

**COMPETITIVE HUMAN RESOURCE
MANAGEMENT PRACTICES: A STUDY OF THE
MEDICAL TECHNOLOGY SECTOR IN GALWAY**

by

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ABSTRACT

This is a study of human resource management practices in the medical technology sector in Galway. Qualitative interviews were conducted with HR professionals and senior management in medical technology firms to ascertain the degree of penetration of HR practices.

HRM is growing in importance in the medical technology sector, with a dedicated HR function in ten out of the eleven firms. However, HR professionals do not play a leading role in change initiatives and it is difficult to assert if the role played by HR professionals in a number of firms is strategic.

The research findings suggest an advanced level of HRM exists in the sector. There is a strong employee development ethic in medical technology firms in Galway, including regular business-related training and opportunities for promotion.

Firms are adopting flexible work arrangements in an effort to address work-life balance issues, although the diffusion of flexible work practices varies, depending on firm size and occupational group.

There has been a swift and sharp rise in workplace diversity in recent years, mainly due to the increasing participation of immigrant workers in the Irish labour force. Firms are adopting diversity policies as a result.

In contrast with previous research carried out in the sector, recruitment and retention were not identified as issues in this research. Recruiting top talent remains one of the top priorities of HR professionals in sector, and with a few exceptions, there is a readily available pool of qualified human resources in the region.

Performance management and performance related pay are also widely used.

HR professionals in the medical technology sector rely on the advice and support of Irish Business and Employers Confederation (IBEC) to a great extent in their day-to-day operations.

One high-performing firm was chosen from the sample for further analysis. A model of successful HRM is proposed from this research. It involves the use of a coherent set of HR practices such as selecting and recruiting people who fit organisational culture, a high level of internal promotions, a high degree of employee empowerment and autonomy, performance reviews and performance related pay for all employees, regular two-way communication between line management and employees, and an on-going incentive-based suggestion schemes.

DECLARATION OF AUTHENTICITY

I hereby declare that, except where duly acknowledged, this thesis is entirely my own work and has not been submitted for any degree in any other institute.

Bernadette Hoban

I dedicate this thesis to my husband, Mike, my mom, Ann and my late father, Colm.

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GLOSSARY OF TERMS

CEO	Chief Executive Officer
CIPD	Chartered Institute of Personnel & Development
CSO	Central Statistics Office
ESRI	Economic and Social Research Institute
EU	European Union
FAS	Foras Áiseanna Saothar
FDI	Foreign Direct Investment
GMIT	Galway-Mayo Institute of Technology
HPWO	High Performance Work Organisations
HPWS	High Performance Work Systems
HQ	Headquarters
HR	Human Resources
HRM	Human Resource Management
IBEC	Irish Business and Employers Confederation
ICT	Information Communications Technology
ICTU	Irish Congress of Trade Unions
IDA	Industrial Development Agency
ILO	International Labour Organisation
IMDA	Irish Medical Devices Association
IR	Industrial Relations
KPI	Key Performance Indicator
LRC	Labour Relations Commission
LOG	Largest Occupational Group
MD	Managing Director
MIT	Massachusetts Institute of Technology
MNC	Multinational Corporation
NCPP	National Centre for Partnership and Performance
NUIG	National University of Ireland, Galway
OECD	Organisation for Economic Co-Operation and Development
PM	Personnel Management
RBV	Resource-Based View

R&D	Research and Development
SFA	Small Firms Association
UK	United Kingdom
US	United States of America

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

Although relatively new and comparatively small, the medical technology sector plays a strategic role in the Irish economy. There are over 140 firms operating in the sector, up from 80 a decade ago, directly employing over 11% of the manufacturing workforce (Industrial Development Agency (IDA) Ireland, 2007a; Harvey, 2001). With annual exports in excess of €6 billion, an increase of 225% since 2000, the sector contributes to approximately one third of all Irish manufacturing exports (www.biotechinfo.ie, 2006). The sector also represents an important source of innovation in the Irish economy. In terms of research and development (R&D) and technology transfer, IDA Ireland (2007a) estimates that 50% of firms carry out R&D and foreign direct investment (FDI) in the sector represents a vitally important source of new technology (Stommen, 2005; Global Competitiveness Report, 2006).

The Midlands, Northwest and West of Ireland have played host to medical technology firms for three decades. Incorporating counties Donegal, Westmeath, Offaly, Cavan, Mayo, Galway, Roscommon and Sligo, the demographics of the region are favourable. With a population of over one million, 40% of whom are under twenty five years of age, half the school leavers in the region go on to attend third level education (IDA Ireland, 2008). The clustering of medical technology firms along the 'Atlantic corridor' makes the sector a strategically important one for the region and "one of Europe's leading industrial clusters" (Financial Times, 2005, quoted in Green, 2007).

Galway, in particular, has become a nucleus for the sector with a significant cluster of firms operating there (Fitzgerald, 2007; Stommen, 2005; Harvey, 2001). The Global Competitiveness Report 2006-2007 (2006) defines clusters as "geographic agglomerations of companies, suppliers, service providers, and associated institutions in a particular field, linked by externalities and complementarities of various types" (p.53). Clustering is positively associated with competitiveness, productivity and new business set-ups. Indeed, it has been shown that geographic alignment of firms within a specific industry, third level R&D, and business service firms can increase the instance of product innovation in that region (Feldman and Florida, 1994). From a medical technology sector standpoint, Harvey (2001) highlighted that once the 'big

players' in the sector establish operations in Ireland, other firms follow shortly thereafter (Harvey, 2001).

At the time of writing, there are 16 medical technology firms in Galway, employing approximately 6,100 people (Biard, M., 2008, personal communications, 11/03/2008; Houlihan, I., 2008, personal communications, 07/03/2008). With a population of over 300,000 within a 60km radius of Galway city, the largest urban area in the West of Ireland, the region is well serviced by key infrastructure such as broadband, regional airports, and business parks. The presence of two major third level institutions, National University of Ireland Galway (NUIG) and Galway-Mayo Institute of Technology (GMIT) provides valuable collaboration opportunities as well as a pool of educated and skilled human resources.

From a HRM standpoint, the medical technology sector is labour intensive. The sector is highly inter-dependent, in that there is a notable movement of people between firms, salary scales are openly shared between firms and personnel are well known to each other (Harvey, 2001). Furthermore, the sector is co-ordinated by the Irish Medical Devices Association (IMDA), the chairperson of which has come from firms based in the Galway region in recent years. Firms are technologically driven with a high emphasis placed on product innovation and flexibility in the workplace in order to maintain competitiveness, particularly in firms producing high-end products (Harvey, 2001). From R&D teams who are under pressure to be first-to-market, to assembly line operators who require regular training on new technology and products, an innovative approach to the management of human resources is required to attract, engage and motivate the best talent.

Historically, studies in Ireland have focused on social partnership in selected firms (National Centre for Partnership and Performance (NCP), 2003). Research carried out by Harvey (2001) examined employment practices and industrial relations practices in the medical technology sector in the West of Ireland. Further research has addressed the impact of FDI on HRM and industrial relations (IR) in US owned subsidiaries (Gunnigle, Collings, Morley, McAvinue, O'Callaghan and Shore, 2003). Research commissioned by the NCP explores the link between high performance work systems (HPWS) and firm performance (Flood, Guthrie, Liu, MacCurtain, 2005). More recently Gunnigle, Lavelle, McDonnell, Collings, Morley, Turner and

Wallace (2007) document the diffusion of HRM practices in multinational firms in Ireland. This study aims to complement research in the HRM field, focusing on HRM in medical technology firms with operations in Galway.

1.2 SAFEGUARDING THE FUTURE OF THE MEDICAL TECHNOLOGY SECTOR

Given the strategic role the medical technology sector plays in the Irish economy, safeguarding the future sustainability of the sector is critical and there are a number of factors worth noting.

1.2.1 THE FOUNDATION: FOREIGN DIRECT INVESTMENT

The first of these factors is the foundation on which the sector is built. The medical technology sector has been growing in Ireland since the early 1970s and is dominated by FDI. Successive Irish government policy, operationalised by IDA Ireland, has concentrated on attracting FDI, or multinational companies (MNCs), as a means of promoting economic growth, with Ireland ranked as the 11th largest beneficiary of FDI in the world (Gunnigle, *et. al.*, 2007). Indeed, according to IDA Ireland (2007a), fifteen of the top twenty five medical technology firms in the world have established operations in Ireland, with three out every four new ‘greenfield’ projects establishing European operations in Ireland. Globally, four big players dominate the sector, all of which have operations in Ireland.

The majority of foreign-owned firms are of US origin, followed by Germany, the UK and the Rest of Europe (Forfas, 2006; IDA Ireland, 2006). Firms such as Baxter and Beckman Coulter were followed by ‘blue-chip’ firms such as Tyco, Boston Scientific, Abbott Vascular and Merit Medical in the 1990s (Enterprise Ireland, 2005). MNC firms cite managerial and technical talent, services and sub-supply environment, competitive corporate tax rates, strong industry association and a supportive R&D environment as the reasons for setting up operations in Ireland. Indeed, surveys conducted among foreign investors indicate the Irish workforce is ahead of the US, UK and Germany in terms of workforce adaptability and flexibility, and productivity (IDA Ireland, 2007b).

1.2.2 THREATS EROSION OF IRELAND’S COMPETITIVE ADVANTAGE

The second factor, linked very much to dependence on MNCs, is the erosion of Ireland’s competitive advantage. Competitive advantage can be defined as “any

factor(s) which allow an organisation differentiate its product or service from its competitors to increase market share” (Gunnigle and Moore, 1994). Many of the competitive advantages of ‘Ireland Inc’ cited in the past when attracting FDI, such as low labour costs and low tax rates, are now under threat or have already been eroded.

A major threat to the future sustainability of firms, in nearly all sectors of the economy, is the rising cost of conducting business in Ireland. Ireland is a small open economy which, since 2000, has been falling in international productivity and competitiveness league tables (Global Competitiveness Report, 2006). Employment in manufacturing fell 13% between 2000 and 2005, due to productivity gains (output in manufacturing grew by 28% in volume terms), and the displacement of jobs abroad due to cost or market access issues (NCPP, 2007a), although it must be noted that employment in medical technology firms has grown by 79% since 2000.

The aforementioned dependence on FDI is of particular concern from a cost perspective. Gunnigle *et. al.* (2007) found that, among 262 HR professionals in MNC firms with operations in Ireland, overall operating costs and labour costs emerged as key areas of concern for management. Attracting future FDI is predicated on controlling costs and providing a skilled labour force rather than the workforces’ capacity to innovate according to Gunnigle *et. al.* (2007). More specifically to medical technology firms, a survey by BioMedIreland (2005), an all-island programme for the biotechnology and health technology industries, concluded that the main barriers to competitiveness for firms in Ireland are wage and insurance costs.

In an effort to control costs and remain competitive, firms in the medical technology and pharmaceutical sectors in Ireland have been embracing Lean thinking and Lean manufacturing since the late 1990s (Life Sciences Ireland Review, 2007). Lean manufacturing is a method of operating that continually strives to reduce waste and improve flow (Womack and Jones, 2003). Lean manufacturing allows firms to increase customer satisfaction, while at the same time, decreasing the level of human effort, space, equipment and time required. Improvements which can be expected after the introduction of Lean manufacturing include increased productivity of between 10-100%, decreased inventories of between 40-90%, and decreased throughput times of between 40-90% (Liker, 1998 and Berger, 2002, cited in Fitzgerald, 2007). In his pilot study of medical technology firms in Galway,

Fitzgerald (2007) found that Lean manufacturing was the most widely used tool to innovate and drive down costs and therefore remain competitive.

A future change in Ireland's tax structure is another factor threatening the future competitiveness of the Irish economy. Proposals by the European Commission to move towards a consolidated tax base across the European Union (EU) are a source of concern for policy makers and management at Irish based operations. The comparatively competitive corporate tax structure, which has existed in Ireland since the early 1980s, has played a significant role in attracting inward FDI. Ireland's corporation tax rate, which since 2003 has been 12.5%, falls well below rates in most other EU states (see appendix I for corporation tax comparison table). Inability to compete on this basis in the future may lead to a decrease in inward FDI.

However, controlling costs alone will not be sufficient for medical technology firms in Ireland. Globalisation will only serve to speed up the move of standardised low-skill jobs to low-cost economies leaving Ireland with a high wage highly skilled economy. The future sustainability and competitiveness of the sector, is threatened by global competition in both low-cost and R&D sectors (Green, 2005). This can be seen in traditional low-cost economies, such as Mexico for example. Mexico, with a flexible and educated workforce, is increasingly competing based on R&D (Carrillo and Plascencia, 2008).

1.2.3 OPPORTUNITIES: INNOVATION AND COLLABORATION

While the heavy reliance on FDI and the erosion of Ireland's competitive advantage are of concern, this is not to say that a small economy cannot remain competitive, as proven in the case of Finland. Innovation, knowledge and skills-driven growth, where firms co-operate openly and frequently with other firms and research organisations, saw Finland's industrial growth and productivity increase at a faster pace than in the US and in Europe in the ten years to 2003 (Saarnivaara, 2003). There are opportunities for the medical technology sector in Ireland, namely through innovation and collaboration.

In response to changes in the Irish economy, maintaining the existing pool of foreign-owned MNCs has become a cornerstone of recent IDA Ireland policy. The state agency has turned attention to seeking to further embed firms in the Irish economy by

moving up the value chain, that is conducting more value added activities along the chain from idea generation to customer delivery, such as R&D, marketing, HRM, and customer service (Gunnigle *et. al.*, 2007). Moving up the value chain enables Irish based firms to specialise in their field, and concentrate on high-margin products (Gunnigle *et. al.* 2003).

Indeed, Richard Lester, director of the Industrial Performance Centre at Massachusetts Institute of Technology (MIT), argues that for advanced economies, competing with low cost manufacturing economies is futile (Irish Independent, 2007b). Lester asserts that firms in more advanced economies must focus their efforts on looking inwards at changing their own work processes and practices in order to survive and remain competitive. In other words, innovation holds the key to the future success of manufacturing in developed economies, such as Ireland, a factor which has been recognised by public policy makers (NCPP, 2007b).

Innovation involves both making improvements to something which already exists, such as integrating technology to make improvements to existing products and processes, and inventing new products, processes, applications and business models (Green, 2007; Small Firms Association (SFA), 2007). Firms in Ireland have been more successful at adopting exiting technologies from other countries than inventing our own (Green, 2007; Economic and Social Research Institute (ESRI), 2008). Research into innovation in Ireland has shown that in the 15 years to 2005, product innovation rose only marginally, while sales from new products and process innovation decreased in manufacturing firms (ESRI, 2008). In the medical technology sector, product life cycle can be as short as six months, thus the pressure on firms to be first to market is intense. Consequently, innovation in the workplace is critical for success.

Investment in R&D and collaboration with suppliers and customers is vital to increase innovation activity in Ireland (ESRI, 2008; Green, 2007). Collaboration between firms, third level institutions and hospitals is important for the future sustainability of the medical technology sector. Medical technology trials in Ireland are well below the international averages, and according to Irish Medical News (2007), from an R&D perspective, the infrastructure supporting the medical technology sector needs to be upgraded if Ireland is to remain a leading and innovative location for the sector.

Acknowledging the importance of collaboration, the IMDA, along with the Bioengineering section of the Royal Academy of Medicine in Ireland, devised the Medical Technology Vision to 2020, linking patient requirements with research and industry (Medical Device Technology, 2005). Despite the number of medical technology firms and the presence of both NUIG and GMIT, third level research in the sector remains heavily concentrated in Dublin (Irish Medical News, 2007). Links between third level institutions and firms in the Galway must be promoted and nurtured if the sector is to remain competitive in the region.

1.2.4 COMPETITIVE ADVANTAGE: INNOVATION AND HRM

Putting the opportunities which innovation and collaboration present into practice requires human intervention, and this is the fourth factor which management needs to be aware of. If firms in the medical technology are to move up the value chain and remain competitive in Ireland in the future, knowledgeable, educated and skilled human resources will need to be recognised as the key to competitive advantage.

A firm's innovation capability is its "ability to continuously transform knowledge and ideas into new products, processes and systems for the benefit of the firm and its stakeholders" (Lawson and Samson, quoted in Green, 2007, p.9). Recent research in Ireland indicates that less than 50% of employees felt encouraged to generate new ideas or improve their work processes (Mercer, 2006). Sources of knowledge and ideas can be external as well as internal to the firm. External sources include a firm's suppliers and customers. A firm's human resources, however, are the internal and controllable sources of knowledge and ideas, and it is these resources that have the ability to transform knowledge and ideas into new products, processes and systems, and therefore innovate. Innovation requires a competent and motivated workforce, that is encouraged to generate ideas, yet the link between HRM and innovation remains understudied (Jiménez-Jiménez and Sanz-Valle, 2005).

According to Jim Cuddy, manager of innovation and technology transfer at Enterprise Ireland, creating the right culture, one with leadership, communication, staff involvement and reward and recognition systems, is essential for promoting innovation in the workplace (Irish Independent, 2007a). Innovative firms empower employees in order to profit from the internal sources of knowledge and ideas. Employee empowerment involves transferring responsibility for decision making

from operational management to the most appropriate person or team (Wood, 2007). An empowered workforce is autonomous, informed and proactive, allowing for quick decision making and a flexible and adaptable organisation. Empowerment is positively associated with increased workplace innovation and change and improvements in the quality of work, and has been shown to have the most impact on firm performance and the least used (Wood, 2007; Barraud-Didier and Guerrero, 2002).

According to Pfeffer (1998), sharing information means open communications where employees are trusted, and empowered employees need information and feedback to enable them to make decisions about their work and take action. If team working, which has been shown to have a significant impact on innovation in, amongst others, medical technology firms (Green, 2007), is to be successful, then employees need information to make informed decisions.

In their review of literature on innovation, Jiménez-Jiménez and Sanz-Valle (2005) highlight the need for firms to possess strong growth strategies, be flexible, have flat organisational structures, and be constantly seeking opportunities and technological potential. Therefore, innovation requires a highly competitive and adaptable workforce because innovation is impossible without change. With firms constantly needing to innovate in order to compete, managing change is therefore a critical HRM policy area. Leadership and communication play a key role when trying to bring about workplace change. As noted by McKenna and Beech (2002) “change is not a painless process and it is often resisted by employees when they do not share the employer’s view”. Therefore it is incumbent on management to inform employees of the need for change, why and when change is to occur, their role in the change initiative, and implications for them after change has occurred.

1.3 MOTIVATION FOR THE RESEARCH

HRM places human resources at the centre of a firm’s competitive advantage, and therefore superior firm performance. There is considerable empirical evidence to suggest that innovative HRM practices and business performance are linked, see for example Pfeffer (1994), Huselid (1995), Becker and Gerhart (1996), Ichniowski, Shaw and Prennushi (1997), Flood *et. al.* (2005), Wood (2007), Flood, Mkamwa, O’Regan, Guthrie, Liu, Armstrong and MacCurtain, (2008).

Public policy in Ireland in recent years has recognised skills, knowledge, education and other human resource attributes as the key to Ireland's competitive advantage (Roche, 2007). *Working to Our Advantage: A National Workplace Strategy* (NCPP, 2005) develops a vision for workplaces to be flexible, knowledge-intensive, customer oriented, networked, highly productive, responsive to employee needs, involved and participatory, continuously learning and proactively diverse in order to sustain competitiveness.

Notwithstanding the empirical evidence and the efforts of government, achieving competitive advantage through people is under utilised, as HRM adoption rates remain low in Ireland (Roche, 2007). It has been suggested that the low uptake of HRM is cost related. Conventional thinking suggests that human resources represent a cost that needs to be minimised and controlled, whereas, HRM sees human resources from a 'value creation' viewpoint (Becker and Gerhart, 1996).

Previous research identified that the uptake of HRM practices in medical technology firms in the West of Ireland is common (Harvey, 2001). This research seeks to bring that research up to date, documenting the current state of play of HRM in medical technology firms in Galway.

1.4 OBJECTIVES OF THE STUDY

The primary objectives of this research are to:

- Outline the nature of HRM in medical technology firms in Galway
- Document the HRM practices adopted by medical technology firms in Galway in an effort to remain competitive

The secondary objectives of this study aim to:

- Highlight the drivers for change within the medical technology sector and identify the change initiatives adopted by firms in an effort to remain competitive
- Outline the future sustainability of the sector, as perceived by respondents in participating firms.

1.5 THE RESEARCH QUESTIONS

The research questions provide the roadmap for the study. The purpose of the primary research questions, presented in figure 1 below, is to identify HRM adoption rates in the medical technology sector and the HRM practices used to remain competitive.

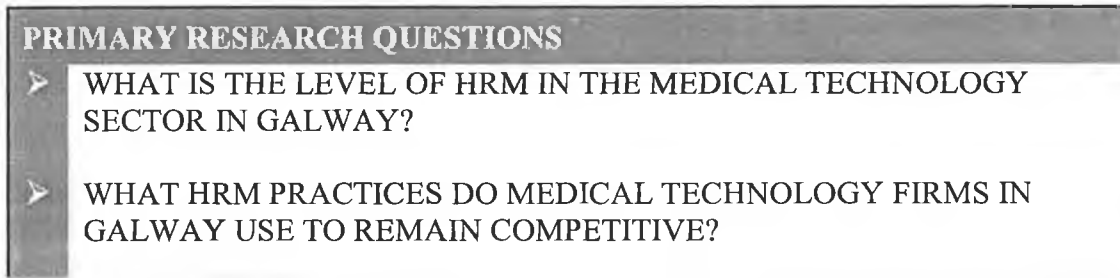


Figure 1 Primary Research Questions

The secondary research questions, shown in figure 2 below, identify drivers for change and innovation in firms and seek to determine the future sustainability of the sector as perceived by respondents.

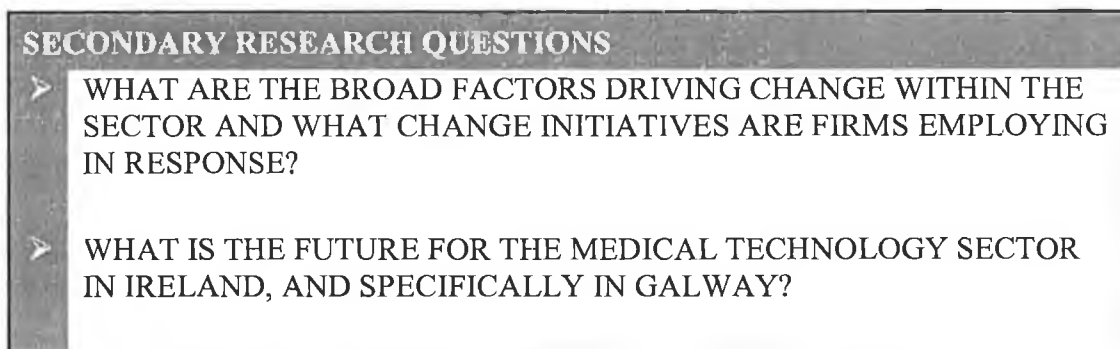


Figure 2 Secondary Research Questions

1.6 RESEARCH METHODOLOGY

The methodology adopted to answer the research questions is depicted in figure 3 below. A review of the medical technology sector was conducted initially to determine the role the sector plays in the Irish economy. A comprehensive review of theoretical and empirical HRM literature was undertaken to establish the link between HRM and firm performance and the various aspects of HRM. This was followed by designing a questionnaire to answer the research questions. Using the questionnaire, a pilot study was conducted with a senior HR consultant to test the questionnaire. Following this, a survey, using questionnaire-led qualitative interviews, of eleven medical technology firms in Galway was undertaken.

The findings from the survey were analysed and are presented in Chapters 4 and 5 of this thesis. Following on from the survey data analysis, closer analysis of how HRM and high performance are linked was conducted. This was achieved by selecting a high-performing firm from the sample for further analysis. The findings are presented in Chapter 6.

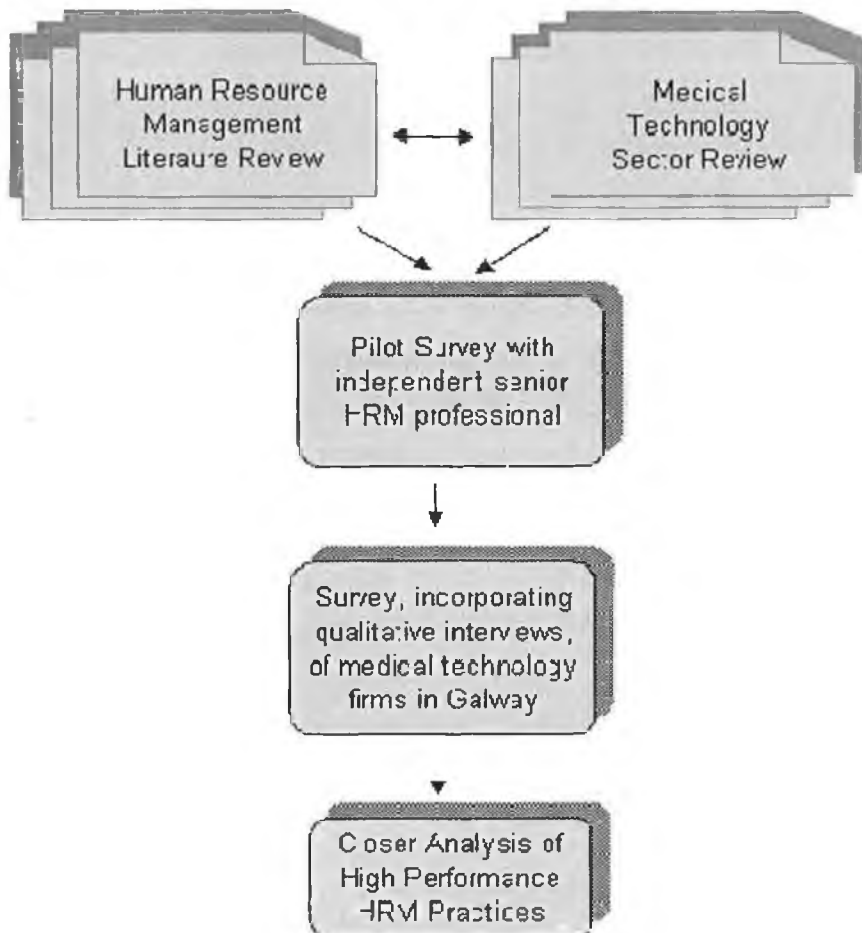


Figure 3 Research Methodology

1.7 LIMITATIONS AND ASSUMPTIONS

This study was conducted for a Masters qualification. As a result there are a number of time, access and content limitations.

