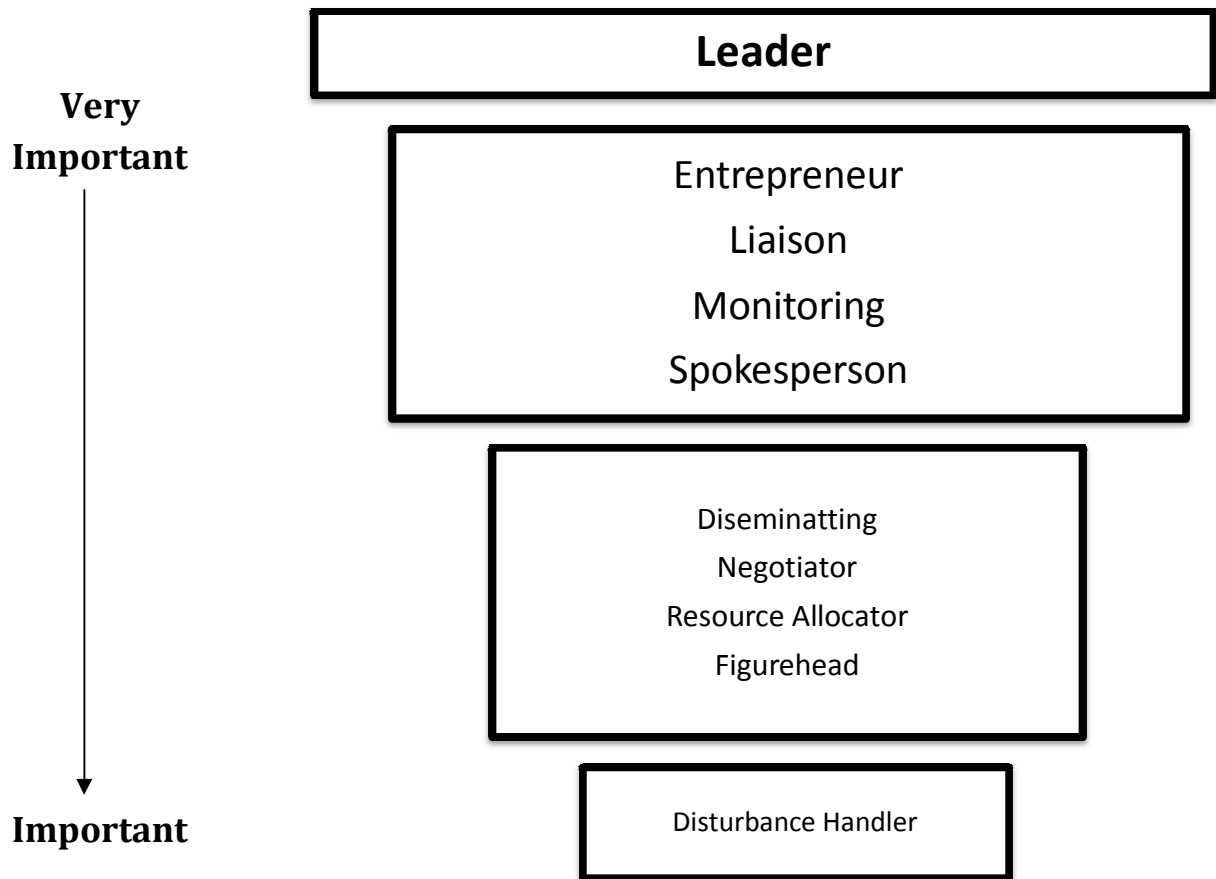


Figure 32 :

The Importance of CEO roles to CEO s in Ireland

The research outcomes indicate an unrelenting pace in the work of Irish CEOs .This study has established that CEO s do operate on a busy schedule, receiving calls and emails throughout the course of their work. The work of CEO s in larger companies was found to be more intense than that of smaller companies. This may result from the scale and complexity of operations experienced by CEO s' of larger firms.

Respondents did not universally agree that their work was fragmented or characterised by brevity as the response was approx 50:50 on this issue. In the interview with one CEO that the daily work routine is planned according to a writhe schedule. However, in contrast an interview with the domain expert, (SME) it was found that, despite a planned schedule, intrusions in work result in the routine being

characterised by brevity and fragmentation. On an assessment of the responses, there is not a correlation with organisational size on this classification of CEO work.

Interestingly, 81% (9) of CEO s' of indigenous firms were of the belief that they spent most of their time away from office. Only 27% (3) of CEOs from FDI companies agreed that they spent most of their time away from their office. It is outside the scope of this study to investigate the causation for this phenomenon.

5.3 THE INFORMATION NEEDS OF CEO S

This research aimed to determine the information needs of CEO s by using a framework drawn from literature to examine the information needs of CEO s'. CEO s were satisfied with the information within their own organisations relating to the provision on performance indicators, customers, suppliers and competitors. No patterns existed to explain possible causes for dissatisfaction among the small number of CEO s with the information they were provided with.

The research found that CEO s from larger firms actively sought information more often than CEO s of smaller companies. A larger proportion of CEO s who sought information daily were from larger firms. This suggests that the CEO of larger firms require more information than those of small companies due to the scale and complexity of the firms operations. The data suggest that key factors of CEO experience and education did impact on how often information was sought.

The results indicate a preference by CEO s for using mainly laptops and smart phones to view and communicate information on the go. Findings illustrate that laptops are used to view various types of information, with a focus on performance indicators and reliance on email communications. Smartphones are principally used for

communication purposes and also for the diary/planner function. However, this research also corroborates anecdotal evidence of the use of recent smartphone developments and capability by CEO s'. Based on this up to date research, Smartphones are now also used for viewing periodicals and viewing performance indicators. Whilst there is no feedback on the use of cloud computing in the Irish Survey, current literature indicates that cloud computing applications enables CEOs to log on to their information systems whilst out of the office or travelling.

5.4 FACTORS AFFECTING SOURCE SELECTION

A key outcome of the work undertaken is that CEO s prefer and rely upon Subordinate Managers as sources of information. The internal sources of information are most relied upon with a reliance on financial information, internal reports and sub ordinate staff.

This Irish survey is at variance with international (Canadian) research conducted by Auster and Choo (1995) which indicated that periodicals were the primary and most frequently used source by CEO s. Whereas, this Irish based research gives primacy to Subordinate Managers, the Canadian research from the mid ninties ranks this source as the second most frequently used source of Information.

The impersonal (hard) sources are also used frequently by Irish CEO s from the companies researched. The findings have shown an increase in the frequency at which CEO s use information systems, and establish that the least used source of the ninties is now used regularly by Irish CEOs. This may be a function of advances in the development and availability of information systems in recent years.

1	Subordinate Managers
2	Budgets/Forecasts
3	Financial Statements
4	Internal Reports
5	information System
6	Subordinate Staff
7	Internet
8	Newspapers/ Periodicals
9	Business Associates
10	Customers
11	Competitors
12	Suppliers
13	Government Publications

Table 17: Information sources used by CEO s

From the data set, CEOs select sources based on the quality of information provided. Source accessibility was also a factor in source selection, but the relationship was not as strong as source quality.

The researcher further investigated the relationship between uncertainty and source selection and as expected, CEOs perceive the prevailing economic environment to be most uncertain. A relatively strong correlation was evident between the uncertainty associated with the sector and the quantity of information gathered regarding the sector. The results of this project echo and correlate with the international research of Auster and Choo (1995), Daft and Lengal (1978) and Karimi (2004).