The primary limitation of this study is that it is concerned with HRM in one sector. The adoption of HRM policies and practices varies across different sectors of the economy. Typically, firms higher up the value chain, such as those in the Information Communications Technology (ICT) sector, pharmaceutical, medical technology sector will adopt more progressive work practices than firms in other sectors of the

economy lower down the value chain such as the hospitality and retail sectors. Osterman (1994) found that firms mostly likely to adopt practices such as teamwork, employee problem-solving groups and job rotation were those which competed internationally, where senior management sees employee welfare issues as important, had highly skilled workforce and followed a “high road” strategy emphasising quality, service and variety as opposed to a low cost or what is commonly referred to as a “low road” strategy. Therefore, while a higher adoption of HRM might be expected in this study, it is not indicative of HRM adoption rates in the larger economy.

The population the study covers is limited to firms on the IDA Ireland listing (IDA Ireland, 2007c). While the study covers 11 of the 16 firms on the list, the population does not include firms operating in the sector which do not have IDA Ireland backing.

Due to time limitations, and in line with Harvey’s (2001) research, the HRM policy areas of communication and job design are omitted from the survey. The questionnaire concentrates on change management, training and development, recruitment and selection, and reward systems.

It can be argued that in order to fully appreciate the impact of HRM practices, the recipients of HRM practices should be included. A multilevel approach, which attempts to distinguish between the intended, actual and perceived outcomes of HRM practices by gauging the perceptions of employees, would facilitate this (Paauwe, 2008). This study is concerned solely with the views and perceptions of senior managers and HR professionals in the firms concerned. The actual and perceived outcomes of HRM practices may differ.

HRM policy in many firms is determined by corporate headquarters (HQ) which, in the case of foreign-owned multinationals, will be located in another country (Gunnigle and Moore, 1994). Local management may not agree with some policies and may not have the autonomy to change these at local level. Gunnigle *et. al.* (2007) suggest that while there is a high level of monitoring of HRM practice and performance by HQ, management in foreign-owned MNCs in Ireland has a high degree of discretion in relation to direct communication, pay policy, performance appraisal and trade union recognition. Nonetheless, the very nature of this issue is sensitive and respondents may be unwilling to devolve this information.

Some studies cover one group of employees within the firm. For example, Osterman (1994; 2000) was concerned with core employees only. Core employees can be defined as the largest group of non-managerial and non-supervisory workers who are directly involved in making the product (Osterman, 1994). Other studies cover various employee groups such as the largest occupational group (LOG), managerial staff or key operational group, see for example Gunnigle *et al*, (2007). The questionnaire for this study did not distinguish between the different occupational groups. Rather questions were posed as to the existence or otherwise of certain practices in order to ascertain the level of HRM in firms and identify HRM practices adopted by firms to remain competitive.

1.8 LAYOUT OF THE THESIS

This thesis is presented in seven chapters:

- This chapter has described the medical technology sector in Ireland and outlines the motivation behind the research
- Chapter 2 presents a review of the HRM literature
- Chapter 3 details the research methodology adopted to conduct the field work
- Chapter 4 outlines the impact of clusters, drivers for change and change initiatives from the analysis of the interviews
- Chapter 5 outlines the nature of the HR function, relations with external bodies and identifies HRM practices in the firms which participated in this research
- Chapter 6 identifies a model of HRM in one high-performing firm selected from the survey
- Chapter 7 summarises the main findings from the study and offers some conclusions and suggestions for further research

1.9 SUMMARY

The medical technology sector is important for the Irish economy. 11% of the manufacturing workforce is employed in 140 medical technology firms, and one third of all Irish manufacturing exports are linked to the sector. The sector is highly innovative with approximately half of these firms reporting carrying out R&D.

Despite recent governmental policies to promote innovation at work and considerable empirical evidence of a positive relationship between HRM and firm performance,

research suggests the uptake of HRM and innovative work practices remains low in Ireland (Roche, 2007). It is important therefore to understand the level of diffusion of HRM practices, and to understand why adoption rates are low.

This is a study of the medical technology sector in Galway. Its interest lies in the utilisation of HRM practices in the sector. Can it be said, for example, that the medical technology sector, an innovative and critical sector to the Irish economy, has a low uptake of HRM practices? With the exception of work conducted at GMIT (Fitzgerald, 2007; Fitzgerald, O'Dowd, Harvey, 2007; Fitzgerald, O'Dowd, Harvey, 2006; Fitzgerald, 2005; Harvey, 2001), there have been few empirical studies of the medical technology sector in the West of Ireland. Therefore, this study aims to complement the work of Harvey and Fitzgerald and overcome shortcomings in the research. The next chapter summarises the HRM literature review.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In order to facilitate the field work, a review of the HRM literature is presented in this chapter. It traces the origins of people management back to the late 19th century, outlines key HRM concepts and policies, and presents empirical evidence of the link between HRM and firm performance. This chapter also discusses influential factors on the development of HRM in Ireland, as well as more recent trends in HRM in Ireland.

2.2 THE ORIGINS AND EVOLUTION OF HRM

The origins of HRM lie in two distinct developments in the late 19th century and early 20th century, and can be tracked through the industrial relations era of the 1950s, through to the advent of personnel management (PM) in the 1960s right up to the emergence of HRM in the early 1980s (see figure 4 below).

2.2.1 THE WELFARE TRADITION

The welfare tradition in the late 1800s resulted from the recognition by management, that factory conditions for workers were less than favourable. Large employers, such as Rowntree and Cadbury in the UK, and later Jacobs and Maguire and Patterson in Ireland, introduced initiatives, such as sick pay, pensions and unemployment benefit (Torrington, Hall and Taylor, 2002; Gunnigle, Heraty and Morley, 2006). These firms, and others like them, appointed the first HR specialists, or 'welfare officers' as they were known at the time, to address employee issues. The merit of correctly managing people was quickly realised. Reports of increased productivity and increased applicants for jobs emerged, as employees began to see employers more favourably.

2.2.2 SCIENTIFIC MANAGEMENT

The economic depression in the late 1920s witnessed a departure from employee concerns towards managerial issues led by research conducted by F.W. Taylor. The scientific management approach was characterised by simple job design, managerial efficiency and a profitability agenda (Gunnigle *et. al.*, 2006). Business objectives were achieved through the deployment of practices such as training, incentive-based pay and organisation design. However, increased absenteeism and high turnover were

also reported, as the simple and repetitive nature of work under Taylorism implied the needs of the workforce were largely ignored (Gunnigle *et. al.*, 2006). Nonetheless, the influence of both the welfare tradition and scientific management are enduring, with aspects of both operational in HRM.

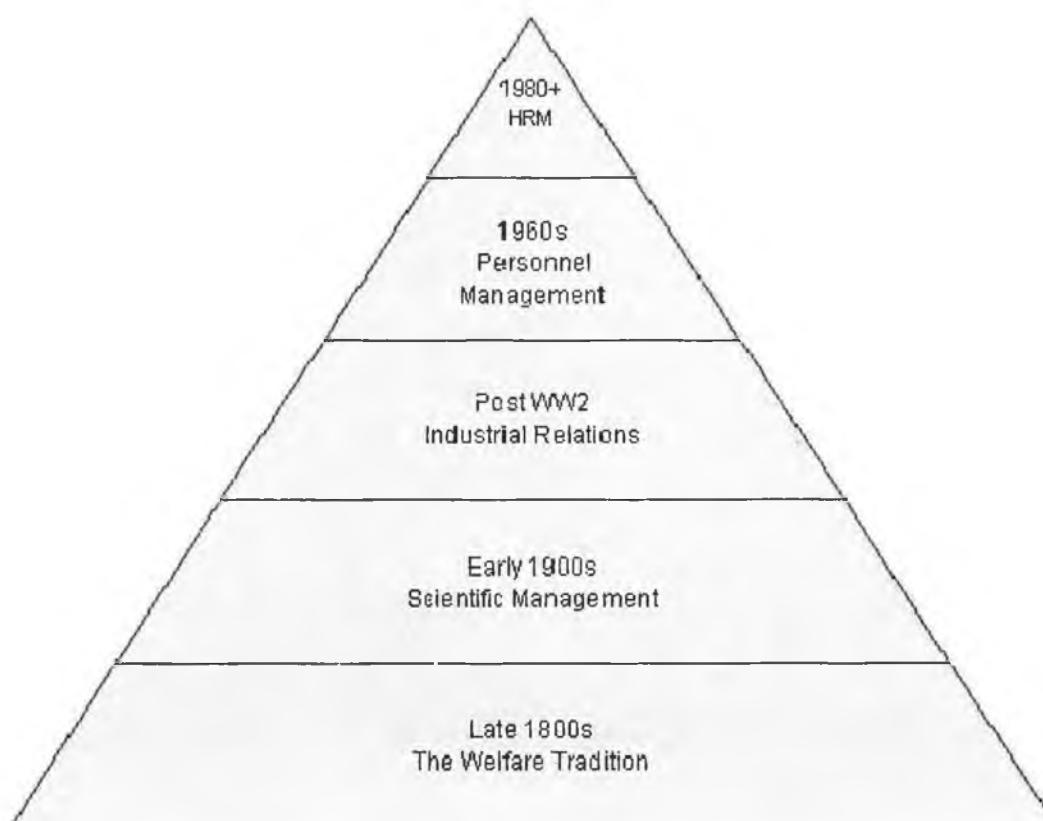


Figure 4 Evolution of HRM

2.2.3 PERSONNEL MANAGEMENT

Industrial relations policies dominated the post World War II era. The period was characterised by full employment and a marked increase in trade union membership. By the late 1960s, many firms had personnel departments, or at least a personnel manager, with responsibility for training and development, pay and work conditions, industrial relations and employee welfare issues (Henderson, 2008). Personnel practitioners became experts in collective bargaining between unions and management (Torrington, *et. al.*, 2002). PM was largely reactive in nature with little or no involvement from line management in employee development or other PM issues.

2.2.4 THE EMERGENCE OF HRM

HRM emerged as an approach to the management of people in the US in the early 1980s, a decade marred by recession, high unemployment, a decline in trade union influence and increasing competition (Beardwell and Holden, 2001). Management was in a position to change work practices and increase productivity without much objection from trade unions, in contrast with the industrial relations bias of the previous decade in both the US and the UK.

In parallel with this change in the economy, US business leaders began to recognise the benefits being reaped by Japanese firms as concerns with the Taylorist method of work organisation mounted (Guest, 1987; McKenna and Beech, 2002). The Japanese business model, characterised by a simple industrial relations management model, comprising of one-firm one-union, coupled with other initiatives such as Total Quality Management and Quality circles became the tools through which management initiated change at work (McKenna and Beech, 2002).

HRM differs from PM in many ways. Guest (1987) proposed a number of differences including differences between the nature of the psychological contract, internal versus external control systems, organisational structure and systems, the time and planning perspective involved in people management, the nature of employee relations, evaluation criteria and who carries out the roles of personnel or human resource management. Taking inspiration from Guest's summary of differences, Storey (1992) develops a more exhaustive list of the differences between HRM and PM. Storey's twenty-seven points of difference, are broken down into four categories: beliefs and assumptions, strategic aspects, line management and key levers (see figure 5 below for further details).

DIMENSION	PERSONNEL AND IR	HRM
Beliefs and assumptions		
1 Contract	Careful delineation of written contracts	Aim to go 'beyond contract'
2 Rules	importance of devising clear rules/mutuality	Can-do' outlook; impatient with 'rule'
3 Guide to management action	Procedures	Business-need'
4 Behaviour referent	Norms/custom and practice	Values/mission
5 Managerial task vis-à-vis labour	Monitoring	Nurturing
6 Nature or relations	Pluralist	Unitarist
7 Conflict	Institutionalised	De-emphasised
Strategic aspects		
8 Key relations	Labour-management	Customer
9 Initiatives	Piecemeal	Integrated
10 Corporate plan	Marginal to	Central to
11 Speed of decision	Slow	Fast
Line management		
12 Management role	Transactional	Transformational leadership
13 Key managers	Personnel/IR specialists	General/business/line managers
14 Communication	Indirect	Direct
15 Standardisation	High (e.g. 'parity' an issue)	Low (e.g. 'parity' not seen as relevant)
16 Prized management skills	Negotiation	Facilitation
Key levers		
17 Selection	Separate, marginal task	Integrated, key task
18 Pay	Job evaluation (fixed grades)	Performance-related
19 Conditions	Separately negotiated	Harmonisation
20 Labour-management	Collective bargaining contracts	Towards individual contracts
21 Thrust of relations with stewards	Regularised through facilities and training	Marginalised (with exception of some bargaining for change models)
22 Job categories and grades	Many	Few
23 Communication	Restricted flow	Increased flow
24 Job design	Division of labour	Teamwork
25 Conflict handling	Reach temporary truces	Manage climate and culture
26 Training and development	Controlled access to courses	Learning companies
27 Foci of attention for interventions	Personnel procedures	Wide ranging cultural, structural and personnel strategies

Figure 5 Twenty-seven points of difference, Source Storey (1992, p.35)

In contrast with the reactive nature of the personnel practitioner's role described above, the HR practitioner's role is a proactive mechanism for manipulating employee behaviour and attitudes. HR practitioners operate as facilitators in building the commitment of the workforce in order to positively impact the bottom line (McKenna and Beech, 2002), with a high degree of involvement from line management in employee issues such as performance management, training and development and communication.

It is widely believed, that decentralising the HRM role to line managers is vital, as line managers are in a better position, than centralised HR specialists, to adopt the most suitable HRM response to employees' issues and needs (Heraty and Morley,

1995; Ulrich, 1997; Whittaker and Marchington, 2003). A survey in the Irish context indicates that while line management shares the HRM role with the HR department, there has been an increasing role for line management in areas such as training and development and recruitment in recent years (Morley, Gunnigle and Turner, 1999/2000). More recent research, however, indicates that line management involvement in HRM in Ireland, while more involved than in the past, remains low (Renwick, 2003; Larsen and Brewster, 2003).

2.3 HRM GOALS

This thesis adopts the theory of HRM proposed by Guest (1987). According to Guest “because they [human resources] are the most variable, and the least easy to understand and control of all management resources, effective utilisation of human resources is likely to give organisations a significant competitive advantage” (p. 512). Guest suggests the deployment of HRM practices, in the various policy areas of recruitment and selection, training and development, change management, reward systems, job design and communication, can help fulfil the HRM goals of creating an integrated, committed, flexible workforce producing high quality work, all key aspects of achieving competitive advantage through people.

According to Guest, an integrated workforce is achieved by ensuring human resource planning is part of strategic planning; there is coherence between HRM and other strategies; HRM policies are coherent with each other; the attitudes and behaviours of line management are reflective of the importance of managing people effectively; and employees perceive that what benefits the firm will also benefit them.

Linked with the goal of organisational integration is the goal of organisational commitment and ‘job-related behavioural commitment’. Guest uses Mowday, Porter and Steers (1974) definition of commitment which suggests that a committed workforce is one which has a strong belief in and acceptance of the organisation’s goals and values, shows willingness to exert considerable effort on behalf of the organisation, and has a definite desire to maintain organisational membership.

Guest goes on to argue that, in order to implement strategic plans, firms need to manage both planned and unplanned change. This requires an adaptable and flexible workforce and entails avoiding collective representation and bureaucratic hierarchical

organisational structures, promoting employee empowerment and autonomy, paying close attention to job design, and having a flexible workforce, using practices such as cross-training and temporary contracts.

The final goal of quality of work involves having a good reputation as an employer, so that a firm can recruit and develop people who are capable, adaptable and skilled. This is accomplished by having a robust goal-oriented performance management system delivered by a competent management team.

To summarise, Guest's theoretical proposition states that a committed and integrated workforce is more likely to be productive and happy on the job, more flexible and open to change, and be capable of producing high performance levels.

2.4 HRM POLICIES

As noted above, Guest identifies six HRM policy areas, through which firms seek to achieve the HRM goals. These policies are discussed in further detail in this section.

2.4.1 RECRUITMENT AND SELECTION

HRM places people at the heart of a firm's competitive advantage; consequently issues recruiting talented applicants can result in poor business performance. Recent research in Ireland suggests recruitment and selection has been an area of concern for firms. In the medical technology sector, Harvey (2001) identified labour shortages as a key concern for HRM professionals. More recent research indicates that two thirds of Irish employers report issues with recruitment (Chartered Institute of Personnel & Development (CIPD), 2004; SFA, 2008a).

A survey of HR practitioners in 115 multinationals in Europe identified opportunities for training and development, teamwork and participation, autonomy in decision making as the most effective practices for attracting and retaining talented people (Hiltrop, 1999). Hiltrop also found that, while smaller firms offer more opportunities for autonomy in decision-making, firms with more than 250 employees outperformed smaller firms when attracting and retaining talented people. This is of particular significance in the medical technology sector in Galway, where with the exception of a number of large firms, firm size is relatively small.

Selection tools frequently used include the traditional interview, and psychometric tests, used to give firms an objective way of gauging prospective employees' abilities or characteristics (Armstrong, 1999). Criteria used to select people include technical expertise, previous work experience and the use of person-organisation and person-job fit criteria. Person-organisation fit can be defined as the "compatibility between people and organizations that occurs when at least one entity provides what the other needs or they share similar fundamental characteristics, or both" (Kristof, 1996, quoted in Morley, 2007, p.110). It can be argued that in order to hire the best candidate, all three aspects are vital. However, in a tight labour, this may not always be possible.

2.4.2 TRAINING AND DEVELOPMENT

The literature argues that once hired into the firm, simply retaining employees is not enough. Training and development ensures employees are 'equipped to perform' (McKenna and Beech, 2002, p221), and in order for employees to play a part in firm success, firms must be committed to allocating resources to training and development (Ulrich and Brockbank, 2005). Bartlett and Ghosal (2002) go on to argue that employee development must "be embedded in the company's bloodstream, with all managers responsible for giving team members ongoing feedback and coaching" (p.38). Employee engagement surveys carried out by the Saratoga Institute in the US have shown that, training and development has a positive impact on productivity and employee turnover (Shah and Tate, 2007)

Unlike other countries, such as France for example, where firms employing more than ten people are legally required to contribute 1.5 percent of the wage bill to workforce training or incur financial penalties (Cerdin and Peretti, 2001), investment in training is at the discretion of each individual firm in Ireland. Perhaps as a result of this, Ireland ranks only 17 out of 22 Organisation for Economic Co-Operation and Development (OECD) countries in the level of on-the-job training of Irish workers, while only 11% of working adults take part in job-related continuing education and training compared with 25% in the US and Scandinavia (Roche, 2007).

Smaller firms have fewer resources to expend on training and development. Surveys in the Irish context have shown that smaller firms tend to train less than larger firms (Kavanagh and Doyle, 2007). The Small Firm's Association (2003) has identified



time off-the-job as being a deterrent to training in smaller firms. Where larger firms can cover absences more easily, releasing people to attend training courses is more of an issue for smaller firms.

Promoting staff internally is an important aspect of investing in training and development. Benefits associated with recruiting and promoting internally include increased cost savings, as sourcing candidates internally is usually more cost effective than sourcing external to the firm and allows for more control of salary scales, as well as improvements in morale, commitment and job security (Sparrow and Hiltrop, 1994, cited in Hiltrop, 1999). Shah and Tate (2007) also suggest that firms with an engaged workforce, one which is “adequately trained and envisions meaningful career opportunities - achieve measurably superior financial performance” (p.40). Barraud-Didier and Guerrero (2002) found that career development and competency training is required if employees are to be involved in firm success.

The concurrent need for flatter organisational structures, allowing for flexibility and quick decision-making, can leave fewer opportunities for promotion. This can hinder career prospects as people see nowhere to grow within the firm. This can have a negative impact on employee morale and firms run the risk of increased employee turnover. Thus, unless firms are in a growth phase where opportunities for development and promotion will be more readily accessible, firms may risk losing talented employees. Management must balance the need to maintain a flat and flexible organisational structure with the career needs of employees in order to develop and retain the best talent.

2.4.3 REWARD SYSTEMS

The primary reason people work is to receive financial compensation. The level to which individuals are motivated by money will vary depending on their psychological and other needs (Robinson, 2006). There are typically three parts to a reward system: pay, incentives and benefits (Gunnigle *et. al.*, 2006).

Research into the impact of reward systems on firm performance are on the increase. As competition for scarce talent heated up in recent years, firms became more aware of the impact human resources have on firm performance (Gunnigle, *et. al.*, 2006). Research suggests, however, that people generally do not join or indeed leave their

employer for financial reasons, and that the link between pay and performance is weak (Mercer, 2006; Barraud-Didier and Guerrero, 2002; Wall Street Journal, 1993).

2.4.4 MANAGEMENT OF CHANGE

People are by nature adverse to change, mainly due to the uncertainty associated with change and the fact that it disrupts the 'status quo' (Morley, Moore, Heraty, Linehan and MacCurtain, 2004). That being said, change is a constant in business and people execute change, therefore it is critical that firms manage change effectively. As noted earlier, managing organisational change requires an adaptable and flexible workforce. Sadler (1995), amongst others, ascertains that managing change is as important as managing operations if firms are to survive and prosper. Managing change is a holistic approach, as summed up by Johnson and Scholes (1997): "Organisations which successfully manage change are those which have integrated their human resource management policies with their strategies and the strategic change process...training, employee relations, compensation packages and so on are not merely operational issues for the personnel department; they are crucially concerned with the way in which employees relate to the nature and direction of the firm, and as such they can both block strategic change and also be significant facilitators of strategic change" (quoted in Purcell, 1999, p.38).

Drivers for business change can arise from internal as well as external sources to the firm. Bradley (2001) categorises drivers for change as emanating either from economic or marketplace changes. Examples include competitive threats, such as new technologies, new competitors, legislative change and substitution; resource availability, such as financial or human resources; shareholder pressure; and customer demands or public opinion.

Ulrich (1997) argues convincingly that managers and HR professionals must help their firms to change, because responding to planned and unplanned change faster than the competition will lead to success. This can be seen in the medical technology sector when firms experience market place issues, such as product recalls for example, and competitors who are most able to adapt, gain significant market share as a result. Studies show, however, that HR professionals' role in change management is tenuous. A survey of 1,200 HR practitioners in the UK and Ireland, suggests that only 28% of HR professionals see their primary role as that of a change agent (CIPD,

2003), while a study of 400 line and HR managers in France found that, while excelling at their administrative function, HR professionals scored less favourably when it comes to their role as change agent (Peretti 1998, cited in Cerdin and Peretti, 2001).

2.4.5 JOB DESIGN

According to Gunnigle *et. al.* (2006) “the nature of work organisation and design will significantly influence the degree to which work is intrinsically satisfying for employees and promotes high levels of motivation” (p.145). Gunnigle *et. al.* track the transition of job design from task specialisation under Taylorism in the early 1900s, to job enlargement and enrichment in the 1950s and 1960s respectively, to quality of working life in the 1970s, to the advent of high performance work design which emerged in the 1980s.

Job design is an important aspect of quality of work because “providing high quality challenging jobs for high calibre staff” (Guest, 1987) is paramount if employees are to remain committed and motivated. Employing highly qualified and motivated people in menial positions does not make for a long-term committed workforce.

2.4.6 COMMUNICATION

The final HRM policy area is concerned with communication in the workplace. Information is a powerful tool in business. Upward communication, through employee surveys for example, helps management understand employees concerns, alerts them to potential problems, and solutions to problems (Beardwell and Holden, 2001). Upward communication seeks to build the motivation and morale of the workforce as employees feel they are participating and contributing to firm performance (Beardwell and Holden, 2001). Downward communication occurs when employees receive information and feedback from management, such as through team briefings.

As highlighted in Chapter 1, communication is critical for workplace innovation. Good communication, providing information to and consulting with employees, has been shown to lead to enhanced decision making, better employee relations and more effective change management, as well as increasing employee commitment, morale and trust (Dix and Oxenbridge, 2003). A case study of a manufacturing plant in the

UK, witnessing unrest among employees due to parent-company debt and lack of training and communication, witnessed absenteeism fall from 11% to 3.3% and employee turnover reduce from 80% to 23% when management started communicating regularly with employees, securing employee involvement and commitment (Human Resource International Digest, 2005a).

2.5 THE LINK BETWEEN HRM AND FIRM PERFORMANCE

Research into HRM and firm performance was inspired by the work of Peters and Waterman in the early 1980s, identifying people, not capital or automation, as the primary source of productivity gains, and therefore financial gain (Peters and Waterman, 1982). In their search for 'best practice' HRM, Pfeffer (1994, 1998) and Huselid (1995) identified two separate 'bundles' of HRM practices, that when implemented, will always have a positive impact on firm performance regardless of the type of firm or competitive strategy pursued. Huselid concluded that, while there was a compelling theoretical argument for a complementary bundle of HRM practices that also support the competitive strategy of the firm, no evidence of this existed on the ground. Despite the number of studies conducted, a concise list of HRM practices, or a specific HRM 'bundle', has not been defined, and the adoption or diffusion of best practice remains low (Purcell, 1999). It may be that the pressure to illustrate the impact best practice HRM can have on business performance has led to 'optimistic reporting' of the research data (Purcell, 1999).