	Column 1	Column 2
	Uncertainty	Information Gathered
1	Economic	Customer
2	Customer	Competition
3	Competition	Economic
4	Regulatory	Technological
5	Technological	Regulatory

Table 18: Environments in order of uncertainty (column 1) and in order of the frequency of information sought

Barriers to adequate collection of information

According to Mintzberg (1990), CEOs do not have adequate time to be systematic to be systematic in seeking information. Irish CEOs also consider time (time famine feature of CEO roles) to be the most significant barrier to enable them to gather the required information. In addition, respondents of the smaller companies believed that a lack of resources hindered the information seeking process and in gathering the information required. Although, experienced CEOs considered the lack of knowledge regarding what information is needed as an insignificant barrier, less experienced CEOs did not consider this to be a major problem in seeking the adequate information. The evidence does not suggest that a relationship exists between experience and education and the lack of knowledge regarding what information should be sought.

5.5 CEO EVALUATION ON THE EFFECTIVENESS OF INFORMATION SYSTEMS AND INFORMATION SPECIALISTS

The findings have shown that CEOs are using information systems in seeking information more often since the study of Auster and Choo (1995). Despite these advancements in the use of information systems, research has found that problems still exist in the design and application of information systems. The researcher used the information success model to evaluate the effectiveness of information systems used by the target CEOs.

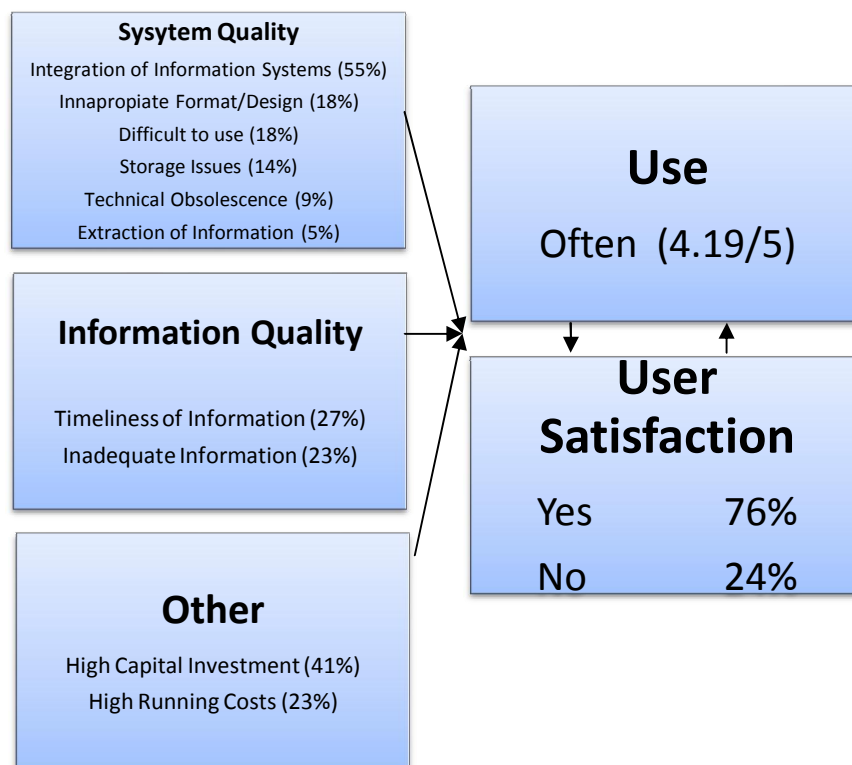


Figure 33: De Lone & Mc lean Model adopted to illustrate Irish CEOs perception on Information System Effectiveness

This figure is used by the researcher to demonstrate the perception of CEOs on the effectiveness of their information systems. Systematic integration of information systems was the principal problem identified

by experienced CEOs. This is not a new phenomenon in the design of information systems. As seen in March and Storey (2008) the integration of information systems was seen as a difficulty in information system design. High capital commitments and the high running costs of information systems were also identified as a difficulty by CEOs. The research confirmed that the costs of designing and implementation of information systems are a difficulty experienced by companies of various sizes. However, the outcomes of the research above indicate that even larger companies consider CAPEX as a major factor in implementation of information systems. The problem of high capital reinvestment is identified in this research as being particularly an issue experienced by CEOs of larger companies. This proves that there are high costs in designing and aligning information systems for larger companies with more complex operations (Hasselbring, 2000). In spite of the problems experienced by CEOs with their information systems, 76% of CEOs are satisfied with their information systems. Yet, eighty per cent of CEOs who were not satisfied with their information systems were from the largest companies with turnover over €1 billion and employed over 750 employees.

Despite Irish CEOs experiencing problems with their information systems, results show that a majority of these CEOs are satisfied with their existing information systems and using them more frequently. The findings of this study suggest that information systems are improving and becoming more effective since the research of Auster and Choo (1995).

Information specialists.

Forty five percent of CEOs retained Chief Information Officers. CIOs are employed by larger companies and by larger FDI companies.

The research is supports previous independent studies which posit that CIO s assist the implementation of information systems for CEOs. Significantly, we can distill the outcomes as follows

- 78% of respondent CEOs who employ CIO s are satisfied with their information system.
- Only 69% percent of those who did not employ a CIO were satisfied with their information system.
- Only four CEOs indicated that they were satisfied with their information system and could not suggest any improvements. Most of these companies (75%) employed a CIO.
- The research found that most of the CEOs of large companies who were not satisfied with their information did not employ a CIO.

Based on current literature review and the outcomes of this study, this researcher advocates that large companies which have complex operations should consider employing a CIO to reduce the threat of inefficient information systems. However, the research did not discover any evidence that CEO s were more satisfied with information regarding customers, competitors, suppliers and performance indicators.

In this research, CFO s of smaller companies, which do not have the resources to employ a CIO, are required to provide information on the external environment. This is in addition to the normal key duties of

CFO s' of providing financial reports and reports on the performance indicators. Arising from an interview, it is suggested that due to the accounting and inventory control systems that are in place, CFOs in smaller firms are generally also responsible for IT investment and development

5.6 RESEARCH LIMITATIONS

Despite the significant contribution of theory and practice, the researcher recognises the inherent limitations of this research project. The research was designed and implemented with a view to enhancing its validity and credibility.

However, in a project of this scale, there are unavoidable circumstances that impact on the validity and credibility of the research. These issues in the research methodology are summarised as follows.

- The researcher used mailed questionnaires in an attempt to increase responses to the research. There is a possibility that CEOs passed the questionnaires to subordinates to complete. This would have affected the accuracy of the information provided for the research.
- Due to the cost and time limitations, the researcher was incapable of conducting research on a population greater than one hundred companies. This could be a threat to the generalisability of the study. It prevented the researcher gaining insights into small companies. Furthermore, the research would have more beneficial if case studies were used to collect data.

5.7 SUGGESTIONS FOR FUTURE RESEARCH

Although there are numerous limitations inherent within this research, the foundation for future studies as a result of its completion must be acknowledged.

Explorative case studies should be conducted to gain a greater understanding of the nature of CEO work and their information needs. Case studies and diaries have been successfully used in previous research to gain an insight into CEO work. Research could also be conducted to investigate the effect of organisational structure and culture on the roles of the CEO.

The research has revealed that Chief Information Officers are currently being employed a significant number (45 %) of large Irish based indigenous and multinational companies. Further research could be conducted to shed light on the evolving roles of the Chief Information Officer and the nature of their work.

Findings of this empirical study investigated CEO satisfaction with the impact of their current information system and highlighted the problems experienced by CEOs with their information system.

In the current turbulent Schumpeterian macro environment, comprising seismic global shifts in organisational practice, CEO s' must devote their attention to mission central information needs. This focused innovative applies to the whole gamut of organisational experience, with the information gathering and prioritisation process falling into the scope of continuous strategic innovation.

The new concept will revolve around improved information gathering, processing and synthesis. This requires a competency in such key strategic areas customer knowledge, emerging market trends and environmental assessment. The CEO and top management team must play a role in leading strategic change initiatives and aligning the organisation to meet and respond to external changes. It is essential that CEO s have knowledge regarding what information they require.