The resource-based view (RBV) of the firm argues that a firm's resources can be a source of competitive advantage if they are valuable, rare, un-obtainable to the competition and non-substitutable (Barney, 1991). Using the RBV of the firm, human capital, which incorporates "training, experience, judgement, intelligence, relationships, and insight of individual managers and workers in a firm" (Barney, 1991, p. 101), can be a source of competitive advantage. The primary aim of the RBV of the firm is to take advantage of human capital, the internal and controllable capabilities in the firm, by adopting a HRM system which manages these resources, in a way that achieves and sustains competitive advantage. The RBV of the firm usually involves identifying a group of employees, usually small in size, that possess a unique capability (Purcell, 1999), such as for example a group of R&D engineers or product designers. The policies and practices used to manage and maximise the performance

of this group of employees will usually differ from those used to manage the rest of the workforce. Gunnigle, *et. al.*, (2007) found that over half of the MNCs in Ireland recognise a key group of employees that are key to competitive advantage, and over half of those firms have a specific development programme for the key group.

The contingency approach to HRM states that, given that no two firms are identical, organisational factors within each firm must be taken into consideration when adopting a HRM system. Therefore, in order for human resources to contribute to firm performance, there must be integration between HRM strategy, other functional strategies and the business strategy of the firm.

The business or competitive strategy a firm pursues will impact on the HRM system it adopts (Purcell, 1999; Robinson, 2006). A firm can choose to compete based on cost, commonly known as a 'low road' strategy, or quality, variety and service also known as a 'high road' strategy (Osterman, 1994). Firms competing based on a quality or differentiation strategy focus on a specific element that is of great value to the customer, such as the marketing approach, the inimitability of the product or service, or by supplying a specific product to a 'niche' market. Adopting this strategy requires an innovative, skilled, knowledgeable and flexible workforce (Horgan and Muhlau, 2003). The adoption of a high-road strategy is usually associated with a higher level of HRM. For example, a firm pursuing a low-cost or 'low road' strategy is unlikely to have the same training budget as a firm pursuing a premium-rate quality or 'high-road' strategy.

Evidence from the Irish experience suggests that HRM is more closely aligned to business strategy than ever before (Morley, Gunnigle and Turner, 1999/2000; Roche, 2007). Examples include, Ryanair which aligns its low-cost business model with its employment relations model; many multinationals which refuse to recognise unions, in the belief that collective bargaining is a barrier to responding quickly to the market and implementing change; Accenture, a management and technology services organisation, which is ranked among the top 100 places to work in Europe (Irish Independent, 2007a), which aligns business strategy with HRM practices communicating the firm's core values, business expansion plans and customer service at every opportunity from the induction process of new hires and its graduate

recruitment programme, to the performance review process and regular communication updates.

Richardson and Thompson (1999) define HRM strategy as “an attempt to develop a specified employment relationship through the choice of particular HR practices” (p.9). HRM practices are the programs, processes and techniques that people respond to on a day-to-day basis (Wright and Boswell, 2002). Through the deployment of HRM practices, management seeks to impact employee behaviour in such a way that will translate into positive organisational outcomes, such as high job-performance, quality, productivity and innovation, low staff turnover and absenteeism, and cost-effectiveness, all resulting in improving the financial performance of the firm. In the words of Ulrich and Brockbank (2005) “the deployment of people practices sends messages to employees about what matters most and that they can be successful” (p. 98).

The HRM practices a firm chooses depends on the outcome they want to achieve. For instance, a firm pursuing a ‘soft’ HRM approach, focusing on employee involvement and training, seeking to achieve workforce commitment and connection with the firm, will most likely have selection and recruitment policies which will choose people most likely to become committed to the firm; promote from within to illustrate that commitment to the firm yields good results; use performance related pay and strong communication channels to achieve organisational integration; achieve functional flexibility through cross-training; and address work-life balance issues by offering flexible work arrangements for employees.

A firm pursuing a ‘hard’ HRM approach places a high emphasis on ensuring HRM strategy fits overall organisational strategy and focuses on cost reduction and numerical flexibility (Henderson, 2008). For example, firms hiring temporary staff to respond to fluctuations in demand or as cheaper labour, such as the outsourcing plans at Aer Lingus for example; or linking bonus payments with team-based absenteeism levels. Recent research in the Irish context indicates that among the MNC population, both in the manufacturing and service sectors, the use of the contingent workforce such as part-time employees, temporary employees and short-term contracts is low (Gunnigle *et. al.*, 2007).

Central to having a HRM strategy is the notion of 'fit', or coherence between policies (Guest, 1987). 'External fit' requires that HRM policies are aligned with strategy in other areas of the firm such as the operations and technology strategies. 'Internal fit' requires that HRM policies 'fit' together. In other words, policies in training and development, recruitment and selection and so on complement each other and "help towards the achievement of strategic objectives" (Guest, 1987, p512). To use Richardson and Thompson's (1999) example: "relying on filling vacancies largely by internal promotion is unlikely to be effective unless the firm also has complementary training and development policies" (p.9). This is of particular importance in a tight labour market, which has existed in Ireland in recent years. Failure to invest in training and development may leave firms exposed if they are unable to recruit talented people.

Empirical studies investigating the notion of fit abound. Ichniowski *et. al.*, (1997), for example, in their longitudinal study of steel finishing lines, concluded that a complementary bundle of innovative work practices, including incentive pay, teamwork, training, job flexibility and employment security have a significant impact on productivity and that changes to individual practices had no impact.

In their research into French firms, Barraud-Didier and Guerrero (2002) found that bundles of HRM practices have a greater impact on firm performance than any HRM practice adopted in isolation. In order to impact employee behaviour, and therefore organisational objectives, a bundle of internally consistent HRM practices was more recently corroborated by Jiménez-Jiménez and Sanz-Valle (2005).

A benchmark study in the Irish context, examining some of the key tenets of the *National Workplace Strategy* outlined in Chapter 1, revealed that firms in Ireland employing a set of synergistic HRM practices, including staffing, performance management and performance related pay, training and development, communication and participation, labelled as HPWS, saw an average increase in productivity of 15% and a decrease in labour turnover of 16% (Flood, *et. al.*, 2005). More recently, Flood *et. al.* (2008) found that the use of practices such as workforce communication, participation, training and development, selection and recruitment, performance management and reward systems, combined with employee involvement, diversity and equality systems and flexible working systems, are positively associated with

workforce innovation, labour productivity and employee turnover (Flood, *et. al.*, 2008). Flood *et. al.* conclude that “the net impact of combining strategic HRM with employee involvement and participation systems, equality and diversity systems and flexible working systems, significantly exceeds the impact of any of these systems in isolation” (p.6).

Therefore, this thesis adopts the view that, a firm adopting a HRM strategy which complements the business strategy of the firm, with a high degree of internal and external fit, will lead to superior firm performance.

2.6 HRM IN IRELAND

The remainder of this chapter is concerned with HRM in Ireland. It discusses influential factors on the evolution of HRM in Ireland, HRM adoption rates in Irish-based companies, and recent developments in HRM.

2.6.1 THE INFLUENCE OF FDI ON HRM IN IRELAND

Similar to the rest of Europe and the US, recession in Ireland in the early 1980s led to a decline in industrial unrest and trade union membership, as management turned attention to improving people management techniques (Gunnigle and Moore, 1994). While it must be noted that EU regulations have had implications from an employee welfare standpoint (Labour Relations Commission (LRC), 2008), the two most influential factors in the development of HRM in Ireland are industrial relations policies and collective bargaining, and the attraction of foreign direct investment (FDI) (Gunnigle *et. al.*, 2003; Gunnigle *et. al.*, 2006).

Globalisation means that firms export corporate strategies to the host nation and subsidiaries of foreign-owned MNCs have had a significant impact on HRM, namely through the deployment of HRM practices and union-avoidance. In relation to the use of HRM practices, Flood *et. al.* (2008) found that firms adopting HPWS were most likely to be foreign-owned multinationals, involved in the personal services sector, employing greater than 500 employees, non-unionised, have a high level of trust between management and employees with regular two-way feedback.

Although union avoidance is more common to the services sector than the manufacturing sector (Gunnigle *et. al.*, 2007), there appears to be a discernible trend away from union recognition. Overall, trade union density in Ireland is running at

34%, dropping to 24% for the private sector (Central Statistics Office (CSO), 2007). Furthermore, while 61% of all multinationals in Ireland recognise trade unions, it must be noted that only a 40% of all greenfield sites opened by foreign-owned firms in the three years to 2007 recognise a union (Gunnigle, *et. al.*, 2007).

2.6.2 LOW HRM ADOPTION RATES IN IRELAND

Notwithstanding the body of empirical work linking HRM with firm performance, HRM adoption rates remain low in Ireland. A survey of 5,000 employees in 2003 indicated that “less than 10% of the workforce in the private and semi-state sectors was employed in organisations with multiple progressive, high-performance HRM practices” (Roche, 2007, p.65). Despite the business benefits experienced by firms adopting HPWS identified by Flood *et. al.* (2005), a follow-up with the same panel of firms two years later revealed that the use of HPWS among participating firms had increased by only 5% (Flood, 2007). Firms that introduced HRM practices cited the relationship between HPWS and productivity as their main reason for changing the way they managed their human resources. In short, it appears there is a noticeable gap between theory and practice.

Low adoption rates might be explained by a number of factors. The International Labour Organisation (ILO, 2002) suggests a number of reasons why HPWS might not be adopted:

- Cost - There is a significant cost of deploying HRM practices and it may take considerable amount of time before the impact on firm performance is realised. Business strategies in other areas of the firm are more cost-effective than HPWS in the short-term. As highlighted in Chapter 1, firms in the medical technology sector have been adopting Lean manufacturing as a strategy to enhance firm performance.
- Unsuitability - HPWS may not be appropriate in all firms or all markets, although, as noted earlier, previous research indicates the adoption of HRM practices is high in the medical technology sector (Fitzgerald, 2007; Harvey, 2001)
- System inertia - This can set into established organisations, making change difficult or existing systems may take focus away from the introduction of any new system such as HPWS.

- Low trust culture - Lack of trust between the workforce and management can be a major factor, especially when trying to achieve an integrated and committed workforce.
- Trade union resistance - HRM seeks to establish direct lines of communication with the workforce instead of engaging with a trade union representative. Guest (1987) argued that collective industrial relations “have, at best, only a minor role” in HRM (p. 503). According to Guest firms wishing to avoid collective representation will pay above the odds, have a formal communication system and an individual grievance system. Perhaps the prevalence of collective bargaining in Ireland over the last two decades, explains the relatively low adoption rates of HRM.

There is also a contradictory body of work which calls into question the benefits associated with HRM practices. Marchington and Grugulis (2000) argue that team working and empowerment, far from being tools which enhance an employees experience at work, can actually lead to a more stressful work-life and that downward communication “could more easily be interpreted as indoctrinating, emasculating, and controlling”, than being interpreted as a method of employee empowerment. Osterman (2000) concludes from his research that, although the diffusion of high performance work organisations (HPWOs) continued through the 1990s in the US, there was little evidence of mutual gains for employers and employees. Indeed, the presence of HPWOs “is associated with a higher probability of layoffs in subsequent years and with no gains in real wages”. From an Irish perspective, surveys have shown HRM leads to an increase in work intensification and a decrease in work autonomy (Roche, 2007).

To conclude the review of the literature, it is worth noting recent trends in HRM which are having an impact on the employment experience and how firms approach the management of human resources. As Richbell (2001) points out, “any individual review of national trends is necessarily selective” (p. 262). Thus, the trends identified below are drawn from the literature review of the researcher.

2.6.3 WORKFORCE DIVERSITY

The last decade has seen remarkable changes in the composition of the labour force in Ireland. Factors, such as the increasing participation of women, the aging population, migration and the increasing globalisation of business, have all led to a more diverse group of people at work.

Previous research in the Irish context suggests that diversity policies were traditionally aimed at gender diversity (Gunnigle *et. al.*, 2003). This is not surprising given the increased participation of women in the workforce in recent years (CSO, 2008). However, the major change in the Irish labour force in recent years has been in relation to inward migration. Immigrant workers now constitute 12% of the workforce in Ireland (LRC, 2008). Indeed, it is estimated that more than 600,000 immigrants have come to Ireland since 2000.

Bhawuk, Podsiadlowski, Graf and Triandis, writing in Ferris, Buckley and Fedor (2002) describe diversity as a 'state of heterogeneity in societies and organisations' (p.122). People differ based on a series of factors including culture, education, race, gender, nationality, age, attitude and personality. It is important to understand what impact the increase in workforce diversity in Ireland in recent years is having on the employment relationship.

Public policy initiatives in Ireland recognise the need to proactively promote workplace diversity in order to improve firm performance (NCPD, 2007b). Diversity and equality policies have been shown to improve employee relations, increase employee job satisfaction, workplace innovation, and organisational commitment, and reduce employee turnover and absenteeism (Monks, 2007, and O'Connell and Russell, 2005, cited in Flood *et. al.*, 2008).

According to Morley, *et. al.* (2004), "to manage diversity is to minimise or remove performance barriers that result from diversity related problems" (p. 489). From a HRM perspective, managing diversity is operationalised by recruiting and retaining the best talent, attaining community support for management's agenda and increasing the performance of individuals, teams and ultimately the firm. Actively managing diversity at work acknowledges that, diverse groups can actively improve firm performance if managed strategically (Cullen and Farrelly, 2005). The challenge for

HRM is to create diversity policies that will provide employees with opportunities to grow and develop and become integrated and committed to the firm.

2.6.4 WORK-LIFE BALANCE

Work-life balance refers to how employees balance personal and work responsibilities. It is also the term used to describe policies and practices such as temporal arrangements, including job-sharing and part-time work; flexible work practices such as flexi-time and working from home; and work-life balance supports, such as employee assistance programmes and subsidised childcare (Grady, McCarthy, Darcy, Kirrane, 2008).

A recent survey highlighted work-life balance as the biggest challenge facing Irish HRM professionals (People Management, 2007). Since the late 1990s, unemployment levels in Ireland have been low, leading to more people in work than ever before. The increasing participation of women at work has meant that many households now have two members of working age in the workforce. Combined with the increased cost of living and lack of investment in key infrastructure, such as child care provision and public transport, these developments place increased pressures on the contemporary workforce.

Research has shown that pressure on employees balancing work-life conflicts can reduce their effectiveness at work (Evans, 2001). From a firm performance perspective, managing work-life balance issues has been shown to reduce absenteeism and employee turnover, increase employee motivation and commitment, and promote good employee relations (Grady, *et. al.*, 2008). From an employee perspective, Grady *et. al.* reported increased levels of job-satisfaction and well-being.

The drivers for the introduction of work-life balance policies and practices in Ireland according to Grady *et. al.* (2008) are:

- The changing structure of work: from a primarily agricultural based economy to a manufacturing led economy and more recently a service sector dominated economy, the demands placed on the workforce are substantially different in each of these sectors.
- The changing nature of the labour force, such as the increase in the number of dual earner households

- The emergence of HRM, increases in workforce productivity, and the desire to attract the best in a tight labour market
- The intensification of work characterised by longer working hours, the faster pace of work, and technology related pressures where employees are unable ‘switch off’ from work.

Flexible work arrangements, such as part-time work and flexitime, can be used to address work-life balance issues. Irish employers have been slow at embracing flexible work arrangements and OECD recommendations to assist working families have not been implemented (ICTU, 2005). However, more recently, a survey of small firms noted that 65% of manufacturing firms in Ireland would consider hiring people under flexible work arrangements (SFA, 2008a).

Government intervention has been slow, and Ireland remains relatively unregulated in terms of industrial relations (Gunnigle, *et. al.*, 2003). While employees in other European countries have the legal right to part-time work, all forms of flexible work arrangements are optional for firms in Ireland (ESRI, 2007). For instance, in France and Spain employing temporary workers is permitted only “in cases of excess activity or in order to compensate for the temporary absence of an employee” (Cerdin and Peretti, 2001). Hiring temporary staff is relatively unregulated in Ireland.

Addressing the issue of work-life balance is critical if firms are to retain their best talent and remain competitive. The challenge for HRM professionals is to create policies that address work-life balance issues for the mutual benefit of employees and the firm.

2.6.5 HRM OUTSOURCING

HRM outsourcing refers to the subcontracting of activities to external agencies (Cook, 1999, cited in Valverde, Ryan and Soler, 2006). Research has shown that firms outsource HRM to achieve both short-term and long-term overhead cost savings (Kakabadse and Kakabadse, 2000), concentrate efforts on core competencies which form the basis of competitive advantage (Torrington *et. al.*, 2002; Richbell, 2001), or as a result of senior management dissatisfaction with the HR department (Redman and Wilkinson, 2001).

While certain HRM activities, such as payroll and catering, have been outsourced by firms for decades (Davidson, 2005), advances in technology allow firms go beyond the boundaries of conventional outsourcing with many multinational firms, such as BP and American Express going down the HRM outsourcing route (Richbell, 2001; Human Resource Management International Digest, 2004). Outsourcing HRM means that e-mail, intranet and phone help-lines have replaced HRM specialists in many areas of HRM, including recruitment, grievance handling, pensions and benefits, training and development and communication (Kakabadse and Kakabadse, 2000; Richbell, 2001; Human Resource Management International Digest, 2005b).

One of the main implications of outsourcing HRM is that, the HR department will face downsizing. Post outsourcing, HR professionals may find themselves dealing with an external agency over the phone, regarding concerns they might have over their employment prospects, following the outsourcing of their colleagues' positions to that very same agency. What impact this has on morale of those remaining in the HR department is a key area that needs to be monitored and managed if HRM outsourcing it to achieve its goals

2.7 CONCLUSIONS

An underlying principle of HRM is that the correct management of people can be a source of competitive advantage for firms. Through the deployment of HRM practices in recruitment and selection, training and development, reward systems, communication, change management, and job design, management seek to impact the behaviour of employees in a manner that will lead to improved organisational performance. The growth in people management related issues and policies, over the course of the 20th century, further corroborate this. Notwithstanding this evidence, at an operational level, research indicates that the adoption of HRM remains low in Ireland.

The most influential factors in the development of HRM in Ireland are the presence of MNCs and social partnership agreements, although EU regulations have also had an impact from an employee welfare standpoint. Recent developments have also had an impact on HRM in Ireland, most notably the increasing participation of immigrant workers in the workforce, the demands placed on employees from a work-life balance perspective, and the move towards HRM outsourcing.

As identified in Chapter 1, the future sustainability and competitiveness of the medical technology sector is under threat. Any scaling down in the sector will have a significant impact on the Irish economy. Traditional sources of competitive advantage in Ireland, such as low labour costs, have been eroded by new low-cost economies such as India, China and countries in Eastern Europe. Firms in Ireland can no longer compete based on low cost and therefore must move up the value chain by increasing their role in areas such as R&D, marketing, HRM, and customer service.

Ireland's competitive advantage in the future will be its human resources. This requires an educated, knowledgeable, motivated and empowered workforce. If Irish operations are to remain competitive in the future they must tap into the minds of their employees and this requires workplaces where idea generation is openly and actively encouraged and recognised.

Therefore it is important to investigate how firms in the medical technology sector are managing their human resources, and if achieving competitive advantage through people management is a myth or a reality. This study addresses the approach which firms in the medical technology sector in Galway are taking to the management of their human resources. The next chapter will describe the research methodology adopted in this study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the methodology used to undertake the research. The justification for the research methods used is provided and ethical matters associated with the research are considered. The chapter concludes by profiling the population researched.

3.2 THE NATURE OF THE RESEARCH

This is a qualitative study which, as indicated in Chapter 1, draws on and replicates elements of research conducted by Harvey (2001). A qualitative approach is appropriate when analysing a wide range of different themes from the literature and exploring the reasons behind why firms do what they do (Anderson, 2004). Whereas quantitative research focuses on counting numerical data, qualitative research focuses on words, both in collecting and analysing data (Bryman and Bell, 2007).

The main qualitative research methods, as identified by Bryman and Bell (2007), are:

- ethnography or participant observation
- qualitative interviews
- focus groups
- language-based approach, for example conversation analysis
- analysis of secondary sources of information, for example texts and journal articles.

Ethnography, qualitative interviews, focus groups and the language-based approach provide primary sources of data. Primary sources of data can be defined as those that provide first-hand information to the researcher (Kumar, 1996). Primary sources of data can be gathered either by observing people or communicating with people (Cooper and Schindler, 1998). The communication approach was chosen for this study.

The communication approach involves questioning or surveying people on various subjects, and recording answers for subsequent analysis, and can be done through face-to-face interviews, telephone interviews, or self-administered surveys, usually delivered electronically or by post. The communication approach used in this study is

a sector survey. Unlike case studies, which provide in-depth detailed analysis, surveys allow for comparisons to be made and are increasingly used to enable the identification of 'generalisable' trends (Anderson, 2004; McCartney and Teague, 2004). This also means surveys can be undertaken in the future or in a different sector or location (Anderson, 2004). Surveys also give the researcher the opportunity to learn about opinion, attitudes, intentions and expectations (Blumberg, Cooper and Schindler, 2005), and are increasingly the instrument most widely used in research into workplace practices.

The survey was administered by conducting face-to-face, semi-structured interviews, feasible due to the close proximity of medical technology firms in Galway to GMT. Conducting face-to-face interviews allow the researcher to control a number of variables. The lack of control for who actually responds to the questionnaire can be an issue with surveys, and a poor response rate, can result in unreliable and unrepresentative data (Anderson, 2004). Conducting face-to-face interviews allows the researcher to pre-screen respondents. This ensures the most appropriate respondent participates in the survey, and allows the researcher control for a poor response rate (Blumberg *et. al.*, 2005). In addition, there is less chance that questions will be interpreted incorrectly, as the interviewer is on hand to explain the meaning of questions in the event that respondents need clarification.

A semi-structured interview is one where the questions are pre-defined, but depending on how the interview goes, the questions and their order can change and new questions can be introduced (Anderson, 2004; Bryman and Bell, 2007). Structured interviews on the other hand, are used to gather quantitative data, and consist of a standard set of questions. The main differences between qualitative and quantitative interviews, identified by Bryman and Bell (2007), have been summarised by the researcher and are presented in figure 6 below.

Qualitative Interviews	Quantitative Interviews
Less structured questions	Structured, clear set of questions to maximise reliability and validity
Interest in interviewees point of view	Reflects researchers concerns
Rambling of interviewee encouraged	Rambling of interviewee a nuisance
New questions can be introduced & sequence of questions can vary	Predetermined questions and sequence
Flexible interviewing – responding to direction interviewee takes interview	Inflexible interviews need to standardise
Rich, detailed answers desired	Answers that can be coded and processed quickly are desired
Interviewee can be interviewed on a few occasions	Unless a longitudinal study, interviewee only interviewed once

Figure 6 Differences between qualitative and quantitative interviews

Secondary data can be defined as information that is already available and need only be consulted in order to extract the required information (Kumar, 1996). Examples include government and semi-government publications and websites, text books, journal articles, and earlier research in the field. A comprehensive review of the HRM literature, theoretical and empirical, was conducted using secondary sources of data. The findings from the HRM literature review are presented in chapter 2. Research into the medical technology sector in Ireland was also conducted using secondary sources of data. Key attributes of the sector and its evolution in Ireland are presented in Chapter 1.

3.3 DESIGNING THE QUESTIONNAIRE

Survey data is usually collected using questionnaires or interviews (Bryman and Bell, 2007). In this study the interviews were conducted using a pre-defined questionnaire. The questionnaire was designed, using a refined version of a questionnaire used by Harvey (2001), following the process identified in Bryman and Bell's (2007) model in

figure 7 below. As the general research area of the medical technology sector in Galway and HRM have already been addressed in Chapters 1 and 2, this section will begin by discussing the specific research questions.

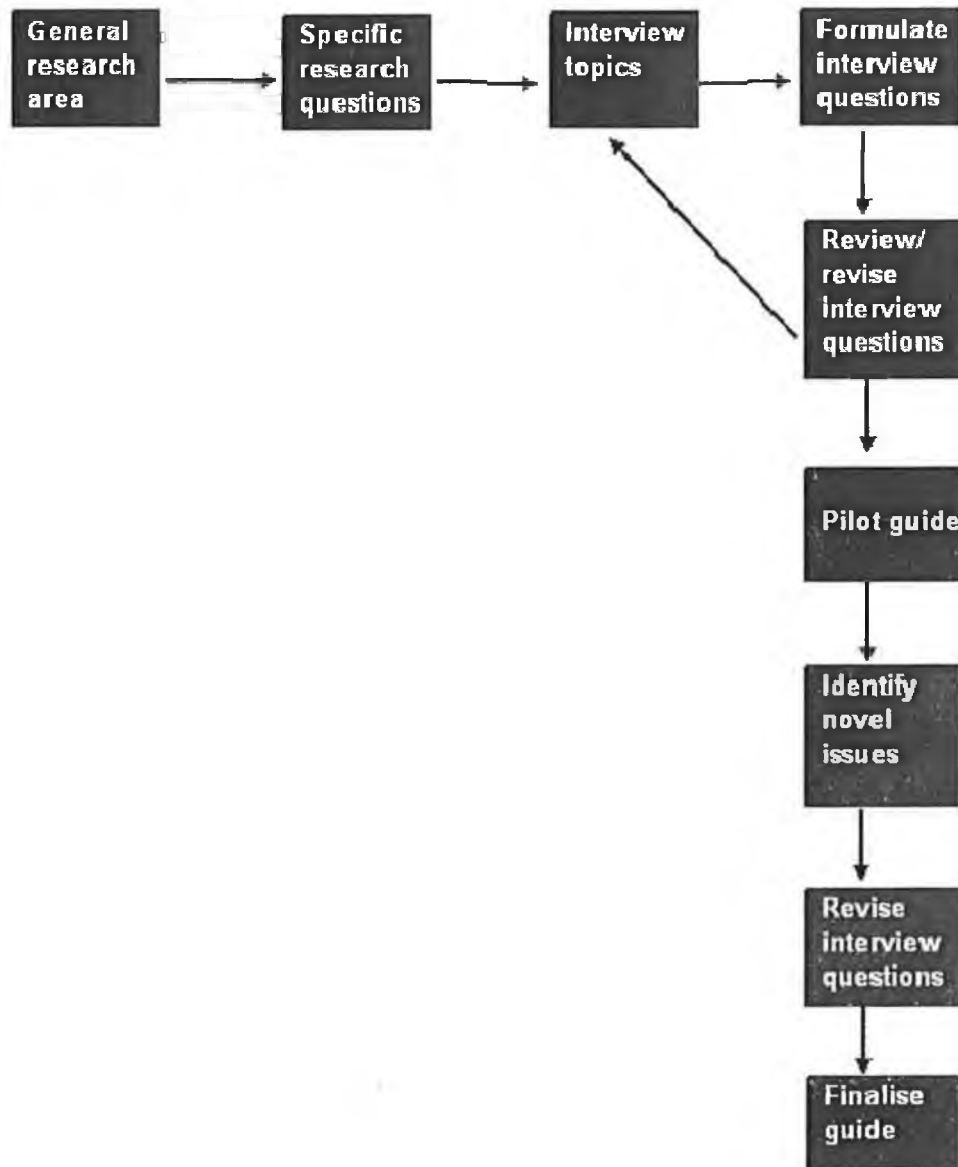


Figure 7 Formulating questions for an interview guide. Source Bryman and Bell (2007, p. 485)

3.3.1 SPECIFIC RESEARCH QUESTIONS

This research is not concerned with identifying the proportion of the workforce which HRM practices cover, or what percentage of the budget, for example, is allocated to training and development. Instead, this study is concerned primarily with identifying the adoption of HRM practices in medical technology firms in Galway. For that reason, the survey questions were designed to identify whether a certain HRM practice was in place or not.

The research questions, provide the road map for the study by focusing the research (Stuart, McCutcheon, Handfield, McLachlin and Samson, 2002), and provide the foundation on which the questionnaire for this study is designed. The research questions, introduced in section 1.5, are restated in figure 8 below. The rationale behind each question is added to the table.

PRIMARY RESEARCH QUESTIONS	PURPOSE
WHAT IS THE LEVEL OF HRM IN THE MEDICAL TECHNOLOGY SECTOR IN GALWAY?	IDENTIFY HRM ADOPTION RATES IN THE MEDICAL TECHNOLOGY SECTOR.
WHAT HRM PRACTICES DO MEDICAL TECHNOLOGY FIRMS IN GALWAY USE TO REMAIN COMPETITIVE?	IDENTIFY HRM PRACTICES USED IN ORDER TO REMAIN COMPETITIVE
SECONDARY RESEARCH QUESTIONS	PURPOSE
WHAT ARE THE BROAD FACTORS DRIVING CHANGE WITHIN THE SECTOR AND WHAT CHANGE INITIATIVES ARE FIRMS EMPLOYING IN RESPONSE?	ASCERTAIN MAIN DRIVERS FOR CHANGE AND INNOVATION.
WHAT IS THE FUTURE FOR THE MEDICAL TECHNOLOGY SECTOR IN IRELAND AND SPECIFICALLY IN GALWAY?	DETERMINE THE FUTURE SUSTAINABILITY OF THE SECTOR AS PERCEIVED BY RESPONDENTS IN THE SECTOR.

Figure 8 Rationale behind the research questions

3.3.2 INTERVIEW TOPICS AND QUESTIONS

The questionnaire is broken into six sections as identified in figure 9 below (see Appendix III for full questionnaire).

The first section deals with background information on the firms. It seeks to establish how long firms have been in operation and why firms located in Galway. It also explores whether the decision, for foreign-owned firms, was a good one for the corporation. This section also addresses current and future employment levels in the sector.

The second section of the questionnaire deals with the HR function and workplace change. The main objective of the HR function is explored, as is the role of external bodies in the day-to-day activities of HR personnel. Recruitment plans for the

function are also addressed. The area of workplace change and innovation is considered by seeking to identify drivers for workplace innovation, change initiatives adopted by firms and the role of the HR function in change initiatives.

Section	Purpose
1. Background Information	Establish contextual data on the firms
2a. Workplace Innovation	Identify drivers for change and highlight initiatives embarked on by firms
2b. HR Now & The Future	Determine the main objective of the HRM function and identify any future expansion plans
2c. HR External Relations	Identify the extent of HRM outsourcing and relations with other external bodies
3. Recruitment & Retention	Identify issues with recruitment & retention highlight practices used in this HR policy area
4. Training & Development	Establish the diffusion of and primary driver for training and development
5. Reward Systems	Determine how employees are compensated
6. General	Explore the future sustainability of the sector

Figure 9 Questionnaire Sections

Section 3 asks questions about recruitment and retention in the section. These questions endeavour to identify recruitment and retention issues, workforce composition shifts and the use of flexible work arrangements.

Training and development policies and practices are addressed in section 4. This section seeks to ascertain drivers for training and the types of training pursued in the sector.

Section 5 of the questionnaire addresses pay systems and performance management. It attempts to identify the essence of a good performance management system and the use of performance-related pay. Questions are also asked in relation to how basic pay is determined, how pay levels compare with other firms in the sector, and how the wage bill has changed in recent years.

The purpose of the final section of the questionnaire is to explore how secure the future of the sector is in Ireland. In doing so, it seeks to identify the critical factors

that will ensure its sustainability, as perceived by management and HR professionals working within the sector.

Each section of the questionnaire was reviewed a number of times. Some questions were revised, some questions were omitted and others were added in, until the researcher was satisfied the primary and secondary research questions were being addressed. This became the first draft of the questionnaire.

3.3.3 FROM PILOT TESTING TO FINAL QUESTIONNAIRE

The first draft of the questionnaire was sent to a colleague at GMIT who has over twenty years experience in the medical technology sector. His remit was to check the questionnaire for relevance and identify any gaps. His feedback suggested only one change which was to add question 6: Is the firm looking to increase levels of innovation? Minor amendments were made to a number of other questions.

Prior to embarking on interviews with firms, a pilot survey was undertaken. A pilot survey can be defined as “a trial run on the main survey undertaken to test the questionnaire” (Brannick and Roche, 1997, p.34). One of the main reasons for conducting a pilot survey is to uncover flaws in research design and instrumentation, (Blumberg *et. al.*, 2005). For this reason, Blumberg *et. al.* suggest the subject(s) for the pilot survey should come from the intended population the study covers and be as close as possible to the real interview in terms of procedures and protocols identified for the actual collection of data.

The subject chosen for the pilot survey was an independent senior HR professional, with over thirty years experience in the medical technology sector, including tenure as a senior HR executive in one of the medical technology firms in Galway which participated in this research. The interview was held in a boardroom at GMIT, took approximately one hour to complete and was recorded using a digital recorder. The subject of the pilot survey assumed the role of HR manager in a medical technology firm for the duration of the interview.

The pilot survey identified a number of additional areas to be addressed, including organisational culture and the importance of early intervention in the performance management process (see Appendix II for more details). The questionnaire was

modified incorporating some of the recommendations made in the pilot survey. Other recommendations in relation to communication were not incorporated because, as noted in section 1.7, the HRM policy area of communication was omitted from the survey questionnaire. Following the feedback from the pilot-survey the final questionnaire was drawn-up.

3.4 THE INTERVIEW PROCESS

The interviews were carried out on site, at each of the firms. Nine of the interviews took place between November 2007 and January 2008. The remaining two interviews were carried out in the last week of March 2008 and the first week in April 2008. It was initially anticipated that the interviews would be completed before the end of December 2007. However, it proved difficult to make the first contact in order to set-up a meeting. This suggests that access to firms for research purposes is more difficult than in the past. For example, when Harvey conducted his research in 2001, all 15 firms contacted granted access. However, it must be noted that, with the exception of one interviewee, respondents were extremely helpful and positive about the research, in the sense that they gave consideration to their responses and were happy to be able to contribute to the research agenda.

The duration of the interviews varied from 15 to 35 minutes, depending on the experience or position of the respondent. Those interviews of a shorter duration were with either a HR generalist with less than ten years experience or non-HR personnel i.e. the Operations Manager or the Managing Director. The interviews with HR managers with over ten years experience were of longer duration, as respondents elaborated more on certain aspects of the interview.

Each interview was recorded using a digital recorder. A qualitative approach to research mandates recording due to the detailed analysis of language or words that it requires (Bryman and Bell, 2007).

3.5 ANALYSING THE DATA

The recorded interviews were transcribed into Microsoft Word documents to allow for analysis of the raw data. There was a total of five hours and twenty two minutes of interviews.

As pointed out by Bryman and Bell (2007), qualitative data from interviews represents a large “corpus of unstructured textual material” (p.579). Therefore, a systematic method for breaking down the data for analysis is essential. Coding involves breaking down the raw data into parts for analysis. “Codes....serve as shorthand devices to *label, separate, compile and organise* data” (Charmaz, 1983, p. 186, emphasis in original, quoted in Bryman and Bell, 2007, p.586). Organising data into categories will inevitably mean that some data will be lost but this is essential for efficient data analysis (Cooper and Schindler, 1998).

The transcribed recordings represented 3,425 lines of interview data. A Microsoft Excel spreadsheet was used to separate and organise the data from the interviews. The spreadsheet was compiled with headings, such as for example, ‘drivers for innovation’, ‘main objective of HR function’ etc., as shown in figure 10 below, an extract from the spreadsheet. In total, there were 475 individual pieces of data grouped under 58 headings.

Each interview was analysed numerous times and cross-referencing between interviewees was done using the spreadsheet. Key themes, which can be defined as the textual data for analysis (McPhee and Terry, 2007), emerging from the transcripts, were colour coded in the Excel spreadsheet. Respondents’ comments were sorted by key theme and further grouped in a Word document (see Appendix IV for examples). The concurrent collection and analysis of data meant that this took place iteratively, as new headings emerged.

Some comments were rejected because a number of respondents failed to elaborate sufficiently. For example, in relation to the critical factors impacting the future sustainability of the sector, and the determinants of pay increases in recent years, it was difficult to assess if some responses represented the thoughts and opinions of the interviewees or reflected the general consensus being expressed in the media or literature. Therefore, responses which were insufficiently elaborated on were rejected.

Code	Reason for setting up	Good / Bad Decision	Future expansion plans	Drivers for innovation	Major Change initiative	Specific HR practices for MedTech	Measurement
C	4 men from MEdTech MNCs got together	-	No	Market	None, increase in staff by 25% was a challenge	No, general package, maybe customise the training	Absenteeism & punctuality
A	1 man from Medtech set-up	-	Yes -building a new facility	Cost, Market, Parent co.	New Mgmt Structure	Not really; Small co attractive to many	Absenteeism
D	Set-up by former MedTech MNC employees	-	Depends on clinical trials	Clinical Trials Results	-	-	Absenteeism
J	-	-	Yes- definite growth plans	-	Lean	-	HRM KPI
E	European base	Good	depends new if contract goes ahead, approx 10 people	Cost - looked at China but not popular in this industry, now looking at automation	Lean	Not really, operators on piece work incentives as its hi volume, low value	measure % efficiencies, every 2 hrs, daily & wkly
H	Medical companies here	Good	Yes, setting up R&D, moving to more premises	Market demand, technology follows this	New technology, (Lean from beginning)	-	-
I	West of Irl known as hub for Medical Devices	Good	depends on success of product commercialisation	Learning from past projects - reviewing what they do all the time	-	-	HRM KPI
B	tax incentives & gateway to Europe	Good	Production - yes, headcount, maybe/maybe not	Cost	Lean	Training mostly due to regulation; maybe recruitment of engineers	Yes, absenteeism mostly, employee turnover also
F	Two other large MedTech companies in Galway	Good	Yes-moving to bigger premises in 2008	Cost Mainly & Market	Lean	Not really - trying to standardise after amalgamation of 4 firms into 'firm	Yes - absenteeism
G	tax incentives, gateway to Europe, plentiful labour supply	Good	No	Cost reduction mainly, but also best practice & efficiencies	Lean	No - across the board	Absenteeism, time to fill vacancies
K	Tax incentives, skilled labour, proximity of suppliers and shipping hub	Good	No	competition from locations around the world. Depends on cost and where is cheaper to ship from	Lean	Conducts HR for global firm, practices are localised for legislation purposes	Absenteeism and turnover on the balanced scorecard, linked to bonuses e.g.direct employees linked to absenteeism, performance as well as local and global metrics.

Figure 10 Extract from analysis spreadsheet

Data verification was achieved by distributing a copy of the findings to the respondents, to ensure the researcher did not misunderstand respondents. Where responses were received, they confirmed the findings as presented in Chapters 4 and 5 of this thesis.

3.6 ETHICAL CONSIDERATIONS OF THE STUDY

Given the trust placed in the researcher by both GMIT and respondents, it was essential to carry out the research in an ethical manner. Ethics can be defined as “the norms or standards of behaviour that guide moral choices about our behaviour and our relationships with others” (Cooper and Schindler, 1998, p180.). The objective of performing ethical research, according to Cooper and Schindler, is to ensure that there are no adverse affects on anyone as a result of research activities. From data collection to data analysis there are a number of ethical considerations associated with this research.

3.6.1 ETHICS IN DATA COLLECTION

Informed consent, which involves revealing the survey procedures before asking for permission to conduct the research (Cooper and Schindler, 1998), was secured from each of the respondents. Each of the respondents was contacted by phone and/or email explaining the:

- position of the researcher and educational establishment which the researcher represented
- survey topic and geographical area covered
- purpose of data collection and the end use for the data
- time required to conduct the interview

The confidentiality of respondents is one of the most important aspects from an ethical standpoint, especially “if there is any question of the evidence having any competitive or commercial sensitivity” (Remenyi, Williams, Money and Swartz, 1998, p.228). The confidentiality of respondents was achieved by ensuring the anonymity of respondents, concealing their names and any other information which would lead to the identification of individual respondents in reporting the findings.

As all interviews were digitally recorded, permission was sought from each respondent prior to recording. The pilot-survey indicated interview recording might be an issue for respondents. This was not the case with any of the interviewees. Once respondents were reassured of their anonymity, the reason for recording was explained, and that the recordings would not be used for any other purpose, all respondents agreed to be recorded.

As with any study, respondent bias must be considered. This study represents the views of HR professionals and senior managers in the eleven firms which took part in this study. Nine of the respondents are HR professionals, and it is plausible that HR professionals in particular, are likely to positively associate HRM policy with business performance. Using triangulation can minimise bias. Triangulation involves getting data from numerous sources to make certain a biased view is not being obtained from one respondent (Remenyi *et. al.*, 1998). For example, this could involve interviewing union representatives or conducting focus groups with a group of employees. This study was conducted for a Masters qualification, and as discussed in Chapter 1, there were a number of limitations; therefore triangulation of the data was not possible.

3.6.2 ETHICS IN DATA ANALYSIS

The researcher's bias must be considered when considering the ethics associated with data analysis. Citing Max Weber (1946), Silverman (2000) points out that "all research is contaminated to some extent by the values of the researcher" (p.200). Remenyi *et. al.*, (1998) suggest that often the bias of the researcher is so subtle, the researcher may not even be conscious of it and argue that rather than compensating for personal bias the researcher would be better placed stating possible biases.

Cultural bias which may exist is the researcher's previous experience working for both firms which deployed HRM practices and those that did not. The employment experience was greatly enhanced in firms with strong HRM policies and this may lead to positive reporting, although unconsciously, on behalf of the researcher. Nonetheless, the researcher did not work for or have any association with any of the firms which took part in this study prior to undertaking the research.

3.7 THE SURVEY SAMPLE

Similar to Harvey's (2001) study, this study includes firms which manufacture medical instrumentation and medical devices only. Firms involved in the larger healthcare sector and the manufacture of pharmaceutical products are not included in this classification.

The survey sample was obtained from IDA Ireland's list of medical technology firms and encompasses both subsidiaries of foreign-owned multinationals and Irish-owned

firms (IDA Ireland, 2007c). Firms operating in the sector but not present on IDA Ireland's list are not included in the sample.

As identified in Chapter 1, Galway has become a hub for the medical technology sector. Given the number of firms based in Galway, the vast majority of which are located in industrial estates within ten kilometres of Galway city and GMIT, and the researcher's base, the decision was taken to confine the population to firms based in Galway only.

Contact was made with all sixteen firms on IDA Ireland's list. During the course of the field research one of the firms that granted access, Abbott Laboratories, announced it was to cease operations due to falling demand for its products and the need to improve efficiencies globally (Irish Times, 2007). Due to the closure notice this interview was cancelled and coupled with no response from four other firms, this study covers eleven medical technology firms in Galway, or 69% of the total population. Figure 11 below shows the country of origin, employment levels and product category of the participating firms.

Ownership	Employee	Product
Ireland	>100<500	Delivery Device Solutions
Ireland	<50	Pulmonary drug delivery products
Ireland	>100<500	Guide Wires
Ireland	<50	Stents
Japan	>50<100	Peripheral Vascular Interventinal Products
US	>500	Cardiovascular Devices
US	>100<500	Accessory Cardiovascular Devices
US	>50<100	Medical Packaging and Assemblies
US	>50<100	Guide Wires
US	<50	Precision Wire Components
US/France	>100<500	Optical Products

Figure 11 Firms ownership, employees and products

As noted earlier, the survey was administered through semi-structured, face-to-face interviews. Where possible, the interviews were held with the most senior HR person in each of the firms, typically the HR manager or Director. In the absence of a senior

HR manager, interviews were conducted with the Managing Director, Operations Manager or a HR generalist (see figure 12 below for breakdown of respondents).

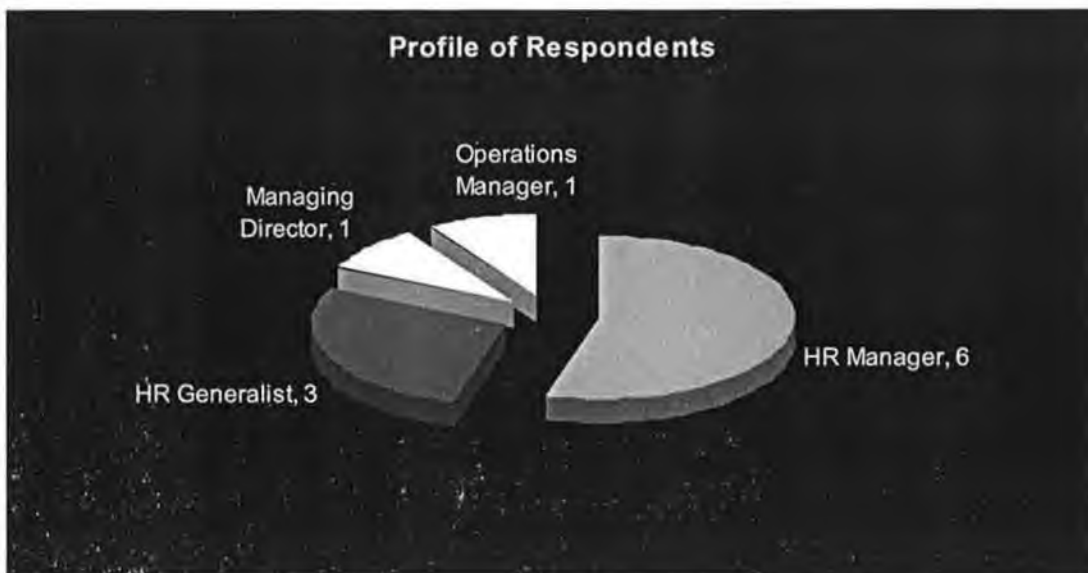


Figure 12 Profile of Respondents

3.8 FURTHER ANALYSIS OF HIGH-PERFORMANCE HRM PRACTICES

Following the completion of the survey analysis, the original research strategy was to present the survey findings to participants by conducting a focus group. Focus groups, also known as group interviews, involve the researcher facilitating a specific group of people to start a dialogue between the group members on topics supplied by the facilitator (Grix, 2001). The intention was to gain further insights into how HRM practices and high performance are linked and validate the data collected through the survey. A number of attempts were made to schedule the focus group; however it proved impossible to secure a significant number of participants to make the focus group valid. Indeed, the pilot survey indicated conducting a focus group might be an issue for HR practitioners due to the proprietary nature of the information.

Instead, in order to gain further insights into how HRM practices and high performance are linked, a high-performing firm was chosen from the sample for further analysis. The HR manager at the high-performing firm was re-interviewed in order to gain a more in-depth understanding of how HRM contributes to firm performance.

Following analysis of the data from the first interview, a separate questionnaire was designed to facilitate the second interview. The questionnaire sought to understand how the firm's goals are achieved and how innovation is driven. Key relationships with customers and suppliers were also explored as well as the make-up of the production system. Further questions were also posed in relation to recruitment, training and development, performance management and HRM metrics. Finally, questions in relation to Guest's (1987) four goals of flexibility, commitment, integration and quality of work were put forward. See Appendix V for full questionnaire.

The data from the interviews with the HR manager at the high-performing firm were analysed and compiled. The analysis was sent to the HR manager for validation. The HR manager reviewed the analysis, made some minor changes to the text, but overall confirmed that the findings represented HRM at the firm. The validated research findings are presented in Chapter 6 of this thesis.

3.9 SUMMARY

This chapter outlined the research methodology used to undertake the field work. The research questions, questionnaire design and data analysis techniques were presented. Ethical considerations associated with the research were also addressed as well as the data validation method undertaken. Finally, this chapter introduced the surveyed firms, profiled the respondents, and presented the methodology used to further understand the link between HRM and high performance.

The next three chapters present the research findings. Chapter 4 outlines what is driving innovation within the sector, what firms are doing in response to those drivers, and discusses what the future holds for the sector, as perceived by respondents. Chapter 5 outlines the nature of the HR function within firms and HRM practices used in order to remain competitive. Chapter 6 presents analysis of a high-performing firm and discusses the impact HRM has on firm performance at the firm. Chapter 7 concludes the thesis with a discussion on the findings from the research as well as making recommendations for practice, and suggesting future research topics.

part in this study have been operating in Galway for less than 30 years, lured to Ireland mainly by generous tax incentives, a plentiful supply of qualified labour and a strategic gateway to Europe, according to respondents. Consistent with recent research into foreign-owned MNCs with operations in Ireland (Gunnigle, *et. al.*, 2007), when asked if the decision to locate the operation in Galway was a good one for the corporation, all respondents replied in the affirmative.

Four of the MNCs which took part in this study are expanding operations, as can be seen from figure 13 above. One of the firms is moving to a new facility, another firm is introducing R&D, while expansion plans in the remaining two firms is dependent on securing contracts or line transfers from sister plants.

As identified in Chapter 1, there is a significant cluster of medical technology firms in the West of Ireland, and particularly in Galway, and the presence of the larger players in the sector lead to the establishment of other firms before long (Harvey, 2001). This research confirms that it is the presence of leading MNC firms that has stimulated the growth of a significant sub-supply sector, with three of the foreign-owned sub-supply firms reporting establishing operations in Galway as a result of the 'big players' presence there. As one HR generalist noted: "*We are here basically because 'firm G' and 'another medical technology firm' are here. We supply all of them, so if they leave in the morning, we're gone as well.*" The HR manager, in a foreign-owned firm manufacturing implantable products, noted that it was Galway's reputation as a nucleus for medical technology firms that led management at headquarters (HQ) to choose Galway over any other location worldwide. This research confirms the importance of the existence of a cluster of medical technology firms in the region.

4.2.2 IRISH-OWNED FIRMS

Four of the firms which took part in this research are Irish-owned. Two of the firms operate in a sub-supply role, while the remaining two firms manufacture finished medical products. Two of the firms have been in operation six years or less, one firm has been established ten years, while the remaining Irish-owned firm has been in operation for 20 years, although a relatively recent entrant into the medical technology sector. Three out of the four Irish-owned firms that took part in this research were set-up by people who previously worked in the foreign-owned firms in

the sector, further confirming that clustering is positively associated with new business set-ups.

The Irish-owned firms contribute significantly to the local economy. Between them, they employ 635 people, although it must be noted that three quarters of this is concentrated in one firm. At the time of interview two of the firms had definite expansion plans in Galway. One firm was in the process of building a new facility and the other firm was expanding the workforce at its existing plant. Employment at the third Irish-owned firm had grown by 33% in 2007; there were no further expansion plans foreseen. The HR manager at the remaining firm commented that any expansion plans were dependent on the outcome of clinical trials.

4.2.3 FUTURE EXPANSION PLANS

From a HRM standpoint, with the exception of one firm, significant job creation is not part of expansion plans, either in the Irish-owned or foreign-owned firms. For example, the MD in one of the US owned MNCs commented that: *“we have a new contract coming up but we’ll never have massive growth here, we’re talking maximum per year, maybe ten.”* Respondents envisage future expansion plans materialising as a result of improving efficiencies and finding smarter ways of doing business, as articulated by one HR manager: *“There is a new transfer product coming, so we may be hiring for that, or we may redeploy some employees as we save labour in other areas. It may not grow in actual headcount, but it will grow in production.”* Accordingly, innovation and management of change are critical for the future sustainability and growth in firms.