*“The surest way to destroy a person’s
capacity for discrimination and good
judgement is to bombard him or her with an
enormous abundance of data, even if it’s
incontestably relevant”*

Levitt, 1991: 6

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APPENDIX 1



Letterkenny Institute of Technology,
Port Road,
Letterkenny,
Co. Donegal

June 2010

Chief Executive Officer

Dear Sir/ Madam,

My name is Breiffni Ó Domhnaill and I am currently carrying out primary research for my thesis, 'An Investigation into the Information Needs and Seeking Behaviour of Chief Executive Officers in Ireland'. The research aims to investigate the nature of CEO work, the information sought and used in the decision making process. Although there has been research carried out in this area, no such research has been carried out in Ireland to date. The research will seek to aid CEO's in carrying out their role through gaining an insight into the processes carried out by CEO's. I aim to have the research published in the near future. I will also e-mail you with the findings of the research.

I recognise that you operate on a busy schedule. With this in mind, I have designed and pilot tested the questionnaire so as that it will only take five minutes to complete. **All responses will be strictly confidential.** You are not required to include your name or address anywhere in the questionnaire.

Your responses are important and I appreciate the time you have taken to participate in the research. I hope you will find completing the questionnaire enjoyable. I have enclosed a stamped addressed envelope for your convenience. If you have any questions or would like further information, please do not hesitate to telephone me on 087 7824624 or e-mail me at breffman@hotmail.com.

Thank you for your help,

Breiffni Ó Domhnaill

Fanaghan,
Inver,
Donegal

July, 2010

Chief Executive Officer

Dear Sir/ Madam,

I am currently conducting research as part of the Masters in Accounting course in Letterkenny on the information needs of CEO's and the nature of their work. The research aims to gain an insight into the nature of CEO work, the use of information in the role as CEO and the use of Information systems by CEO's.

As part of the research, I am conducting interviews with CEO's of the top companies listed on the Irish Times Top 1,000 companies. I would be grateful if you were available to participate in an interview between Wednesday the 21st and Friday the 23rd of July.

If you're available, please contact me at your convenience to schedule an interview. You can reach me on 087 7824624 or breffman@hotmail.com. I look forward to hearing from you.

Yours Sincerely,

Breiffni Ó Domhnaill

Thank you for your help,

Breiffni Ó Domhnaill

Interview Theme Sheet

- Nature of your role as CEO
 - o Unrelenting Pace
 - o Brevity
 - o Away from Office
- Information needs and sources
- Information provision by CFO s and CIO s
- Information Tchnology

Section A: General Information

1. **Gender** Male Female

2. **How many years have you been a Managing Director/CEO?**
(Please tick the appropriate box)

- a. Less than 5 years
- b. Between 6 and 10 years
- c. Between 11 and 15 years
- d. Between 16 and 20 years
- e. More than 20 years

3. **Please outline your qualifications.**
(Please tick the appropriate box)

- a. Certificate
 - b. Diploma
 - c. Degree
 - d. Masters
 - e. Professional Qualification
 - f. Doctorate
 - g. Other (please Specify)
-

4. **What industry does your company operate in?**
(Please tick the appropriate box)

- | | | | | | |
|---------------|--------------------------|-----------------|--------------------------|----------------|--------------------------|
| Manufacturing | <input type="checkbox"/> | Transport | <input type="checkbox"/> | Property | <input type="checkbox"/> |
| Healthcare | <input type="checkbox"/> | Building | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Financial | <input type="checkbox"/> | Computer | <input type="checkbox"/> | Please Specify | |
| R&D | <input type="checkbox"/> | Printing | <input type="checkbox"/> | <hr/> | |
| Agriculture | <input type="checkbox"/> | Banking | <input type="checkbox"/> | | |
| Catering | <input type="checkbox"/> | Education | <input type="checkbox"/> | | |
| Retail | <input type="checkbox"/> | Food Processing | <input type="checkbox"/> | | |

5. **Which category does your company fall into?**

(Please tick the appropriate box)