4.2.4 PRODUCTS

Participating firms manufacture a wide range of products. Six of the firms manufacture finished medical devices, both implantable products such as stents and catheters, and non-implantable products such as nebulisers and contact lenses. At the time of interview, two of the firms in this group were exclusively involved in R&D, with one of the firms commercialising for the first time in 2008 and the other at clinical trial phase of development. The remaining five firms supply steel components, production aids or customised packaging to the medical product manufacturers, once again highlighting the importance of the presence of a cluster of firms in the region.

4.3 PRIMARY DRIVER FOR CHANGE IS COST

As identified in Chapter 1, the cost of conducting business in Ireland has risen dramatically in recent years. Consistent with this trend, cost was identified as the primary driver for change in this study. As the Operations Manager in one of the US owned MNC stated: *“the only thing is the cost is killing us. Isn't that why [other firm] is in trouble? It's not about efficiency or capability, its cost.”*

Labour costs, which can constitute up to 40% of operating costs, have increased significantly in recent years, although not disproportionately with other costs, according to respondents. Amongst the respondents it is felt that the increase in labour costs was driven, primarily, by the cost of living in Ireland in recent years. Managers felt that, in some instances, pay was spiralling out of control as noted by one HR manager: *“I don't know what year it was but I remember these huge salary jumps, and if you do that once it is expected year on year and suddenly you're looking at a wage bill and we're not competitive anymore ... And there is no way of stopping that now. The boulder is running down the hill and who is going to stand in front of it?”* People's unrealistic pay expectations were echoed by another respondent: *“I know something we've noticed over the last twelve to eighteen months within administration, people are starting to get unrealistic as to what pay rises they should be given every year”*. Increases in insurance costs and other utility costs, such as electricity, were also identified as key concerns. The cost factor is a real issue for firms as indications are that Ireland's cost base will remain high in the coming years (Life Sciences Review, 2007).

Secondary factors driving change include changing market demands, for example customers looking for new or improved methodologies; competition from sister plants; new technologies; new products and new production lines; and competition from rival firms.

4.3.1 WIDESPREAD USE OF LEAN MANUFACTURING

As a result of cost and other pressures, firms are constantly looking for innovative ways of doing business in order maintain competitiveness. Chapter 1 highlighted the emergence of Lean manufacturing in the medical technology sector in Ireland (Fitzgerald, 2007; Life Sciences Ireland Review, 2007). Consistent with this trend, by

far, the most common response to controlling costs and thereby maintaining competitiveness, identified in this research, is Lean manufacturing.

Lean manufacturing is usually introduced on the factory floor, either by leveraging internal expertise or employing Lean consultants. The majority of firms surveyed have introduced some element of Lean, while more recent start-ups establish operations with Lean manufacturing from the outset. *“The Lean concept is around for a long time, that would be something that would be innately in us all, that is just part of your core response to business, I mean setting up our lines we’d automatically set up Lean”*, said the HR manager in a recent set-up.

From a firm performance perspective, the cost savings realised in all instances are exceptional. For instance, one firm reported savings of 18% on manufacturing costs in the first month after converting to Lean production. The same firm reported increased sales of between 15% and 20%, with less headcount. The HR manager in another firm revealed that the firm had achieved more savings in the year after introducing Lean manufacturing than in the previous 8 years combined, and continued to manufacture the same amount of product with a reduction in headcount of thirty people.

As a result of the success of Lean production methods, firms are extending Lean thinking to other functional areas of the business including administration, warehousing and facilities, where it also appears to be having a negative impact on employment levels. For instance, the respondent in one firm commented: *“All the office staff had to log every day on an hourly basis what they were doing and see where we could help them make improvement. Then we upgraded our computer systems, so we didn’t have to let anyone go, but in a couple of key areas where people were leaving anyway, we didn’t have to replace them”*.

Another firm is applying Lean thinking to the HR function, investigating the number of repetitive tasks carried out by the HR generalists on a daily basis: *“we’re looking at putting in a HR helpdesk so that people ring the desk in the morning, log their query and we get back to them that way...one of my generalists, the queue of people at her desk, and you think, there has to be a better way of doing it”*.

4.3.2 LEAN AND PEOPLE

As noted above, the impact of introducing Lean manufacturing is having a negative impact on employment levels, with many firms reducing headcount. This can negatively impact the commitment of the remaining workforce as they see their colleagues lose their jobs, and can lead to poor success rate of change initiatives. Furthermore, as discussed in Chapter 2, people are naturally adverse to change (Morley, *et. al.*, 2004). The MD in one of the firms alludes to this: *“well it [change] was very hard to do but you had to work very hard with the managers and the supervisors because I’ve seen it over the years everybody gets defensive to change. Why should I have to change? Are you saying I’m not doing my job right? We had to work really, really hard with them to get them all on board, but it ended up being a fantastic project”*.

In general though, the introduction of Lean manufacturing and Lean thinking appears to be a success, secured by effective communication from senior management, employee involvement early on in the change process, and employee training and development opportunities. For example, the HR manger in one US owned firm remarked: *“that [change] is helped very much by a strong message from our general manager to the general workforce so people understand the reason if they need to do things differently or change”*. She went on to comment that *“everybody has bought into it [Lean]. And the reason people bought into it is they see it as a better way of working. It’s more efficient, as well as the fact that it does ultimately save on costs”*. The positive impact on the working environment is echoed by the HR manager in another US owned firm: *“You know there is a huge buzz about the place because of that [green belt training]. It has had a massive positive impact on the plant. People have expanded their skill-set; they’ve gotten the extra training”*. This suggests that management in medical technology firms are aware of the importance of managing human resources effectively in order to bring about successful change.

4.4 FUTURE SUSTAINABILITY OF THE MEDICAL TECHNOLOGY SECTOR

Similar to previous research (Harvey, 2001), the future sustainability and competitiveness of the sector is predicated on controlling costs. Sam Palmisano, IBM CEO, once said: *“a globally integrated company locates operations and functions anywhere in the world based on the right cost, the right skills and the right business*

environment” (quoted in Lester, 2007, p.4). Respondents in subsidiaries of foreign-owned MNCs indicated that globalisation is having a significant impact on the Galway base, with management at HQ increasingly looking to countries like China, Malaysia, Mexico and Poland to reduce the overall cost base. This was articulated well by one HR manager who said: *“If you look at China. There’s phenomenal growth, cheap labour, highly skilled workforce. It’s exactly where we [Ireland] were 10 years ago, before we became so expensive, India the same”*. Indeed, many respondents indicated that HQ has already followed competitors by opening plants in lower cost base economies. Other respondents, including those in Irish-owned firms, have moved from Irish based suppliers to Asian based vendors in an effort to reduce costs. All of these moves have a negative effect on employment levels in the medical technology firms themselves, and also have a significant knock-on effect on Irish based manufacturers in sub-supply roles.

Given the high dependence on US FDI, the recent economic downturn in the US with the falling value of the dollar against the euro, suggests that Ireland, as a manufacturing base for US MNCs, is not as attractive as it was over the last number of decades. As the HR manager in one firm observed: *“Irish companies are getting very expensive with the dollar rate, it really hits us hard. The rate of exchange hits our bottom line every month”*. Public policy initiatives in the US, to combat the above mentioned downturn, will also play a key role in the future of the US owned firms: *“I think the US is going to have a massive impact on medical devices in Ireland...but do you know what we’ve all known and we’ve all seen it coming, even down to US government policy and the impact on industry within the US and the initiatives they’re giving to bring it back”*, commented one HR manager.

One point which must be noted is that the sector remains highly regulated and controlled. This has meant that the move to low-cost economies is not without problems. For instance, one firm reported having to reverse previous production line moves to Mexico: *“They [HQ] moved 5 production lines down to Mexico...two of those moves were not a success. So we’re still not there in relation to moving, but Medical Device will probably be one of the last industries to be hit in Ireland. It’s purely because of all the certification and regulation”*. Plans by another firm to move production lines to Asia were scrapped due to pressure from customers: *“within the*

medical device industry it is very hard to get them [customers] to take on a firm in China. They don't want you using them" said the MD. This suggests that the experience and expertise accumulated by medical technology firms in Ireland is a valuable source of competitive advantage, which can be used and promoted by management at Galway based operations, both internally with corporate HQ, and externally as part of their marketing activities.

4.5 MOVING UP THE VALUE CHAIN

It became clear during the interviews that safeguarding the future of the Irish operation is a top priority for management in foreign-owned subsidiaries. As highlighted in Chapter 1, IDA Ireland policy has shifted from solely attracting new investment to Ireland, to further embedding firms in the Irish economy by moving up the value chain. In line with previous moves by MNCs in Ireland (Gunnigle, *et. al.*, 2003), moving up the corporation's value chain was identified as a key method of ensuring the future sustainability of operations in Galway, according to three out of the seven foreign-owned firms. These firms indicated they are moving away from the traditional view of manufacturing, concentrating instead on attracting investment to the Galway operation by assuming a more value-added role. For instance, one US owned firm has established itself as the centre of excellence for the entire corporation in one aspect of manufacturing. The HR manager in another subsidiary of a foreign-owned MNC added: *"The areas that we would be trying to look at going forward would be value add, like shared services, R&D. So we have a lot of expertise in areas like Lean Sigma, so we should as an organisation, be saying to [HQ], we're the shining examples here so we'll consult with other parts of [the corporation] and show you how its done. We have the facility, we have no problem handling heavy recruitment campaigns, it's like going out there and selling ourselves is what we see as probably the way forward"*.

Pursuing a value chain led strategy will also entail shedding lower skilled jobs and concentrating on higher skilled positions. Recruiting and developing a highly motivated and skilled workforce will therefore remain critical for medical technology firms in the future. Nonetheless, it must be noted that controlling costs remains the key concern of management in these firms.

4.6 CONCLUSIONS

The contribution the medical technology sector makes to the Galway economy is irrefutable. The presence of a cluster of firms, mainly through the attraction of FDI, has had a positive impact on productivity, innovation and new business set-ups in the region.

Eleven firms, seven foreign-owned and four Irish-owned, operating in the medical technology sector in Galway participated in this study. The firms manufacture a diverse range of products from implantable and non-implantable medical products, to components, production aids and packaging.

The immediate future of firms which took part in this study is promising. Many of the firms have growth plans, although it must be noted that significant job creation, in the main, is not part of expansion plans. Instead, driven by the need to control costs, which was reported as the primary driver for workplace change, firms are adopting innovative work practices, such as Lean manufacturing and Lean thinking, in order to grow and remain competitive. As a result of introducing Lean manufacturing, all firms reported considerable productivity gains and cost savings, including significant labour cost savings. As a result, many firms were extending Lean thinking to other areas of the business.

A number of the subsidiaries of foreign-owned MNCs are repositioning, or seeking to reposition, the Galway operation within the global corporation, in an effort to secure the future sustainability of operations in Galway. Firms are doing this by taking on a more value-added role within the corporation, by moving up the value chain, becoming centres of excellence in areas such as R&D, HRM and specialised manufacturing.

The next chapter describes the nature of the HR function within the eleven firms that took part in the survey. Some of the innovative practices used in the HRM policy areas of recruitment and retention, training and development and performance management are described and findings in relation to work-life balance, workforce diversity, and HRM outsourcing are also discussed.

CHAPTER 5: DATA ANALYSIS: HRM PRACTICES

5.1 INTRODUCTION

The previous chapter introduced the eleven firms which participated in this study, discussing drivers for change within firms and exploring the future sustainability of the sector, as perceived by respondents. Drawing on the research findings, this chapter discusses the growing importance of HRM in medical technology firms in Galway. The role of external support organisations in day-to-day operations for HR professionals is discussed, as well as the position of the HR function vis-à-vis organisational change and culture. HRM practices in the areas of work-life balance, workforce diversity, recruitment, training and development, and performance management are also discussed.

5.2 THE GROWING IMPORTANCE OF HRM

Chapter 2 highlighted low HRM adoption rates in Ireland (Roche, 2007). However, previous research conducted in the medical technology sector indicated that the adoption of innovative work practices was high (Fitzgerald, 2007; Harvey, 2001). This research is consistent with findings by Harvey and Fitzgerald, in that HRM adoption rates are high in the sector. Indeed, this research suggests that HRM is growing in importance in medical technology firms in Galway.

5.2.1 TEN OF THE FIRMS HAVE A HR FUNCTION

As can be seen in figure 14 below, ten out of the eleven firms that took part in this study have a HR function, which has been part of the Galway operation since inception in six of these firms. Firms with over 100 employees had a HR department employing between three and fourteen HR professionals, while firms employing less than 100 people, typically employed one person in the HR function. There was one exception to this where one MNC, employing less than 70 people, had three people employed in the HR department. When asked why she felt it was necessary to have a high ratio of HR personnel to overall employees compared to other firms in the sector, the HR manager commented thus: *“That will show you just how important it [HRM] is to us...you've got to get your policies right.”*

One firm, which employs less than fifty employees, has no HR function. While there are plans to expand operations in 2008, when asked if hiring a HR professional was

part of those plans, the operations manager responded: “I don’t think we’d ever do that [hire a HR manager]. There are so many people coming in off the street now with qualifications”. Recruitment is handled jointly by management and an external HR agency. The HR agency also carries-out induction on behalf of the firm. This is a process that works well for the firm, according to the Operations Manager.

<i>Firm</i>	<i>Number of employees supported by each HR professional</i>	<i>Length of time HR in firm</i>
<i>A</i>	<30	Lifetime of firm
<i>D</i>	<30	<1 year
<i>I</i>	<30	Lifetime of firm
<i>K</i>	30-80	Lifetime of firm
<i>B</i>	80-100	Lifetime of firm
<i>C</i>	80-100	<1 year
<i>E</i>	80-100	<1 year
<i>F</i>	80-100	<1 year
<i>G</i>	100-200	Lifetime of firm
<i>J</i>	100-200	Lifetime of firm
<i>H</i>	N/A	N/A

Figure 14 HR headcount ratio and length of time HR in firm

5.2.2 NEWLY APPOINTED HR FUNCTIONS

The research findings presented in Chapter 4 showed that, cost is the primary concern for management in the medical technology sector in Galway. Pressures on firms to reduce costs and operate with flatter organisational structures suggest that it is no longer inevitable that firms experiencing growth will establish a separate HR function (Morley, Gunnigle, O’Sullivan and Collings, 2006). Nonetheless, as can be seen from figure 14 above, the HR function in four of the firms, which have been in operation on average eight years, is less than twelve months old, brought about due to growth within the firms. In the words of the HR manager in one of these firms: “The main reason that I was hired is that [the Director] was very concerned that there wasn’t a focus on the people side of it. I think he’s very conscious of where the firm is at this stage, how it’s evolving and he’s aware that he needs to look after the people here.” HRM activities, previously performed by part-time HR consultants, plant or production managers or by personnel at HQ, are now carried out by dedicated HR

professionals. This can be seen as an acknowledgement by management, that in order to grow successfully, a dedicated HR function is required.

However, it is difficult to assert from the interviews if the newly appointed HR functions represent a strategic approach to the management of people. For instance, when asked about the primary objective of the newly appointed HR function, one respondent commented that it was to enable the firm to comply with legislation. The HR generalist in another firm was hired to embark on a recruitment campaign due to growth in the firm. After the recruitment campaign was complete her main objective was to put a HRM system in place, for example rolling out grievance and disciplinary procedures, ensuring each employee has a "*personnel file*" which holds CVs, references, and confidentiality agreements.

Another factor which must be taken into account in relation to the newly appoint HR functions, is that in three out of four firms HR professionals operate on a part-time basis. Contrast this with the firm mentioned above which has a workforce of less than 70 and employs three full-time HR professionals, a HR manger and two HR generalists. Can it be said that a HR professional working three days per week, and whose main objective is administrative in nature, plays a strategic role in the firm?

5.2.3 HR HEADCOUNT RATIO

The HR headcount ratio can also be viewed as an indication of the growing importance of HRM. Advances in technology, such as the advent of shared services, and the devolution of HRM tasks to line management, discussed in Chapter 2, including grievance handling and performance management, mean that the HR headcount ratio, which is the number of employees supported by each HR professional, has been growing in recent years (Workforce Diagnostic System, 2004). In the US, the ratio is 85 employees for each member of the HR function (Workforce Diagnostic System, 2004) and in the UK, the ratio of employees to HR professionals ranges from 100 to 300 employees for each member of the HR function (Francis and Keegan, 2006).

The HR headcount ratio in the firms surveyed compares favourably research in the US and UK, as can be seen in figure 14 above. Three of the firms have one HR representative for 30 employees or less; one firm reported a ratio of one HR

professional for 80 employees or less; four of the firms have one HR professional for 100 employees or less; while the two larger firms reported higher ratios of one HR representative for every 120 and 180 employees.

5.3 THE HR FUNCTION AND EXTERNAL RELATIONS

HR professionals in the medical technology sector draw on a number of external organisations in their day-to-day operations. Membership of bodies such as the Irish Business and Employers Confederation (IBEC), IBEC's representative body the IMDA, American Chamber of Commerce and the Chartered Institute of Personnel & Development (CIPD) is commonplace. Presenting valuable networking opportunities, they are important sources of information according to the respondents.

5.3.1 THE IMPORTANT ROLE OF IBEC FOR HR PROFESSIONALS

One organisation which stood out from the rest during the course of the interviews is IBEC. The HR professionals who took part in this study agree that the advice and support provided by IBEC, is of particular importance to them. In the words of one HR manager "*IBEC are brilliant*". This is particularly the case in firms where HR professionals are operating on their own, without any other internal HRM supports. IBEC provides HR professionals with a representative, based in the West of Ireland, who is available when required to discuss issues which arise in the workplace. In addition, salary surveys, handbooks, and legal advice are regularly and openly shared with members. "*I would have their handbook as my third arm*", commented one HR manager. Another HR manager added that "*the legislation is such a minefield now and it keeps changing so much. They [IBEC] bring out their guidelines on each piece of legislation so you don't have to trawl through the actual law. You can just refer to their guidelines and advice on various issues*". This research suggests that IBEC is an invaluable, and indeed vital support, to HR professionals in the medical technology sector.

5.3.2 FULL SCALE HRM OUTSOURCING NOT BEING PURSUED

There was no evidence of full scale HRM outsourcing. This may be explained by the fact that the majority of firms are small in size, with seven out of the eleven firms employing 100 people or less, and that there is only one HR professional in five of the firms. However, outsourcing is not being pursued within larger firms that took part in this research either. It has a negative image according to one HR manager: "*I think it's*

[outsourcing] terrible myself. HR people generally would not agree with it. When you're a HR person you see the value of sitting somebody down and having the chat. But it's not always 'the nice to do'. But of course costs are obviously number one, and if it's going to be a cheaper way of operating it's going to be hard to dispute it".

With the exception of one firm mentioned above, which does not have a HR function and has outsourced recruitment and induction, the strategy preferred by firms is to employ a combination of outsourcing and in-house HRM. Outsourcing HRM activities to external agencies is driven by business need when internal resources are insufficient to meet the demands of the organisation. For example, firms regularly use external training providers to address skill shortages, and another firm employed a HR consultant to help them attain certain accreditations.

5.4 HRM POLICIES AND PRACTICES

Becker and Gerhart (1996) once argued that best practice in HRM should be industry specific. Respondents in this study did not feel there was a specific combination or 'bundle' of practices that work well within the sector. *"I think it's across the board to be quite honest. HR is one of those generic disciplines that if you have best practice it doesn't matter what your industry is"*, commented one HR manager in a long established MNC firm. Certain practices are customised for the sector. For example, some respondents pointed to the need to customise training due to the regulated nature of the sector. Nonetheless, as one respondent observed: *"It's really about selling it to the people and developing the business case for it and just getting people to see that it's the way to go. I think its something that can be transferred across all industries without a shadow of a doubt"*.

There is a strong degree of 'internal fit', or coherence, between many HRM practices in firms. For example, internal promotions are common in the sector. This is achieved by significant investment in training and development, and the use of performance management systems which are commonly used to identify opportunities for employee growth. The following is a discussion on the HRM policies and practices in the areas of change management, organisational culture, flexible work arrangements, workforce diversity, recruitment, training and development, and performance management.

5.4.1 THE ROLE OF HR IN CHANGE MANAGEMENT

As discussed in Chapter 2, change management is a critical policy area for managers and HR professionals, because successful firms respond to both anticipated and unanticipated change faster than competitors (Ulrich, 1997). Nonetheless, as identified in Chapter 2, research indicates that when it comes to the role of change agent, HR professionals do not score so well (CIPD, 2003; Peretti 1998, cited in Cerdin and Peretti, 2001). This research corroborates these findings. The HR function in firms that took part in this study does not appear to be driving change nor does it play a major role in change initiatives. HR professionals operate instead either as spectators or facilitators of workplace change. For instance, one HR manager noted the HR function's contribution to change initiatives involved sourcing new applicants. Another HR manager commented that her involvement in change initiatives involved taking on the role of project champion to remove "roadblocks" for teams introducing change. Another respondent commented that change initiatives were the concern of production and that the HR function had little or no involvement.

As highlighted in Chapter 1, the capacity to innovate is vital for the future sustainability of firms in Ireland, yet research indicates employees in Ireland do not feel encouraged to make improvements or be creative (Green, 2007; Mercer, 2006). HRM practices in this study do not appear to be geared towards driving innovation, even Lean manufacturing. Instead, the HR function, in many firms, is concerned with employee training and development, complying with legislation and monitoring HRM performance metrics such as employee absenteeism and turnover. Only one of the respondents mentioned operating a "best ideas" programme encouraging employees to make improvements. This firm will be discussed in further detail on Chapter 6.

5.4.2 THE IMPORTANCE OF ORGANISATIONAL CULTURE

Low unemployment in Ireland in recent years and the large presence of medical technology firms in the West of Ireland has meant that, employee retention has previously been a key concern in the sector (Harvey, 2001). Harvey also drew attention to the significant movement of personnel between firms in the sector, especially among the direct workforce.

This research shows that the movement of people between firms persists. One HR manager noted: "*there's an idea there that there's a verbal agreement between firms*

[not to hire applicants from other medical technology firms], but there isn't". Unlike in 2001 however, employee retention is not seen as a major issue, perhaps as result of the increasing unemployment levels in recent times. Participating firms accept that a certain level of attrition is inevitable given the cluster of medical technology firms in the region, and as noted by one HR manager: *"Fresh blood is good. We have not been sorry to say good bye to employees and it has given us the chance to hire the people that are working here at the moment that are much more suited to what we need."* Nonetheless, it is estimated the average cost of losing an employee is 150% of their departing salary (Flood, 2007), and firms do not want to lose talented employees. Therefore, it is of interest to HR professionals to maintain acceptable employee turnover levels.

According to the SFA in Ireland, organisational culture plays a key role in employee retention (SFA, 2007). Research into organisational culture indicates there is a positive link between culture and firm performance. Brockbank and Ulrich (2003, quoted in Ulrich and Brockbank, 2005) found that "the HR agenda with the greatest impact on business performance is a culture-based HR strategy" (p. 151). Morley *et al.* (2004) point to the fact that firms, where employees identify with organisational culture, are inclined to benefit from a more enjoyable work environment, which in turn boosts morale.

It was evident from the interviews that management in the medical technology sector is aware of the importance of establishing and harnessing organisational culture. Having a strong employee development ethic is seen as a cultural concept critical to retaining talent. This involves investment in business-related training, providing a clear career path for employees, having a robust performance management system which includes regular reviews and identification of competency gaps, and promoting people internally.

Promoting employees is seen as a critical component of the development ethic, according to respondents. For example, the HR manager in one of the MNCs highlighted the fact that 52% of all support roles were filled from the operator pool in 2007. In addition, she noted that most members of the current senior management team were initially hired either as graduates or at the very lowest level of the organisational structure. The HR manager in one of the Irish-owned firms articulates

it thus: *“I think that if you are promoting internally and giving people chances that its far better than going externally and then you could advertise for the lower position and you’re keeping your staff here and happy”*.

Although not specifically addressed in the questionnaire, communication emerged as an important factor in nurturing organisational culture. Respondents noted the importance of having strong leadership from the most senior manager on site through regular communication sessions; offering employees opportunities to provide feedback and contribute to firm performance; and operating an ‘open door policy’. As articulated by one HR manager: *“Culture would be hugely important. Do we have an open door policy? I’d like to think we do. We all mix, we all meet, we do all the usual communications that you do, we all go to the canteen together, and we go out together.”*

5.4.3 ADDRESSING WORK-LIFE BALANCE THROUGH FLEXIBLE WORK ARRANGEMENTS

As discussed in Chapter 2, work-life conflicts can negatively impact productivity, and thus firm performance. Flexible work arrangements such as flexi-time and part-time work can alleviate pressure on employees (ESRI, 2007c). In line with recent research (Gunnigle *et. al.*, 2007), the use of atypical forms of employment is low, with three firms reporting they employ part-time workers and only two firms identifying the use of job-sharing. The most common flexible work practice used is flexi-time with six of the firms offering flexible start and finish times for employees.

Addressing work-life balance issues is the main reason for introducing flexi-time, as noted by one HR manager: *“At the exit stage people were saying ‘well guys we’re on calls with the US at six and seven in the evening and you want us in here at eight the next morning, sorry but I want to go to a company where there is a bit of flexibility’. It’s around work-life balance; it’s around attracting people and being an employer of choice”*. Another recent set-up was in the process of introducing a pilot flexi-time scheme for in-direct employees: *“they [employees] are absolutely thrilled and that’s because they saw we’re trying to do something about work-life balance. We’re trialling it for 3 months. We have gone that way with our production team, beginning of last year”*. From a business performance perspective, being responsive to employees needs pays off, according to interviewees. Firms that have introduced

flexible work practices noted increased employee satisfaction, increased employee retention and increased cost savings as a result.

However, it must be noted that, the diffusion of flexible work practices across the different occupational groups varies greatly between firms. A number of firms extend flexible working arrangements to all employees, while other firms reserve flexible work practices for a few members of staff. Balancing business need with employee needs was identified as the main barrier to introducing flexible work practices. For example, one MNC firm offers flexi-time to all indirect employees, but does not extend flexible work arrangements to direct employees. The HR generalist noted that it was not possible for direct employees due to the nature of the work steps involved.

Firm size can dictate the manner in which people are managed and the HRM practices used (Buckley and Enderwick, 1985, cited in Gunnigle *et. al.*, 2007). Some of the respondents in the smaller firms noted that it was not feasible in smaller organisations to have employees off-site as it would negatively impact firm performance: *“I think its easier to accommodate working from home in a bigger organisation, here if they ring in and say can I speak to the Quality manager, he is the only Quality manager, but again its something we possibly could look at as we grow”*, commented a HR manager in a firm which employs less than 50 people. It appears that, while firms are making progress in terms of offering more flexible forms of working, there still remains a long way to go.

5.4.4 THE INCREASING IMPORTANCE OF MANAGING WORKFORCE DIVERSITY

As highlighted in Chapter 2, the increase in workforce diversity has been significant and swift in Ireland in recent years, initially through the increase in female participation in the workforce and more recently through inward migration (CSO, 2008; LRC, 2008). Nine out of the eleven firms which took part in this research identified the increase in immigrant workers as the most significant workforce composition shift in recent times. Figures reported include: 40% of the workforce in one firm is made up of immigrant workers; up to 20% of the workforce in two other firms is made up of immigrant workers; while one firm employs 46 different nationalities.

In general, the increase in immigrant participation in the workforce has been a positive experience from a firm performance perspective. Immigrant workers are highly educated and form a key component of the succession plan, and many firms reported promoting immigrant workers: “*Quite a lot of our promotions internally are from non-nationals...they’re actually highly qualified*” said one HR manager.

Nonetheless, cultural differences present workplace challenges that require a different HRM response. One HR manager commented that the diverse set of customs and values immigrant workers bring “*has definitely changed the way we do things*”. She gave examples of workplace challenges such as supervisors refusing immigrant workers holidays, unaware that it was the equivalent of their Christmas day; or supervisors and HR generalists complaining that people from certain countries would not look them in the eye, unaware that this is a form of disrespect in their home countries. This firm had rolled out a Diversity Programme addressing workplace challenges as a result of these issues.

The HR generalist in another firm commented that due to the high presence of immigrant workers in manufacturing, English was no longer the most commonly spoken language and this was causing friction amongst English speaking colleagues on production lines. Translating policy documents and collaborating with the state’s training and employment agency, Foras Áiseanna Saothar (FÁS), to fund English classes for immigrant workers were among the practices adopted to address barriers to effective communication. Another HR manager noted that, she screens applicants to ensure language barrier issues do not negatively impact production: “*Well you see we would only take people with good English because we have so much reading of [specifications] and so much training. We do screen quite thoroughly*”. It seems management in medical technology firms which took part in this study recognises that managing diversity is critical to recruit and retain the best talent and maintain competitiveness.

5.4.5 RECRUITMENT

Recruiting top talent is one of the main objectives of the HR function reported in this study (training and development is the other, see section 5.4.6 below). Contrary to previous research findings (SFA, 2008a; CIPD, 2004; Harvey, 2001), the majority of firms reported having no issues attracting applicants. This is nowhere more apparent

than in one firm which hired 150 employees in the twelve months preceding the interview. There appears to be a readily available, educated workforce in the region, with many firms reporting receiving cold applications on a regular basis. Some respondents noted that recent lay-offs in other firms in the sector had led to increased availability of qualified human resources.

Only two of the firms reported issues finding suitable applicants. Difficulties were confined to attracting highly qualified applicants in specific disciplines such as quality and regulatory or engineering. Both managers commented that this development was less than two years old and that there appeared to be a shrinking pool of talented people in these specific disciplines. The HRM practices used to overcome these obstacles were large sign-on bonuses and the use of individual search consultants.

Previous research, considered in Chapter 2, noted that larger firms, those employing over 250 employees, outperformed smaller firms when attracting and retaining talented people (Hiltrop, 1999). Conversely in this study, being small, relative to a number of larger firms (more than 500 employees) in the sector, is positively associated with attracting and retaining good people, according to interviewees. For example, the HR manager in a firm with less than 30 employees noted: *"I think it [small firm] appeals to some people. In the bigger company you could be a senior engineer but very often you could be a number. Whereas here, if you're a senior engineer you're making decisions, you'll see your decisions going out into the field, and people get a kick out of that. So that can be a big motivating factor for people"*. The HR manager in another firm with less than 30 employees added: *"Well the smarter ones realise its [small firm] the best way to see how business operates and have your name made for yourself and management to see what you're capable of instead of just being a number"*.

Guest's (1987) goal of quality of work, which includes being seen as a good employer, to enable the recruitment and development of the best talent, plays an important role for the larger firms which participated in the study. The reputation of the firm is an important factor when attracting applicants, as the HR manager in one of the larger firms noted: *"up to 2 years ago, probably yes [had difficulties attracting applicants] because we were a little bit unknown. Now we're a success story and it*

attracts candidates". Consequently, for larger firms, promoting a positive public image is an important aspect of HRM.

5.4.6 TRAINING AND DEVELOPMENT

Chapter 2 highlighted the fact that firm size has been shown to have a significant impact on workplace training. Smaller firms have fewer resources to spend on training and therefore train less than larger firms, and allowing employees leave their jobs to engage in training has a more profound impact on firm performance in smaller firms as there is no one to replace absent employees (SFA, 2008b; Kavanagh and Doyle, 2007). Given that nine out of eleven of the firms that participated in the study employ 200 employees or less, and seven out of those nine firms employ less than 100 employees, it might be expected that the level of training and development would be equally low.

It was apparent from the interviews that all firms, regardless of whether they employed 50 or 500 employees, are aware of the importance of investing in training and development. Seven of the respondents identified developing employees as one of the main objectives for the HR function (recruiting top talent was the other main objective as noted in section 5.4.5 above). Indeed, there is a great need to up-skill and develop employees in the sector due to the high level of internal promotions, as noted in section 5.4.2 above.

Nearly all firms have a formal training plan, driven by the HR function in larger firms and by Quality or Operations in smaller firms. Training is being pursued on a regular basis for employees. The most commonly cited drivers for training were:

- Innovations in the workplace. For example new products, new procedures or new processes, such as Lean manufacturing
- The performance management system. This is used to provide a platform for employees and management to address competency gaps and identify training and development requirements such as soft-skills training, or management developmental training for employees identified for promotion
- Workforce flexibility. Providing cross functional training is common among the direct workforce. One firm has developed a cross-functional training programme for all in-direct employees: "*we've created business modules for*

different functions like for supply chain, finance, IT. Each functional head from that department delivers that training. Everyone then has knowledge of each function and how it all works and how it all ties in together” said the HR generalist.

- Increased employee awareness. One firm invites key customers to train employees “*to give them [employees] a better understanding of why quality so is important*”. Other firms invite patients, who have benefited from the firm’s products, to speak at employee communication sessions.

All of this is in contrast with recent data, presented in Chapter 2, which suggests that only 11% of working adults in Ireland take part in job-related continuing education and training (Roche, 2007).

5.4.7 WIDESPREAD USE OF PERFORMANCE MANAGEMENT

The final HRM policy area covered in this research is in relation to performance management and reward systems. There is widespread use of performance management in the medical technology sector. It is operationalised through an annual review, although some of the smaller firms carry out reviews on a more regular basis, monthly or quarterly. In general, the line manager is seen as the key to a good performance management system. Managers who reward good performers and are not afraid to challenge or cull poor performers, give employees the necessary tools to carry-out their roles and are involved throughout the entire cycle from filling out the form at the beginning of the year to communicating salary increases at year end.

Nine out of eleven firms in this study pay for performance. The most common measure used to determine pay increases is individual performance with six of the firms using this method. Variations outside this include two firms which reward employees based on a combination of team performance and individual performance, and one other firm which rewards employees based on a combination of overall firm performance and individual performance. The two firms that did not pay for performance pointed out that they had plans to do so in 2008. Consistent with previous research (Gunnigle *et. al.*, 2003), nearly all firms noted awarding increases above national pay agreements.

In general, basic pay is determined in line with local sector comparators. One cluster of firms in one of the industrial estates openly share wage and salary scales and compensate employees accordingly. Consequently, pay levels are comparable across the firms that participated in this study, with any variations in pay outside the average depending on performance. Salary surveys provided by IBEC, Watson and Wyatt, and Mercer are also commonly used, either in conjunction with sector rates or on their own merit.

5.5 CONCLUSIONS

HRM continues to grow in importance in the medical technology sector. Ten out of the eleven firms which participated in this research have a HR function and the HR headcount ratio in firms compares favourably with international research. However, the HR function in a number of firms appears to play more of an administrative than strategic role. HR professionals do not play a leading role in workplace change initiatives.

HR professionals draw on a number of external organisations in day-to-day operations. IBEC emerged as the most important of those, with respondents noting the support and advice provided by IBEC being invaluable to them. Contrary to recent trends, full scale outsourcing of the HR function is not being pursued by firms which took part in this study. The use of external agencies is instead, driven by business need.

Firms in the medical technology sector recognise the need to recruit and develop the best talent in order to remain competitive. Indeed, having a strong employee development ethic is the foundation on which workplace culture is built in the sector. Given the movement of people between firms, return on investment in training and development can be somewhat risky in the sector, nonetheless it seems to be a risk firms are willing to take. Management realises that in order to retain talented people they must be developed and be seen to be progressing their careers.

Work-life balance policies and practices are gaining momentum within the sector, as employees struggle to balance work and personal responsibilities. Firm size and occupational group have a significant impact on the deployment and uptake of flexible work arrangements.

Managing workforce diversity has emerged as a key policy area for HRM in medical technology firms in Galway in recent years. This is driven by the sharp and fast increase in immigrant workers in the workplace. HRM practices being adopted include workplace diversity programmes and the provision of English language classes.

Given that teamwork is associated with innovation and innovation is vital for the future sustainability of firms in Ireland, it was somewhat surprising that only two firms reported rewarding employees based on an equal distribution of team and individual performance. Firms using performance related pay continue to pay for individual performance.

The next chapter examines HRM practices at one of the eleven firms which took part in this study. The firm is a high-performing Irish-owned firm which was chosen for further analysis because of its growth in recent years and the level of HRM at the firm. The main aim was to gain further insights into the link between HRM and high performance.

CHAPTER 6: FURTHER ANALYSIS OF HIGH-PERFORMING FIRM

6.1 INTRODUCTION

The previous two chapters presented the research findings from the survey of eleven medical technology firms based in Galway. This chapter is an account of how one of those firms, firm J, manages its human resources. Firm J is a high-performing firm and was chosen from the sample due to the advanced level of HRM adopted. Firm J has developed an employment relationship through a coherent set of HRM policies and practices that, unlike those in other firms in the study, do not distinguish between direct and indirect employees. The HR manager granted access for further analysis and validated the findings presented in this chapter.

6.2 BACKGROUND DETAILS

Firm J's story is one of growth and transformation. Although operating in Galway since 1980, the firm is new to the medical technology sector in the last decade. The firm has transformed itself from a supplier of components in the electronics sector experiencing turmoil at the turn of the millennium, to a firm which has established itself as a leading supplier of innovative products, technologies and services to medical technology firms worldwide, including the four US-owned firms which dominate the sector globally.

Revenue has grown by an average of 24% per annum over the past five years (2003-2008) and the firm is ranked amongst the fastest growing technology firms in Ireland. Employment has grown by over 150% since 2005, with a further forty open requisitions in March 2008. Staff turnover for 2007 was 7.2%, while absenteeism is below national averages ranging between 2% and 3%, and can be as low as 1.5%. The market share, market position and recent growth at the firm indicate a high commitment to producing quality products, services and technologies.

6.3 THE HR FUNCTION

Firm J has a total workforce of 480 and employs four people in the HR function; the HR manager, one recruitment specialist and two in HR support. While headcount in the HR function has grown in recent years, the HR headcount ratio is lower than the majority of other firms which took part in the survey, with one HR professional for every 120 employees. The strategy pursued was to hire junior personnel, develop

them and let them grow with the firm. The HR manager explained that “*because the organisation was relatively small at the time, junior people was all that was required to support the organisation. As the organisation grew, so also did the HR personnel’s experience and responsibility*”.

Measuring the impact of HRM on firm performance is delivered through the HRM key performance indicator (KPI). The HRM KPI consists of a number of sub-KPIs which are either “leading” or “lagging” KPIs, as depicted in figure 15 below. The leading KPIs are proactive and track items such as the effectiveness of training and development, the percentage of training and development completed on time, performance reviews completed on time, levels of cross training, formal communication completed on time, and feedback through formal communication. The leading KPIs are ‘*a good indication*’ of how effective HRM policies are at the firm. According to the HR manager: “*if performance reviews are behind or training and development is not effective, particularly technical people, if you’re not developing technical people, you have to make them marketable, the day you stop making them marketable, they’ll move. I know it’s a catch 22 because they could easily go but that’s the challenge*”. Interestingly, given the level of organic growth at the firm in recent years, the level of innovation is not included in the HRM KPI. The HR manager commented when asked that “*maybe we should*”.

Leading KPIs	Lagging KPIs
Effectiveness of training and development	Absenteeism Levels
Percentage of training and development completed on time	
Performance reviews completed on time	Exit interview ratings
Levels of cross training	
Formal communication completed on time	Employee Turnover
Feedback through formal communication	

Figure 15 Key Performance Indicators at Firm J

The lagging KPIs are fewer in number, tracking metrics such as absenteeism, turnover and exit interview ratings. In the words of the HR manager “*the damage is done at that stage*”.

6.4 THE HRM FRAMEWORK AT FIRM J

The model of the HRM framework at firm J, presented in figure 16 below, has been developed by the researcher to illustrate best practice HRM in a high-performing firm.

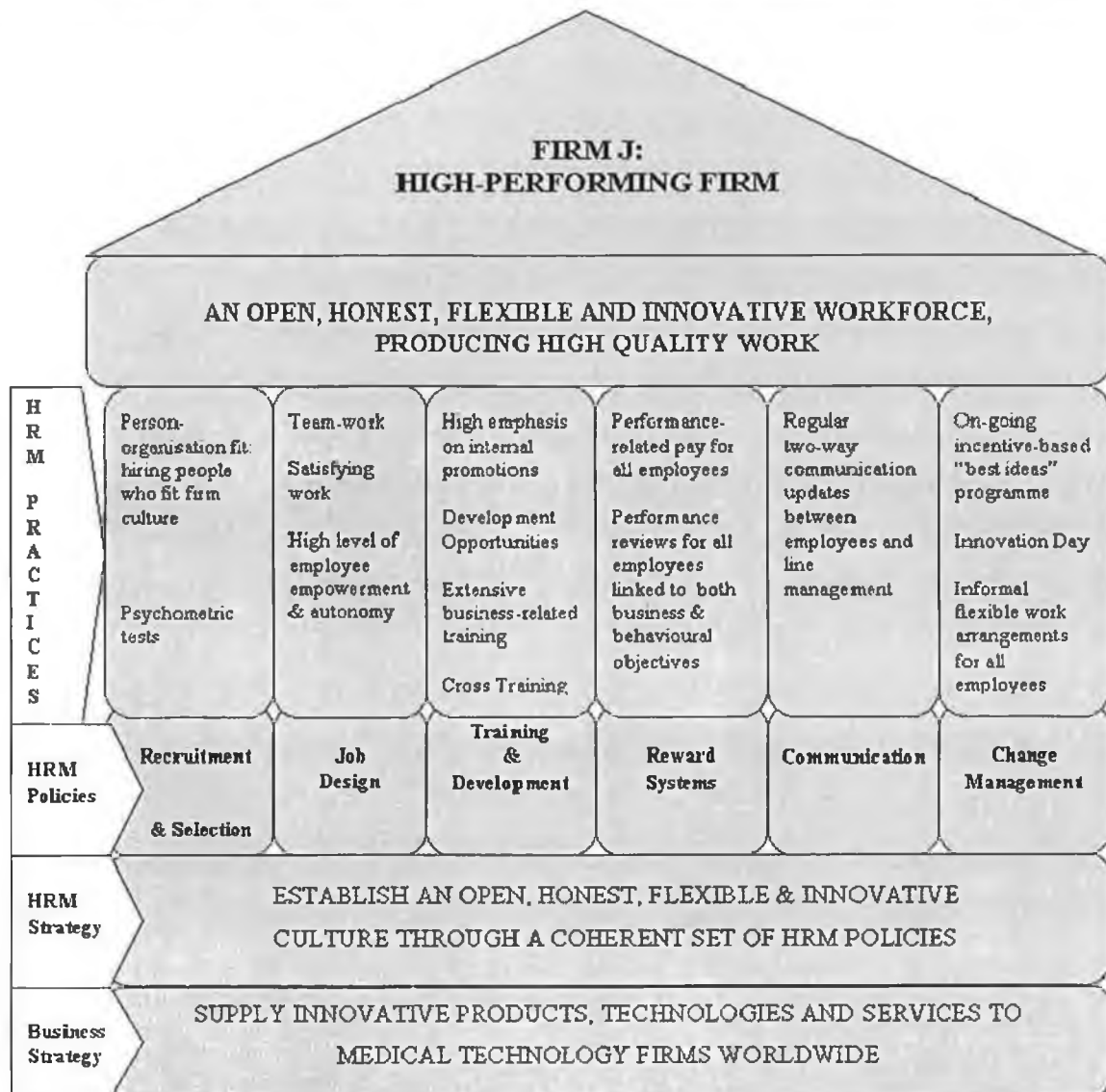


Figure 16 The HRM Framework at Firm J

In Chapter 2, this study adopted the view that a high degree of internal fit, or a coherent set of HRM policies and practices, and a high level of external fit between HRM strategy, business strategy and other functional strategies, result in superior firm performance. This research is consistent with this view, as outlined next.

Using Osterman's (1994) classification of business strategy outlined in Chapter 2, firm J competes based on a high road strategy, supplying a specific product to a 'niche' market. The growth the firm has achieved in recent years indicates this has been a successful strategy. Aligning HRM strategy with business strategy is critical

when adopting a differentiation strategy, as it requires an innovative, skilled, knowledgeable and flexible workforce (Horgan and Muhlau, 2003; Osterman, 1994). There is clear evidence of this at firm J.

Gratton and Ghoshal (2005) found that high-performing firms adopt a combination of industry best practice and internally developed 'signature processes' which represent the 'values and aspirations' of management. It could be argued that 'signature processes' exist at firm J. Described in a customer survey as being open, honest, flexible and innovative, management decided to capture these four values as their organisational goals. The HRM strategy pursued is to establish and harness an organisational culture that reflects these four goals. This is achieved through the deployment of a coherent set of HRM practices, across the various HRM policy areas proposed by Guest (1987), outlined in Chapter 2.

Unlike many of the other firms which participated in the survey, HRM policies are applied across the entire workforce at firm J. HRM practices such as performance management, performance related pay, and flexible work arrangements are extended to all members of the workforce. The HR manager noted that: "*We hire people to do a job, we have start and finish times of 9-5, but if someone comes in and says 'I have a problem for the next two months do you mind if I start at ten?' No problem.*" HRM practices at firm J, in each of the six policy areas, are discussed next.

6.4.1 RECRUITMENT AND SELECTION

As noted earlier, employment at firm J has grown significantly in recent years. Attracting applicants has not been an issue for the firm. As highlighted in Chapter 5, pay scales are openly shared in the medical technology sector with most firms positioning themselves in the fiftieth percentile. Pay at firm J is equivalent to the industry average which would indicate people are not being attracted to the firm for better pay. Indeed, until recently, pay for the direct workforce was below the sector average. According to the HR manager good people are attracted to a growing firm because they see opportunities to grow and develop their own careers. It is the reputation the firm has built up as a result of its success in recent years that has positioned it as an employer of choice in Galway.

The primary selection criterion used at firm J is that proposed by the person-organisation fit literature outlined in the literature review in Chapter 2. Selecting applicants with similar characteristics to the organisational goals of openness, honesty, flexibility and innovation is critical to building an organisational culture based on these goals. Indeed, the HR manager commented that people from less flexible workplace environment, such as those from unionised backgrounds, generally do not apply for positions at the firm. The HR manager explained the process thus: *“are they [applicants] the right culture fit? What are their values? That is the bigger part of the interview as far as we’re concerned. Even though it is difficult to get technical people, we will not hire them unless they are the right culture fit”*.

Due to the fact that the primary selection criterion is culture related, a management team that actively supports and promotes this culture is vital. Therefore, psychometric tests are used as a selection aid for recruitment to managerial positions: *“It [psychometric testing] won't help you make a decision, but it helps you probe the right questions at interview”* said the HR manager.

As a result of the emphasis placed on achieving person-organisation fit, management is willing to leave key positions vacant rather than run the risk of hiring people who will not fit the culture of openness, honesty, flexibility and innovation, it wants to nurture. For instance, a requisition for production manager remained open for a number of months because *“we had lots of technically skilled applicants. But finding the one with the right culture fit is not easy!”* People who can demonstrate at interview some or all of the four organisational goals are more valuable than people with extensive experience who do not espouse these values.

6.4.2 JOB DESIGN

As highlighted in Chapter 1, employee empowerment and team working are essential components for encouraging innovation in the workplace. Along with the majority of other firms, firm J has introduced Lean manufacturing and cell-based manufacturing, which brings both equipment and people together, and is therefore associated with team working.

When asked if employees had the autonomy to deal with quality or process issues as they arise rather than stopping the line to seek specialist assistance, the HR manager

responded: *“There is, in fact nearly too much. People feel they have the authority to go beyond the bounds of their own capabilities...One thing we don’t do, is that while everyone has a job and there’s a job description, we don’t put boundaries on people’s jobs, if people want or have the capability to take on extra then fine, there’s no ceiling on anybody’s job.”* Management believes employees are committed to doing a good job and therefore there is a high degree of employee empowerment and autonomy, allowing for speedy resolution of issues and quick decision making, essential tenets of HRM.

6.4.3 EMPLOYEE DEVELOPMENT

Employee development is regarded as the single most critical tool to retaining good talent at firm J. Keeping pace with the firm’s aggressive growth plans has meant that employee development is also the biggest challenge facing the HR function. According to the HR manager, *“within a growing organisation my biggest challenge is to be growing people as fast as the organisation. I mean, every time that I have to bring somebody in externally to fill a position means we haven’t developed somebody internally fast enough”*.

The objectives of employee development are twofold. Firstly, in a firm with aggressive growth plans it is essential that the future leaders of the business are developed. As identified in Chapter 2, internal promotions are an important aspect of employee development and have been shown to improve business performance as they are more cost-effective than hiring from the external labour market, and have a positive impact on employee morale, commitment and job security. The HR manager places a high premium on promoting from within: *“If we have the people that demonstrate growth potential, we put them on a development path exposing them to new situations and experiences. Yes it’s healthy to bring in external talent, but where we can, we promote internally. All our team leaders, 16 or 17, have all been promoted internally”*. This is accomplished by operating a formal training and development plan, which is reviewed, assessed and audited, to ensure that each line manager *“sits with their people every six months, preferably every three months. And we give them a little shopping list, development is not just classroom training, it’s if somebody is poor at communication or can’t do a presentation”*, said the HR

Manager. Extensive business related training is pursued for both direct and indirect employees.

Secondly, developing people to their full potential helps fulfil the organisational goals by ensuring the retention of a skilled, motivated, committed and innovative workforce as summed up by the HR manager: *“The main thing is that people are being developed. If you make people marketable and continue to make them marketable they’ll stay with you. If they’re not growing and developing the chances are they’ll move. The day you stop doing it [employee development] they’re gone. At the end of the day it’s down to fundamentals, why do people leave? It’s primarily through their manager or they’re not getting developed.”*

6.4.4 PERFORMANCE MANAGEMENT AND REWARD SYSTEMS

Each employee at firm J, direct and indirect, is covered by the performance management system. Although this is time consuming, given that there is a workforce of 480, the HR manager’s previous experience in the ICT sector tells him, it is critical to extend performance management to the entire workforce: *“there’s a big difference between meeting someone in the corridor and telling them you’re doing a great job, and writing down I value your contribution and its going on record and its signed by them”*.

Interestingly, given the emphasis placed on innovation in the workplace and the link between innovation and team work in the medical technology sector (Green, 2007), performance measures are based on individual performance as opposed to team performance. Measures of performance are linked to both business and behavioural objectives. In addition to business objectives, the four organisational goals of openness, honesty, flexibility and innovation are included for evaluation in the performance review process where employees are asked to demonstrate where they have been innovative, open, etc.

The performance review was being further enhanced for all managers at the firm. In addition to being measured on their business and behavioural objectives, managers’ direct reports will also measure them in terms of direction, competence, opportunity and motivation. *“Its not enough to achieve your goals or KPIs, but you must also have*

achieved your goals demonstrating the behaviour that is supportive of the values and behaviours of the firm”, said the HR manger.

As a result of conducting performance reviews with all members of the workforce, all employees receive performance related pay, albeit limited in scale. *“It’s right across all levels of the organisation, which is challenging to manage. Every individual is paid with a scale based on their own individual performance.”*

Recognition is also a key element of the reward strategy. Recognition that good performance pays off is done through the level of internal promotions mentioned above. Employees are encouraged through reward and recognition practices to participate and become involved, voicing their ideas and honest opinions. For example, there is an on-going ‘Best Ideas Programme’, encouraging employees to make suggestions for improvements, driving innovation in day-to-day operations. The best three ideas each month are chosen and employees receive a nominal prize.