- a. Foreign Direct Investment
- b. Indigenous

6. If FDI, where is the headquarters located?
(Please tick the appropriate box)

- a. Europe
- b. Asia
- c. USA
- d. United Kingdom
- e. Other

7. How many years has your company been operating in Ireland?
(Please tick the appropriate box)

- a. 0-1 years
- b. 2-5 years
- c. 6-10 years
- d. More than 10 years

8. What is the company's annual turnover?
(Please tick the appropriate box)

- a. <€25m
- b. €25-100m
- c. €101m-€250
- d. €251m-€500m
- e. €501m-€1bn
- f. >€1bn

9. How many employees do you employ?
(Please tick the appropriate box)

a) <50

b) 50-100

c) 101-200

d) 201-300

e) 301-500

f.) 501-750

g) > 750

Section B: The Nature of managerial work

10. Please identify the importance of the following roles with regard to your position as CEO. (Please circle an appropriate number)

	Not at all Important		—————→		Very Important
	1	2	3	4	5
Monitoring <i>(Seeking all internal and external information)</i>	1	2	3	4	5
Disseminating <i>(Passing information to subordinates)</i>	1	2	3	4	5
Spokesperson <i>(Transmitting information outside or inside entity via reports, memos)</i>	1	2	3	4	5
Figurehead <i>(Performing ceremonial and symbolic duties)</i>	1	2	3	4	5
Leader <i>(Encouraging and motivating employees)</i>	1	2	3	4	5
Liaison <i>(Maintaining contact with stakeholders outside the chain of command)</i>	1	2	3	4	5
Entrepreneur <i>(Using the your initiative to deal with changing environmental conditions)</i>	1	2	3	4	5
Disturbance Handler <i>(Resolving conflicts within the department and between departments)</i>	1	2	3	4	5
Resource Allocator <i>(Allocating the departments resources, including your own time)</i>	1	2	3	4	5
Negotiator <i>(Negotiating issues for your firm)</i>	1	2	3	4	5

11. State whether you agree or disagree with the following statements.

(Please tick the appropriate box for each statement)

	Strongly Agree	Agree	Disagree	Strongly Disagree	Neither Agree or Disagree
a) <i>In general, my work is highly fragmented and interruptions commonplace. My typical day is difficult to perform within a planned schedule.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) <i>My work is performed at an unrelenting pace.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) <i>I spend most of my time working away from the office</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. How important are the following in your role as CEO?

(Please circle an appropriate number)

	Not Important	—————→			Very Important
	1	2	3	4	5
a) <i>Short term decisions to ensure the strategy is being implemented</i>	1	2	3	4	5
b) <i>Allocating resources to enable strategy to be executed</i>	1	2	3	4	5
c) <i>Formulating long term strategy and the firms direction</i>	1	2	3	4	5

Section C: Information Needs

13. In your position as CEO, which of the following best describes how often you actively seek/request additional information?

(Please tick the appropriate box)

- a) Daily
- b) Weekly
- c) Monthly
- d) Quarterly
- e) Yearly

14. What is your preferred information format?

(Please rank where 1=preferred option, 2 being the next preferred option to 6 being the least preferred)

- a) Numerical format
- b) Text / Narrative
- c) Graphical
- d) Oral
- e) Electronic based
- f) Paper Based

15. Which of the following technologies do you use to access information?

(Please tick relevant boxes where appropriate)

Laptop Smartphone PC Other (Please Specify) _____

16. Please identify what information you view/access on the item(s) selected?

(Please tick relevant boxes where appropriate)

	Laptop	Smartphone	PC	Other
Periodicals/ Newspapers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Email & Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance Indicators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competitor Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supplier Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planner/Scheduler/Diary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Generally during the course of my work, I have sufficient access to appropriate information with regard to performance indicators.

(Please tick the appropriate box)

Strongly Agree

Agree

Disagree

Strongly Disagree

Neither Agree
Or Disagree

18. Generally during the course of my work, I have sufficient access to appropriate information with regard to competitors.

(Please tick the appropriate box)

Strongly Agree

Agree

Disagree

Strongly Disagree

Neither Agree
Or Disagree

19. Generally during the course of my work, I have sufficient access to appropriate information with regard to customers.