6.4.5 COMMUNICATION

Along with employee empowerment and team-working discussed above, communication is also an essential component for encouraging innovation in the workplace. Exit interviews analysis, conducted two years prior to the research, indicated that one aspect where the firm was performing poorly was in relation to employee communication. This led the firm to introduce a regular two-way communication process between line managers and employees.

Communication practices form a key component of the HRM KPI. The HR manager added: *“We now measure: did every manager have a formal communication with their people? Were there issues that came up? And if there was no feedback at the communication, you question how effective the communication was.”* Regular formal communication between line management and the workforce ensures employees are equipped to take decisions.

6.4.6 CHANGE MANAGEMENT

As highlighted in Chapter 2, managing organisational change requires an adaptable and flexible workforce. Change management appears to be an on-going process at firm J and management is aware that it is important to manage change effectively to grow the business. Through a coherent set of HRM practices discussed above,

including a high emphasis on employee training and development, direct and frequent formal communication with employees, reward and recognition strategies that promote idea generation, managing change is a holistic approach at firm J, as suggested in the discussion on change management in the literature review in Chapter 2. As a result, the HR manager stated the firm was “*extremely flexible and people are open to change. There is no resistance to change whatsoever. Well you won’t survive here if you’re comfortable in your comfort zone*”.

6.5 INNOVATION AT FIRM J

Management at firm J recognises the role that innovation plays in the firm’s success. In Chapter 2, creating the right culture was highlighted as essential for promoting innovation in the workplace. The discussion above, on the various HRM policy areas and practices used in firm J, including regular two-way communication, employee empowerment, and reward and recognition systems, form a key part of creating a culture which promotes innovation. Creating and nurturing the right culture is nowhere more apparent in firm J than in relation to new business.

6.5.1 INNOVATION AND NEW BUSINESS

Lester (2007) identified two kinds of innovation. ‘Analytical’ innovation, or problem-solving projects which have a clear end-point, and ‘interpretive’ innovation, which is characterised by an open-ended process which thrives on ambiguity and allows firms develop an instinct for what customers want. To quote Lester “often the most creative ideas or insights come out of an open-ended conversation between people. Companies that want to be innovative have to make room for this [interpretive innovation] and reward people who are good at it” (Irish Independent, 2007b). To be innovative, firms need both aspects. While analytical innovation is commonly found in firms, allowing for interpretative innovation is difficult due to cost and competitive pressures.

The HR manager highlighted the interpretive innovation aspect was present at firm J. Emerging business is developed and managed in the Innovation Centre, which was created to give new product and process innovation more focus. The Innovation Centre operates independently from day-to-day operations and comprises two groups. One group works on prototypes and new opportunities, conforming to the analytical innovation model. The other group is employed to take ‘*greenfield brainstorming*

ideas and transfer them into a business plan', corresponding to the interpretive innovation model proposed by Lester.

The premise behind the Innovation Centre is that the firm will be best in class and ahead of the competition. Innovation and customer intimacy have been promoted for a number of years (IMDA, 2008; O'Dowd, McQuade and Murphy, 2003). It stresses the importance of close collaboration between Irish based firms and their customer base, especially during product development and product launch. Customer intimacy is a key part of innovation at firm J, as noted by the HR manager: "*a large percentage of our customers would see us as partners*".

The goal for the interpretive innovation team is to anticipate future customer requirements, for example by creating new ways of processing raw materials, and approach customers with new concepts. The HR manager commented that: "*we're not foolish enough to go off and create something, we'd be touching base with our customers all the time and when we think of an idea we'd go to our customers and say 'what do you think'?*" Once the new idea or concept is agreed between firm J and customers, the analytical innovation team then collaborates further with customers by transferring concepts into solutions that are valuable to customers, thus creating new business opportunities for firm J. Given the market position of the firm and catalogue of achievements the centre has produced, this appears to be a successful strategy. For instance, a recent product launch, taking an existing product and changing the processing of the raw material, has become market leader.

Using the RBV of the firm discussed in Chapter 2, it might be presumed that this group of employees would represent a distinct source of competitive advantage, and therefore would be managed and rewarded differently to other groups in the organisation. The HR manager commented however, that HRM practices used to manage and motivate this team do not differ in any way from the remainder of the workforce. The organisational goals of openness, honesty, flexibility and innovation are pursued using the same HRM practices identified earlier in this chapter. Idea generation is rewarded according to the same guidelines as production employees; communication between team leaders and team members in the Innovation Centre take the same format, and the same emphasis is placed on employee training and development.

6.5.2 INNOVATION AND CURRENT BUSINESS

As noted earlier, an ‘Innovation Day’ was held at the firm two years prior to the interviews. All day-to-day activities at the firm were stopped and “*everybody in the place went into small little workshops and the whole day was spent with coming up with innovative ideas and all those ideas were captured and implemented over the year*”. The ‘Innovation Day’ has not been repeated at the firm, indicating that management is prepared to adapt. On-going idea generation, through the ‘Best Ideas Programme’ mentioned above, and process improvements, through the Process Excellence team whose focus is “*constantly driving excellence through our current processes*”, is more prolific.

As mentioned earlier, Lean manufacturing has been adopted at firm J. Implementing Lean principles and eliminating waste are critical for competitiveness within the sector, as noted by the HR manager: “*unless we start driving lean principles and try and eliminate waste we won’t compete*”. While the business benefits of Lean manufacturing have been lauded, it has also been shown that aspects of Lean such as single lot production with no buffer stock can lead to constant pressure on employees and can therefore result in higher rates of employee turnover (Winfield, 1994). This is not apparent in the employee turnover metrics reported by firm J.

6.6 CONCLUSIONS

Firm J follows a high road business strategy, supplying innovative products, services and technologies to the medical technology sector. This requires a flexible, innovative, knowledgeable and committed workforce, which produces consistently high levels of quality output. This is achieved through the HRM strategy, aligned with the business strategy, which seeks to establish and nurture an open, honest, flexible and innovative workplace.

The HRM strategy is realised through the deployment of a specific bundle of coherent HRM practices. This involves:

- Recruiting and selecting human resources who are a good cultural fit. In other words, hiring people who have the propensity to be open, honest and flexible, and are willing to contribute to firm performance by generating new ideas

- Operating a work environment with a high level of employee empowerment and autonomy
- Placing a high premium on developing employees and offering internal promotional opportunities. This enables the firm identify the future leaders of the business and ensures that employees are performing to their full potential
- Recognising and rewarding adaptable and innovative human resources. This is achieved by extending performance related pay to each member of the 480 workforce, although it must be noted that performance increases are individually determined, and offering incentives for creative ideas such as the on-going 'Best Ideas Programme'
- Conducting and measuring regular two-way communication sessions between line management and employees to ensure effective communication at all levels of the organisation
- Nurturing an organisational culture which encourages innovation, both in generating new business by allowing what Lester (2007) termed 'interpretive innovation' space to emerge, encouraging employees to collaborate closely with customers, and driving excellence through current processes.

This research suggests that HRM is effective where conditions allow a committed and empowered workforce opportunities to grow and develop, such as within a growing, developing, high-performing firm. Nonetheless, care must be taken in the interpretation of the data. The findings in this research are based solely on interviews with the HR manager in firm J. There is no trade union at firm J to verify these results.

The next chapter will bring the thesis to conclusion, reflecting on the research findings, making recommendations for practice and considering future areas for research.

CHAPTER 7: CONCLUSIONS

7.1 INTRODUCTION

This study examined HRM practices in the medical technology sector in Galway. The medical technology sector represents an important source of employment, innovation and exports in the Irish economy. Given the significant role the sector plays in the economy of the West of Ireland, and in particular in Galway, any future scaling down of the sector will have a significant negative impact on employment levels and the economy of the region. Maintaining competitiveness in the sector is therefore critical.

Previous research indicated that the adoption of innovative work practices is common in the medical technology sector (Fitzgerald, 2007; Fitzgerald, O'Dowd, Harvey, 2007; Fitzgerald, O'Dowd, Harvey, 2006; Fitzgerald, 2005; Harvey, 2001). Through a series of qualitative interviews with HR professionals and senior management, this study sought to complement extant research, identifying HRM practices adopted by eleven medical technology firms in Galway in an effort to remain competitive. This chapter brings the research to a close, drawing conclusions from the literature review, re-visiting the research objectives listed at the beginning of this study, making recommendations for practice, and considering areas for future research.

7.2 OBJECTIVES RE-VISITED

The primary objectives of this research were to:

- Outline the nature of HRM in medical technology firms in Galway
- Document the HRM practices adopted by medical technology firms in Galway in an effort to remain competitive

The secondary objectives of this study aimed to:

- Highlight the drivers for change within the medical technology sector and identify the change initiatives adopted by firms in an effort to remain competitive
- Outline the future sustainability of the sector, as perceived by senior management in participating firms

7.2.1 OBJECTIVE 1: OUTLINE THE NATURE OF HRM IN MEDICAL TECHNOLOGY FIRMS IN GALWAY

The ultimate goal of HRM is to utilise people in order to improve the financial performance of the firm. Through the deployment of HRM practices, management seeks to impact on employee behaviour in a way that will positively impact the bottom line. The theoretical proposition states that an integrated, committed, flexible workforce, capable of producing high quality output will result in superior firm performance by reducing employee turnover and absenteeism, and increasing productivity, job-performance, innovation and cost-effectiveness (Guest, 1987). Although a relatively young discipline, there is a growing body of empirical evidence, both internationally and in the Irish context, which supports this theory (Pfeffer, 1994; Huselid, 1995; Becker and Gerhart, 1996; Ichniowski *et. al.*, 1997; Barraud-Didier and Guerrero, 2002; Flood *et. al.*, 2005; Wood, 2007; Flood, *et. al.*, 2008).

In Ireland, the most influential factors on HRM have been the attraction of MNCs and the prevalence of collective bargaining (Gunnigle, *et. al.*, 2006). Recent developments, such as the increase in workforce diversity and the need for work-life balance practices, are also having an impact on the employment relationship. Research has shown that HRM practices such as team working, employee empowerment, and effective change management have a significant impact on innovation in the workplace (Flood, *et. al.*, 2008; Green, 2007; Wood, 2007). Nonetheless, HRM adoption rates remain low in Ireland (Roche, 2007) and perhaps consequently, so do process and product innovation levels (ESRI, 2008). This could be to the detriment of Irish based firms, which have been losing competitiveness since 2000, as indications are that firms in Ireland will need to compete based on human resource attributes, such as knowledge, skill and innovative ideas, in the future.

Consistent with previous research carried out in the sector (Harvey, 2001; Fitzgerald, 2007), this research suggests there is widespread use of HRM in medical technology firms. There was little difference reported between foreign-owned versus Irish-owned firms. This could be attributed to the fact that three out of the four Irish-owned firms were set-up by people who had previously worked in foreign-owned medical technology firms in the region and were replicating what they had seen from their own experience of HRM. The HR manager in the fourth Irish-owned firm, firm J, discussed in further detail in Chapter 6, had over 20 years experience in MNCs,

although not in the medical technology sector. He pointed out that what he witnessed as best practice in HRM from his experience in MNCs was being adopted in firm J as a result. Consequently, firm J deploys performance management, performance related pay, and flexible work arrangements to both direct and indirect employees.

Indeed, this research suggests HRM is growing in importance in the sector. All but one of the firms have a HR function and the HR personnel to employee headcount ratio compares favourably with research in the US and UK. Recent growth in four of the firms has led management to recruit a HR practitioner. However, it must be pointed out that the newly appointed HR functions work on a part-time basis in three of these firms and the nature of their role appears to be more administrative than strategic.

This research also points to changing needs on behalf of employers with regards to future HRM policy and practice. Over half of the firms surveyed reported having expansion plans for the Galway operation in the near future. However, unlike job creation levels associated with historical expansion announcements, significant workforce expansion is not seen as part of future growth plans. Instead, firms reported seeking 'smarter ways of doing business' by making more efficient and productive use of existing employees. This will require employees who are capable of adapting well to change and willing to continuously learn new skills. Such efforts can lead to work intensification, and continuous change can cause work-related stress. For HR practitioners, striving to motivate people who are, as discussed earlier, innately resistant to change, this means effective communication and continued investment in HRM practices that support employees both in work, through career progression and working-life improvement practices, and outside of work by devising work-life balance policies.

In terms of external relations, IBEC emerged as a key resource which HR professionals rely on in their day-to-day operations, especially HR professionals operating on their own in firms. IBEC provides its members with an information service on issues such as employment legislation and salary scales and also provides legal advice. In addition, IBEC provides members with a representative who they can call on, should they need advice on work related matters, a service which respondents find invaluable.

HRM outsourcing is not a practice being pursued in the sector. This may be related to the fact that seven of the firms that participated in this study employ a workforce of less than 100 and that five of the firms employ one HR professional. Evidence suggests firms in the sector, which did not participate in this study, are pursuing this strategy. Firms participating in this study outsource HRM activities when internal capabilities in the firm are insufficient to meet the needs of the business, such as for example, using training providers or HR consultants to gain certain accreditations.

7.2.2 OBJECTIVE 2: DOCUMENT HRM PRACTICES ADOPTED BY MEDICAL TECHNOLOGY FIRMS IN GALWAY IN AN EFFORT TO REMAIN COMPETITIVE

Employee retention had previously been identified as a key issue in medical technology firms in Galway, due to the cluster of firms operating in the region (Harvey, 2001). This study indicates that, while the movement of people between firms continues, employee retention does not appear to be a key concern any longer. Nonetheless, the medical technology sector is highly competitive and requires high levels of innovation to survive. Consequently, firms require an innovative approach to the management of human resources in order to attract and retain the best talent.

Firms use a wide variety of HRM practices to remain competitive. There was no evidence of a specific bundle of practices that worked well in the medical technology sector. Rather, HRM is a discipline which transcends industry sector and any customisation is limited to specific practices, such as training, due to the highly regulated nature of the sector. The key practices identified in this study are summarised next.

7.2.2.1 RECRUITMENT AND DEVELOPMENT

The main objectives of the HR function reported in this study were hiring top talent, and once hired, developing that talent for the ultimate success of the firm. Recent redundancies in the medical technology sector in Galway and the larger economy has meant that, in the main, there was a significant pool of applicants to choose from and therefore recruitment was not regarded as a significant issue. There were two exceptions to this. HR managers in two firms noted that in the two years to 2008, they had experienced issues finding highly qualified applicants in specific areas such as quality, regulatory and engineering, and were forced to award large sign-on bonuses or use individual search consultants to overcome these issues.

Again, firm size appeared to play a role in recruitment with smaller firms noting being small was a positive attribute when attracting applicants who want to have a direct impact on firm performance. The two larger firms in the study noted having a good public image was an important factor when recruiting employees.

Further analysis of firm J identified the use of person-organisation fit as the primary selection criterion. According to the HR manager, this is critical if the firm's goals of openness, honesty, flexibility and innovation are to be accomplished. This is further facilitated by the use of psychometric tests for all line managers, enabling management to pose the correct questions at interview so as to identify and hire a management team which will promote and nurture the desired organisational culture.

Despite recent reports which suggest workplace training is low in Ireland (Roche, 2007), training and development was regarded as a critical HRM activity in this study. This was not impacted by firm size, with both large and small firms recognising the need to invest in training and development. The primary drivers for training are: workplace innovations, such as Lean manufacturing; the performance management process; the need for workforce flexibility, for example cross-training; and the desire to increase employee awareness of quality. Quality is of paramount importance in the medical technology sector and firms use innovative methods to deliver this message to employees, such as inviting key customers to train the workforce or asking patients to speak at communication sessions.

7.2.2.2 ORGANISATIONAL CULTURE

One of the key elements highlighted in the pilot study was the importance of organisational culture. Nurturing organisational culture was identified as a key retention tool in this study. This is a holistic approach achieved primarily through HRM practices in training and development. This involves investing in extensive business-related training, providing opportunities for promotion, and ensuring employee career development. It also involves operating a robust performance management process, delivered by competent management team, which identifies competency gaps. This is complemented by providing strong leadership from senior management and operating an 'open door policy', where employees at all levels of the organisation are equally valued.

The HRM strategy at firm J, which is discussed in further detail in Chapter 6, involves creating and nurturing an organisational culture which reflects the four organisational goals of openness, honesty, flexibility and innovation. Along with a strong development ethic, this is achieved by deploying HRM practices which encourage idea generation and provide opportunities for employees to contribute to firm performance through a high level of employee empowerment.

7.2.2.3 FLEXI-TIME

Given the emphasis which Guest (1987) places on having a flexible workforce, firms in the medical technology sector are late developers with regards to flexible work arrangements. Flexi-time is the most commonly used form of flexible work arrangement, with three of the firms piloting flexi-time policies at the time of interview, brought about mainly due to employee demands for more flexibility surrounding start and finish times.

The adoption of flexible work practices is influenced to a great extent by the size of the firm. Many of the smaller firms reported they were less likely to have flexible work arrangements because, they argue, all employees in a small firm are required on site during core working hours. This was strongly refuted by the HR manager in one small firm who was in the process of introducing a four day working week for all employees. She believed it was a matter of working out a solution that would have mutual benefits for employees and firm performance. The deployment of flexible work practices also varied by occupational group in many of the firms, although some of the firms are making progress in this regard in the pilot programmes alluded to above. The use of part-time employees and job-sharing was less commonly reported.

7.2.2.4 WORKFORCE DIVERSITY

Workforce diversity emerged as a key concern for management due to swift changes in the Irish labour force in recent years. Some firms reported having between 15% and 20% of their workforce made up of immigrant workers, while in one firm, 40% of the workforce was made up of immigrant workers. Immigrant workers are generally regarded as being productive and highly qualified and therefore represent a key component of the succession plan in firms. However, different cultural backgrounds and language issues were highlighted as performance barriers. HR professionals were managing such issues by devising diversity programmes, promoting cultural

awareness in the workplace, and investing in English classes to overcome communication barriers.

7.2.2.5 PERFORMANCE MANAGEMENT

Finally, the use of performance management is common in the medical technology sector. The role played by the line manager is critical to having an effective performance management system according to respondents. This involves managers providing employees with the necessary tools to deliver optimal job performance; rewarding good performers; and challenging poor performers.

Consequently, performance related pay is widely used. The method most commonly used is individual based performance measures. Firm J, was the only firm in the study to extend performance management and performance related pay to all 480 members of the workforce. Despite the link between team work and innovation, the relationship between team performance and pay is not yet established in the sector, with only two of the eleven firms reporting an element of reward being team-based.

7.2.3 OBJECTIVE 3: HIGHLIGHT THE DRIVERS FOR CHANGE WITHIN THE MEDICAL TECHNOLOGY SECTOR AND IDENTIFY CHANGE INITIATIVES ADOPTED BY FIRMS IN AN EFFORT TO REMAIN COMPETITIVE

Labour and general operating costs were both identified as key areas of concern for management, and have been the main force behind change in the sector. Although medical technology firms can achieve margins in excess of 90%, other defining characteristics of the sector mean that it is highly competitive and cost sensitive. Lead-time from idea to commercialisation, for example, can be up to ten years, resulting in delayed payback on investment in R&D. Conversely, product life cycle can be as short as six months, therefore being first to market is critical to maximise financial performance.

Management in medical technology firms in Galway is being forced to source materials and outsource activities overseas in an effort to reduce the overall cost base. However, as expected, the main response is Lean manufacturing. Lean manufacturing is a way of continuously reducing waste and improving flow, reducing the amount of human effort, time and space required to meet customer requirements (Fitzgerald, 2007; Womack and Jones, 2003). All firms reported making significant inroads into

the overall cost base as a direct result of introducing Lean manufacturing, by increasing productivity and sales and decreasing headcount.

This research suggests the role of HR professionals in change management is tenuous. There was no direct relationship between the introduction of Lean manufacturing and HRM. Workplace change initiatives, such as Lean manufacturing, are driven by functional management such as Quality or Operations, with the HR function's role confined to, at best, facilitators of the process, such as recruiting personnel for change initiatives.

7.2.4 OBJECTIVE 4: OUTLINE THE FUTURE SUSTAINABILITY OF THE SECTOR, AS PERCEIVED BY RESPONDENTS IN PARTICIPATING FIRMS

The literature suggests the future competitiveness of firms in Ireland is predicated on controlling costs, moving up the value chain, exhibiting high levels of innovation and engaging in extensive collaboration with customers, suppliers and third level institutions (Gunnigle, *et. al.*, 2007; Lester, 2007, Green, 2007; Medical Device Technology, 2005). All of these interventions require a high level of human intervention.

This research suggests that, despite recent layoffs in the sector in Galway and the anxiety about rising costs, in the main, respondents believe the future of their operation is relatively secure. Due to the highly regulated nature of the sector, respondents believe the move to low-cost economies is slower than in other, less regulated industries. Indeed, many of the firms reported expansion plans, although it must be noted that with the exception of one firm, firms do not have large scale recruitment plans. Nonetheless, respondents agree that the future sustainability and competitiveness of the sector, is predicated on controlling costs in the first instance, and moving up the value chain.

Moving up the value chain means that firms carry out more value added tasks from idea conception to commercialisation. Three out of seven of the foreign-owned firms reported actively pursuing becoming 'centres of excellence' within their corporations in areas such as specialised manufacturing, R&D and HRM. Therefore, management in medical technology firms must recognise that human resources are the critical resource which can deliver this new agenda. This means firms will need a HRM

strategy which sets about selecting and recruiting talented, skilled and knowledgeable human resources; developing and encouraging those resources so they are equipped and motivated to perform; and engaging those human resources so they are committed to improving the financial performance of their employer. In other words, people are the critical resource, as they are the primary resource than can deliver innovative ways to reduce costs, add value from idea generation to commercialisation, make continuous improvements and establish key relationships with external bodies. Therefore, the HRM response is critical to the future success of the medical technology sector.

One point which must be noted is that, pursuing a value chain-led strategy will entail higher labour costs. Firms will require a more support-intensive workforce, who commands higher pay than a traditional production-led workforce commanding lower pay. Nonetheless, this type of labour is costly in most labour markets, not just Ireland. The challenge for policy makers is to ensure adequate supply of a knowledgeable labour force to recruit from, so management can locate “centres of excellence” in Ireland.

Furthermore, Ireland’s proximity to the European marketplace, combined with the invaluable regulatory expertise of Galway based firms getting products to market quickly, must not be ignored. Firms in the medical technology sector in Galway are strategically positioned to take advantage of opportunities which the new global economy will present in the future.

7.3 RECOMMENDATIONS

This research continues previous research conducted at GMIT. Fitzgerald (2007) identified that for change to be successful in medical technology firms, the right culture must be in place first, in other words, “successful systems must focus on people using them” (p. 125). It is in relation to this concept that this thesis makes its first recommendation.

7.3.1 EFFECTIVE HR-LED CHANGE MANAGEMENT

As discussed in Chapter 1, an organisation’s capacity to innovate is one of the vital conditions for the future sustainability of firms in Ireland (Green, 2007). From a HRM perspective, this involves turning innovative ideas and knowledge of an empowered,

adaptable, and motivated workforce into new or improved products, processes and systems. Managing the process from idea generation to implementation requires effective change management; otherwise innovative ideas will not translate into superior business performance.

This research found that HR professionals do not take a leading role in workplace change, acting instead either as facilitators or spectators of the change process. Responsibility for change management lies with functional managers such as R&D, Operations or Quality. If HR professionals do not have responsibility for change initiatives, what then is the role for the HR function in change management? Is it sufficient that HR professional's main contributing role to workplace change is as facilitator of the process? And if not, what then is the next level of involvement for HRM?

This thesis recommends that the HR function take the lead in driving innovation and change in the workplace, because people are the key in the change process. This represents a major departure from the current role of many of the HR professionals which took part in this study. Future HRM developments must be integrated with engineering practices, forging a strong linkage between HRM and innovation levels. This means that HR professionals must become actively involved in workplace change, encouraging and actively driving levels of creativity, so that they understand the intricacies of change in the workplace and the impact change has on employee morale and behaviour. This will also mean a move away from the administrative role of focusing on 'lagging' metrics such as absenteeism and employee turnover towards measuring 'leading' metrics such as product and process innovation.

7.3.2 HRM PRACTICES FOR THE FUTURE SUSTAINABILITY OF THE MEDICAL TECHNOLOGY SECTOR

If the future sustainability of firms entails pursuing a value chain-led strategy, which will incur higher labour costs due to the support-intensive workforce this will require, then focusing on human resources as a cost to be minimised is not a HRM strategy that will succeed. Firms must choose HRM practices which are aligned to the 'soft' HRM approach, focusing on employee involvement and high levels of employee training, in order to achieve workforce commitment and connection with the firm.