(Please tick the appropriate box)

Strongly Agree

Agree

Disagree

Strongly Disagree

Neither Agree
Or Disagree

20. Generally during the course of my work, I have sufficient access to appropriate information with regard to suppliers.

(Please tick the appropriate box)

Strongly Agree

Agree

Disagree

Strongly Disagree

Neither Agree
Or Disagree

Section D: Information Sources


21. I use the following sources of information in my role as CEO.

(Please tick the appropriate box)

	very often	often	sometimes	rarely	very rarely
a. Subordinate Managers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Subordinate Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Budgets/Forecasts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Financial Statements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Internal Reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Business associates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Competitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Suppliers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Government publications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Newspapers/ Periodicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Information System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. A) Please rate the accessibility of the following information sources.

(Please circle the appropriate number)

	Not Very Accessible  Very Accessible				
a) Subordinate Managers	1	2	3	4	5
b) Subordinate Staff	1	2	3	4	5
c) Budgets/Forecasts	1	2	3	4	5
d) Financial Statements	1	2	3	4	5
e) Internal Reports	1	2	3	4	5
f) Internet	1	2	3	4	5
g) Customers	1	2	3	4	5
h) Business associates	1	2	3	4	5
i) Competitors	1	2	3	4	5
j) Suppliers	1	2	3	4	5
k) Government publications	1	2	3	4	5
l) Newspapers/ Periodicals	1	2	3	4	5
m) Information System	1	2	3	4	5

B) Please rank the quality of the following information sources.

(Please rank each source in relation to the other sources in order of quality where 1 =the source which provides the best quality of information, the next 2 and so on and 10 provides the worst quality of information)

- a) Subordinate Managers
- b) Subordinate Staff
- c) Budgets/Forecasts
- d) Financial Statements
- e) Internal Reports
- f) Internet
- g) Customers
- h) Business associates
- i) Competitors
- j) Suppliers
- k) Government publications
- l) Newspapers/ Periodicals
- m) Information System

23. Business Environments

a) In your role as CEO, which of the following environments do you perceive to be the most uncertain?

(Please rank in comparison of uncertainty where 1 is the most uncertain, the next 2 and so on and where 5 is the sector which is least uncertain)

- a) Customer
- b) Technological
- c) Competition
- d) Regulatory
- e) Economic

b) In your role as CEO, how often do you seek information regarding the following sectors?

(Please rank in comparison of frequency where 1 is most often, 2 is next and so on and 5 is least often)

- a) Customer
- b) Technological
- c) Competition
- d) Regulatory
- e) Economic

24. Please rank which you believe to be the barriers to collecting the information required.

(1= the main barrier, 2 the next and so on and 5= least effects information collected).

- a) Cost
- b) Resources
- c) Time
- d) Lack of knowledge regarding what information is needed
- e) Other _____

25. Do you employ a Chief Information Officer?

Yes No

26. How often do you request information on the environment from the Chief Financial Officer?

(Excludes standard financial information and information regarding performance measurement)

(Please tick the appropriate box)

- a. Daily
- b. Weekly
- c. Monthly
- d. Quarterly
- e. Yearly
- f. Never

27. The CFO is responsible for it and information systems investment and continuous development.

(Please tick the appropriate box)

Strongly Agree

Agree

Disagree

Strongly Disagree

Neither Agree
Or Disagree

Section E: Information Systems

28. Do you have a Management Information System in place?

Yes

No

29. If yes, please state the provider / manufacturer of the information system which you have in place.

30. Are you satisfied with the information systems you have in place?

Yes

No

31. Which of the following difficulties/problems are you currently experiencing with your current information system(s)?

(Please tick the appropriate box (es))

- High running costs
- Inappropriate Format/Design
- Timeliness of Information
- Inadequate of Information
- Integration of Information Systems
- High Capital Reinvestment
- Inaccurate Information
- Storage Issues
- Difficult to use
- Technical Obsolescence
- Other (Please Specify)