Figure 17 below has been developed by the researcher, as a model of HRM which can deliver this agenda. The model incorporates a set of circles, suggesting that the deployment of a set of coherent HRM practices, can deliver superior financial performance of medical technology firms in Ireland. The HRM practices suggested involve:

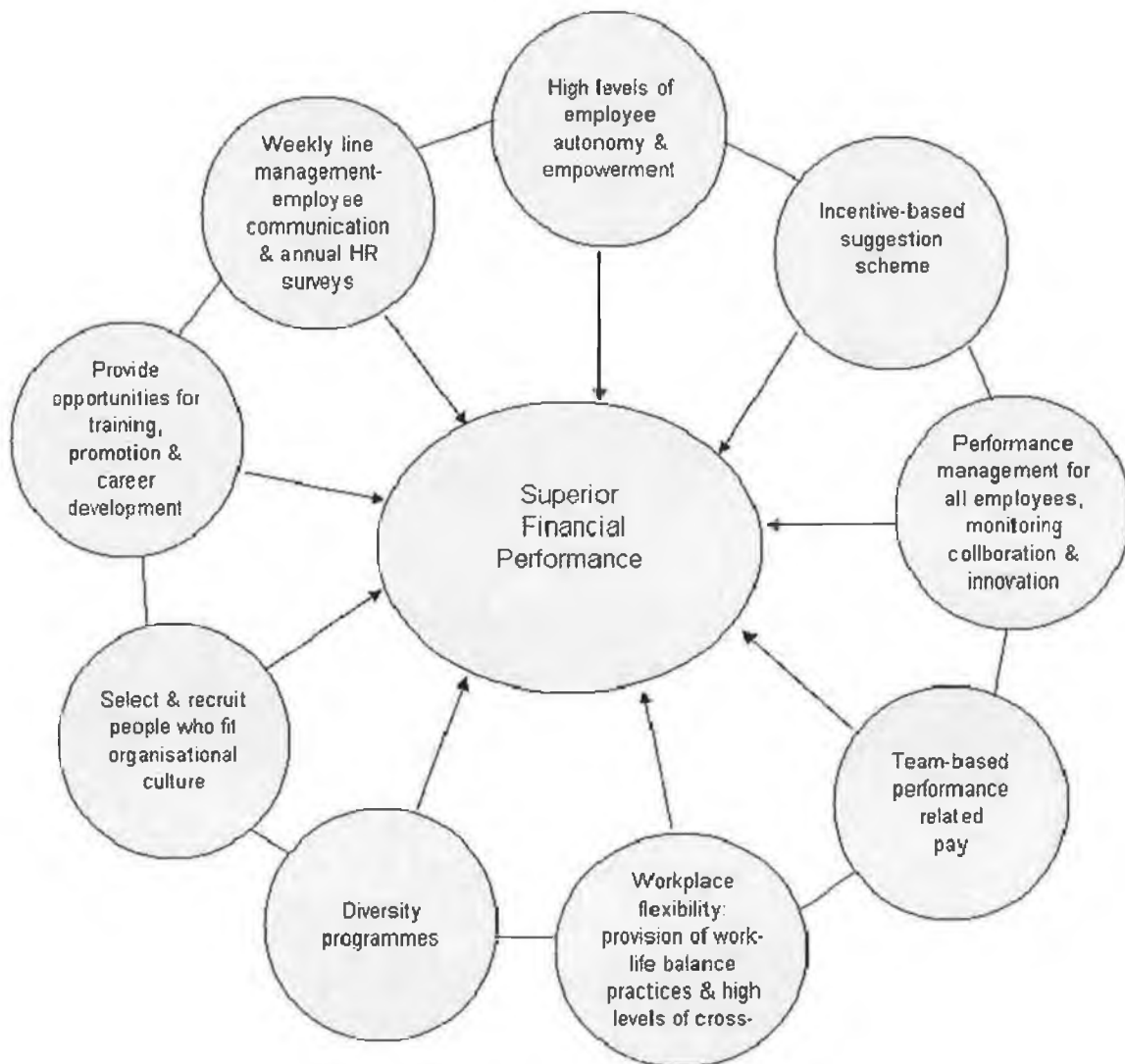


Figure 17 HRM Practices for the Future Sustainability of the Medical Technology Sector

- Selecting and recruiting people who fit organisational culture
- Continuing to invest in training and development, promoting from the internal labour force, and providing opportunities for employees to develop their careers
- Promoting high levels of employee autonomy and empowerment

- Incorporating the two key behavioural aspects of collaboration and innovation in the performance management process. This involves measuring the extent to which employees have collaborated with customers, sister plants, third level institutions and suppliers. For HR professionals, this entails continued collaboration with bodies such as IBEC and IMDA, but also closer collaboration with third level institutions which are publishing the latest in best practice HRM. From an innovation standpoint, this requires that employees can demonstrate clearly where they have been innovative and that HR personnel can demonstrate a leading role in workplace change initiatives
- Continuing to promote strong communication channels, including annual HR surveys and weekly line management/employee communication sessions, to achieve organisational integration
- Promoting workplace flexibility, through the continued use of cross-training and extending flexible work arrangements to all employees, regardless of firm size, which involve addressing work-life balance issues, for example by considering a four day working week
- Deploying HRM practices which encourage and reward idea generation and creativity. This will involve using incentive-based suggestion schemes; promoting teamwork, and therefore innovation, by linking performance related pay with team performance rather than individual based performance
- Having Diversity Programmes which allow firms benefit from the diverse labour force which exists in modern Ireland.

7.4 AREAS FOR FUTURE RESEARCH

This study involved a broad survey of the medical technology sector in Galway. To widen the research, a survey of the medical technology sector nationally would contribute significantly to the empirical work. However, access to all firms in the sector in Galway was not possible. Indeed, it took a number of attempts before access was secured to the eleven firms which took part in this study, which is a departure from previous experience conducting research in the medical technology sector (Harvey, 2001). Therefore, accessibility issues must be considered in any discussion on future research, whether conducting broad sector surveys or carrying out in-depth case studies of individual firms.

The intended, perceived and actual outcomes of HRM practices will undoubtedly differ. A multilevel approach to the research involving the recipients of HRM practices, union leaders, line managers and HR managers would address these differences. Using a case study methodology, combining interviews, focus groups and participant observation, further research into HRM at firm J, the high-performing firm described in Chapter 6, would contribute significantly to the empirical work.

As the pilot survey indicated, minor reductions in absenteeism can lead to huge savings for a firm. The case study could explore how this firm maintains absenteeism below national averages. Is it the fact that all employees at the firm benefit from the same HRM practices? Is it the level of commitment which management appears to show employees through the high levels of employee development and internal promotions at the firm? Is it the combination of industry best practice and a set of 'signature processes' developed by the firm? Does this prove that the effective management of people results in superior financial performance?

A further area for future research concerns workforce diversity. The increasing participation of immigrant workers in medical technology firms, which participated in this research, was identified as the largest workforce composition shift in recent years. One firm in particular, which had 43 different nationalities, had rolled-out a robust diversity programme. Previous research in the Irish context suggests that diversity policies were traditionally aimed at gender diversity (Gunnigle *et. al.*, 2003). More recently, research has shown that diversity policies can reduce employee turnover and absenteeism and increase workplace innovation (Monks, 2007, cited in Flood, 2008). An in-depth case study approach to the management of workforce diversity at the firm mentioned above would contribute significantly to existing research in the field and identify how diversity management policies and practices can impact firm performance.

7.5 CLOSING REMARKS

There is a general consensus in the HRM literature that sound people management can lead to improved firm performance. On one hand, it seems strange that firms would choose to ignore the vast body of knowledge, ideas, experience, and skills of the human resources within their control. Yet, research suggests that firms in Ireland have been slow at recognising the contribution effective HRM can make to financial

performance. On the other hand, HRM involves making a significant financial investment, the payback from which may take a substantial amount of time to realise.

A cautionary observation is that this research was conducted prior to the credit crunch and the rapid deterioration in employment levels in Ireland in the second and third quarters of 2008. The current recession in Ireland, and the impending global recession, is likely to have a significant impact on the employment relationship in the future. As with previous recessionary periods, for example the early 1980s, momentum is likely to swing in favour of the managerial agenda as the labour market in Ireland loosens and the 'war for talent' subsides. Investment in training and development and reward systems may be scaled back, as firms competing for talent in an environment of relatively high unemployment, seize the opportunity to make significant HRM cost savings.

This is a strategy which must be avoided in highly competitive and innovative sectors of the economy, such as in medical technology firms. It can be said from this research that medical technology firms recognise the potential which employees bring to improving quality, service and innovation. In the future, as firms in a high-cost economy such as Ireland move towards a value chain-led strategy, it is pertinent that human resources are recognised as a unique source of competitive advantage.

The challenge for the future is to tap into the minds of employees, engaging them even more, so that the new opportunities of a value chain-led, collaborative and innovation driven strategy, can be seized, enabling firms in the medical technology sector not just survive, but grow to be market leaders.

REFERENCES

- Anderson, V., (2004). *Research Methods in Human Resource Management*. 1st edition, CIPD, London
- Armstrong, M., (1999). *A Handbook of Human Resource Management Practice*. 7th edition, Kogan Page, London.
- Barney, J., (1991). Firm resources and sustained competitive advantage. *Journal of Management*, Vol. 17 No. 1, 99-120.
- Barraud-Didier, V. and Guerrero, S., (2002). Impact of social innovations on French companies' performance: A study of high-involvement practices. *Measuring Business Excellence*, pp. 42-48
- Bartlett, C. and Ghoshal, S., (2002). Building Competitive Advantage Through People, *MIT Sloan Management Review*, pp34-41.
- Beardwell, I. and Holden, L., (2001). *Human Resource Management, a contemporary approach*. 3rd edition, Prentice Hall, Essex
- Becker, B. and Gerhart, B., (1996). The Impact of Human Resource Management on Organisational Performance: Progress and Prospects, *Academy of Management Journal*, Vol. 39 No. 4, pp779-801.
- Bhawuk, D., Podsiadlowski, A., Graf, J., and Triandis, H., (2002). Corporate Strategies for managing diversity in the global workplace, pp122-143. article in: Ferris, Gerald R., Buckley, M. Ronald, Fedor, Donald B. (2002). *Human Resource Management* 4th edition, Prentice Hall, New Jersey
- BioMedIreland, (2005). Life and Health Sciences Industry Survey 2005: Innovation, Collaboration and Sales and Marketing, Dublin
- www.biotechinfo.ie Article title: 26,000 people now employed in medical devices sector in Ireland, 01/09/2006. Downloaded from website 29/05/2007

Blumberg, B., Cooper, D., and Schindler, P., (2005). *Business research methods*. 1st edition, McGraw Hill Education, Berkshire

Bradley, S., (2001). What's working? Briefing and evaluating workplace performance improvement. *Journal of Corporate Real Estate*, Vol. 4 No. 2, pp. 150-159

Brannick, T. and Roche, W., (1997). *Business Research Methods, Strategies, Techniques and Sources*, Oak Tree Press, Dublin, Ireland.

Bryman, A., and Bell, E., (2007). *Business research methods*. Oxford University Press. 2nd edition, Oxford

Carrillo, J. and Plascencia, I., (2008). Multinationals, Nation States and Global Value Chains: Mexico's Perspective. LRC conference presentation, Dublin, June 2008

Cerdin, J-L., and Peretti, J-M., (2001). Trends and emerging values in human resource management in France. *International Journal of Manpower*, Vol. 22 No. 3, pp216-225, MCB University Press

CIPD, (2004). Recruitment, retention and turnover. A survey of the UK and Ireland.

CIPD, (2003). Where we are, where we're heading, Survey Report. Downloaded from www.cipd.co.uk 01/07/2008

Cooper, D., and Schindler, P., (1998). *Business Research Methods*. 6th edition, McGraw-Hill International Editions, Singapore

CSO, (2008). Table on Persons aged 15 years and over in employment (Thousand) by Sex, Broad Economic Sector, Region and Quarter, retrieved from www.cso.ie 12/08/2008.

Cullen, J., and Farrelly, M., (2005). *Best Practice HR in Ireland*. Oak Tree Press, Cork.

Davidson, G., (2005). Why HR outsourcing continues to expand, *Human Resource Management International Digest*, Vol. 13 No. 3.

Dix, G. and Oxenbridge, S., (2003). Information and consultation at work: from challenges to good practice. Research paper 03/03, Acas Research and Evaluation Section. Downloaded from www.acas.org.uk 04/09/2008

www.employmentrights.ie , 2008. Downloaded from website 08/09/2008

Enterprise Ireland, (2005). The Market, Issue 01, pp23-25

ESRI, (2008). Quarterly Economic Commentary. Special Article: Ireland's Innovation Performance: 1991-2005. Hewitt-Dundas, N and Roper, S.

ESRI, (2007). The Impact of Flexible Working Arrangements on Work-Life Conflict and Work Pressure in Ireland. Working Paper No. 189

Evans, J., (2001). Firms' Contribution to the Reconciliation between Work and Family Life. Labour Market and Social Policy Occasional Papers No. 48. OECD, Paris

Feldman, M. and Florida, R., (1994). The Geographic Sources of Innovation: Technological Infrastructure and Product Innovation in the United States. Annals of the Association of American Geographers Vol. 84, No. 2, pp. 210-229

Fitzgerald, K., (2007). Sustaining competitive advantage in the medical technology sector in the West of Ireland through workplace innovation. GMIT, Thesis

Fitzgerald, K., O'Dowd, P., Harvey, N., (2007). Workplace Innovation in the Medical Technology Sector in the West of Ireland. Competitive paper, Irish Academy of Management Annual Conference, Queen's University Belfast

Fitzgerald, K., O'Dowd, P., Harvey, N., (2006). Leaving the Middle Road: Towards a high performance medical technology sector. Postgraduate paper, Irish Academy of Management Annual Conference, University College Cork

Fitzgerald, K., (2005). High Performance Work Organisation in Medical Device Companies in the West of Ireland. Postgraduate working paper, Irish Academy of Management Annual Conference, GMIT

Flood, P., Mkamwa, T., O'Regan, C., Guthrie, J., Liu, W., Armstrong, C., and MacCurtain, S., (2008). *New Models of High Performance Work Systems. The Business Case for Strategic HRM, Partnership and Diversity and Equality Systems.* NCPP and The Equality Authority, Dublin

Flood, P., (2007). *High Performance Work Systems – The Value of Employee Involvement and Partnership.* Presentation at the NCPP conference “The Future Role of Manufacturing in Ireland: The role of Partnership”, Royal Hospital Kilmainham, Dublin.

Flood, P., Guthrie, J.P., Liu, W., and MacCurtain, S., (2005). *High Performance Work Systems in Ireland – The Economic Case.* National Centre for Partnership and Performance

Forfas (2006). *National Employment Survey.* Dublin

Francis, H. and Keegan, A., (2006). *The changing face of HRM: in search of balance.* *Human Resource Management Journal*, Vol. 16, No 3, pp 231-249

Global Competitiveness Report 2006-2007, Creating an Improved Business Environment, (2006). World Economic Forum. London: Palgrave Macmillan

Grady, G., McCarthy, A., Darcy, C., and Kirrane, M., (2008). *Work-Life Balance: Policies and Initiatives in Irish Organisations.* Oak Tree Press, Cork

Gratton, L., and Ghoshal, S., (2005). *Beyond Best Practice*, MIT Sloan Management Review pp. 49-57

Green, R., (2005). *Investing in the Knowledge Economy*, keynote address, Irish Academy of Management Conference, September 7-9

Green, R., (2007). *Building Innovation Capability: The Human Element*, Countess Markievicz Lecture, NUIG, 08/05/2007

Grix, J., (2001). *Demystifying Postgraduate Research: From MA to PhD*, University of Birmingham Press, Birmingham

Guest, D., (1987). Human Resource Management and Industrial Relations. *Journal of Management Studies*, Vol. 24 No.5, pp.503-521

Gunnigle, P., Lavelle, J., and McDonnell, A., Collings, D., Morley, M., Turner, T., and Wallace, J., (2007). *Human Resource Practices in Multinational Companies in Ireland: A Large Scale Survey*. Advance Report to Participating Companies, University of Limerick

Gunnigle, P., Heraty, N., and Morley, M., (2006). *Human Resource Management in Ireland*. 3rd edition, Gill and Macmillan, Dublin

Gunnigle, P., Collings, D., Morley, M., McAvinue, C., O'Callaghan, A., and Shore, D., (2003). US Multinationals and Human Resource Management in Ireland: Towards a Qualitative Agenda, *The Irish Journal of Management*, Vol. 24 No. 1, pp.7-25

Gunnigle, P. and Moore, S., (1994). Linking Business Strategy and Human Resource Management: Issues and Implications. *Personnel Review*, Vol. 23 No.1, pp. 63-84.

Harvey, N., (2001). Employment and Employee Relations Practices in the Medical Technology sector in the West of Ireland. Labour Relations Commission, Occasional Paper Series – No. 3

Henderson, I., (2008). *Human Resource Management for MBA students*. 1st edition, CIPD, London

Heraty, N. and Morley, M., (1995). Line managers and human resource development, *Journal of European Industrial Training*, Vol. 19 No. 10, pp.31-37.

Hiltrop, J.M., (1999). The quest for the best: human resource practices to attract and retain talent. *European Management Journal*, Vol. 17 Issue 4, pp. 422-430

Horgan, J., and Muhlau, P., (2003). The Adoption of High Performance Human Resource Practices in Ireland: An Integration of Contingency and Institutional Theory. *The Irish Journal of Management*, Vol. 24, No. 1, pp. 26-47

Human Resource International Digest (2005a). HR at the heart of Zodiac's turnaround. Vol. 13, no 2, 2005, pp8-10

Human Resource Management International Digest (2005b). Should HR play home or away? Some pros and cons of outsourcing, Vol. 13 No. 3, pp.9-12

Human Resource Management International Digest (2004). BP's Hr outsourcing success: can it work for you? Vol. 12 No. 3, pp.5-7

Huselid, M., (1995). The impact of human resource management practices on turnover, productivity and corporate financial performance. *Academy of Management Journal*, 38 (3), 635-672

Ichniowski, C., Shaw, K., Prennushi, G., (1997). The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines, *The American Economic Review*, Vol. 87 No. 3. pp.291-313

ICTU, (2005). *Caring for the Future...Who Cares?* Dublin

IDA Ireland, (2008). Retrieved from www.idaireland.ie 01/09/2008

IDA Ireland, (2007a). Medical Industry Profile, retrieved from www.idaireland.ie 18/01/2007

IDA Ireland, (2007b). Ireland Vital Statistics December 2007

IDA Ireland, (2007c). List of firms in the medical technology sector in Galway, retrieved from www.idaireland.ie 18/01/2007

IDA Ireland (2006). Annual Report. Dublin

ILO, (2002). *Supporting workplace learning for high performance working*. Retrieved from www.ilo.org 02/09/2008

IMDA, (2008). Statement of Strategy to 2011, retrieved from www.ibec.ie/imda 06/07/2008.

Irish Independent, (2007a). Best Places to Work in Europe supplement, 15/05/2007

Irish Independent, (2007b). Welcoming Change, The Future of Manufacturing supplement, 23/10/2007

Irish Medical News, (2007). Clinical trials crucial for medical devices sector – new industry body. Retrieved from www.irishmedicalnews.ie 29/05/2007

Irish Times, (2007). Galway Plant to close with loss of nearly 500 jobs, 05/12/2007

Jiménez-Jiménez, D. and Sanz-Valle, R., (2005). Innovation and human resource management fit: an empirical study. *International Journal of Manpower*, Vol. 26 No. 4, pp. 364-381

Kakabadse, N. and Kakabadse, A., (2000). Outsourcing: a paradigm shift. *Journal of Management Development*. Vol. 19, No. 8, pp-670-728, MCB University Press.

Kavanagh, C. and Doyle, E. (2007). Human Capital and Productivity in the Irish Context, *Perspectives on Irish Productivity*, Forfas, pp297-314

Kumar, R., (1996). *Research Methodology: A Step-By-Step Guide For Beginners*, Longman, Melbourne

Larsen, H. and Brewster, C., (2003). Line Management Responsibility for HRM: what is happening in Europe. *Employee Relations*, Vol. 25 No. 3, pp.228-244.

Lester, R., (2007). The Future of Manufacturing and the Role of Innovation, presented at the NCPP conference “The Future Role of Manufacturing in Ireland: The role of Partnership”, Royal Hospital Kilmainham, Dublin.

Life Sciences Ireland Review, (2007). Retrieved from www.lifesciencesreview.ie 20/01/2008

LRC, (2008). *Developing Best Practice in Employment Relationships: Strategic Objectives: 2008-2010*. Dublin

Marchington, M. and Grugulis, I., (2000). Best Practice human resource management: perfect opportunity or dangerous illusion? *The International Journal of Human Resource Management*, Vol. 11 No.6 pp1104-1124.

McCartney, J. and Teague, P., (2004). The diffusion of high performance employment practices in the Republic of Ireland, *International Journal of Manpower*, Vol. 25 No. 7, pp.598-617

McKenna, E. and Beech, N., (2002). *Human Resource Management, a concise analysis*, 1st edition, Prentice Hall, Essex

McPhee, N. and Terry, R., (2007). *The Hidden Art of Interviewing People*, Wiley and Sons, West Sussex, England, 1st edition

Medical Device Technology, (2005). Irish Medical Device industry update. Sharon Higgins, Director of IMDA, December 2005

Mercer, (2006). What's working, Republic of Ireland. Dublin

Morley, M., (2007). Person-organization fit. *Journal of Managerial Psychology*, Vol. 22 No. 2, pp 109-117, Emerald Group Publishing

Morley, M., Gunnigle, P., O'Sullivan, M., and Collings, D., (2006). New directions in the roles and responsibilities of the HRM function. *Personnel Review*, Vol. 35 No. 6, pp. 609-617

Morley, M., Moore, S., Heraty, N., Linehan, M., and MacCurtain, S., (2004). *Principles of Organisational Behaviour, An Irish Text*. 2nd edition, Gill and Macmillan, Dublin

Morley, M., Gunnigle, P., and Turner, T., 1999/2000. The Cranefield Network on Human Resource Management (Cranet E) Survey. Executive Report Ireland, University of Limerick.

NCPP, (2007a). *The Future of Manufacturing in Ireland: The Role of Partnership*. Annual Partnership Conference 2007, Conference Summary, Dublin 1

NCPP, (2007b). *Irish Workplaces, A strategy for change, innovation and partnership 2007-2010*

NCPP, (2005). *Working to Our Advantage: A National Workplace Strategy*, Dublin

NCPP, (2003). *Achieving High Performance: Partnership Works – The International Evidence*. Research Series Number 1 Ireland: Dublin 1

O'Dowd, P., McQuade, E., and Murphy, E., (2003). A Model for Innovation in Manufacturing Subsidiaries Based in Ireland. *The Irish Journal of Management*, Vol. 26 No 1, pp. 136-148.

Osterman, P., (2000). Work reorganisation in an era of restructuring: trends in diffusion and effects on employee welfare. *Industrial and Labour Relations Review* 53.2 pp179-

Osterman, P., (1994). How common is workplace transformation and who adopts it? *Industrial and Labour Relations Review*, Vol. 47 No. 2, pp.173-188

Paauwe, J. (2008). HRM and performance. In search of long term viability. Irish Academy of Management presentation, 4-6th September, Dublin City University.

Peters, T. and Waterman, R., (1982). *In Search of Excellence*, Harper Collins, New York

Pfeffer, J., (1998). *The Human Equation: Building Profits by Putting People First*. Boston, MA: Harvard Business School Press

Pfeffer, J. (1994). *Competitive Advantage Through People*, Boston, Harvard Business School Press

Purcell, J., (1999). Best Practice or Best Fit: chimera or cul-de-sac? *Human Resource Management Journal*, Vol. 9 No. 3.

Redman, T. and Wilkinson, A., (2001). *Contemporary Human Resource Management*, Essex, Prentice Hall, 1st edition.

Remenyi, D., Williams, B., Money, A., and Swartz, E., (1998). *Doing Research in Business and Management: An Introduction to Process and Method*. 1st edition, Sage publications, London

Renwick, D., (2003). Line Manager Involvement in HRM: an inside view. *Employee Relations*, Vol. 25 No. 3, pp.262-280

Richardson, R. and Thompson, M., (1999). *The Impact of People Management Practices on Business Performance: A literature review*, Institute of Personnel Development, Short Run Press, Exeter

Richbell, S., (2001). Trends and emerging values in human resource management, The UK scene. *International Journal of Manpower*, Col. 22 No. 3, pp 261-268. MCB University Press

Robinson, I., (2006). *Human Resource Management in Organisations*, Cromwell Press, London, Chartered Institute of Personnel Management

Roche, W., (2007), Developments in Industrial Relations and Human Resource Management in Ireland, *Quarterly Economic Commentary*, Spring 2007, pp.62-77

Saarnivaara, V-P., (2003). Innovation driven Finland, Learning from the Best, June 16, 2003, Vienna

Sadler, P., (1995). *Managing Change*, The Sunday Times Business Skills series, Kogan Page Ltd, London.

SFA, (2008a). Fourteenth National Employment Survey, Executive Summary and Survey Results. Retrieved from www.sfa.ie 27/08/2008

SFA, (2008b). National Centre of Excellence Survey Results, Press Release retrieved from www.sfa.ie 27/08/2008.

SFA, (2007). The SFA Magazine, Vol. 13 No. 8

Shah, N., and Tate, R., (2007). Employee engagement surveys: Linking employee engagement to business results. *HR Innovation*, Winter 2007, Pricewaterhouse Coopers

Silverman, D., (2000). *Doing Qualitative Research: A Practical Handbook*. 1st edition, Sage publications, London

Stommen, J., (2005). Growth of med-tech sector is a boon to Ireland's economy, *Medical Device Daily*, Vol. 9 No.72, pp. 1-2

Storey, J., (1992). *Developments in the management of human resources*. 1st edition, Blackwell Business, Oxford

Stuart, I., McCutcheon, D., Handfield, R., McLachilin, R., and Samson, D., (2002). Effective case research in operations management: a process perspective. *Journal of Operations Management*, Vol. 20, pp. 419-433

Torrington, D., Hall, L., and Taylor, S., (2002). *Human Resource Management*, 5th edition, Prentice Hall, Essex.

Ulrich, D., (1997). *Human Resource Champions, The Next Agenda for Adding Value and Delivering Results*. 1st edition, Harvard Business School Press

Ulrich, D. and Brockbank, W., (2005). *The HR Value Proposition*, Harvard Business School Press, 1st edition, Boston

Valverde, M., Ryan, G., and Soler, C. (2006). Distributing HRM responsibilities: a classification of organisations. *Personnel Review*, Vol. 35 No. 6, pp.618-636

Wall Street Journal, (1993). Work Force Study Finds Loyalty is Weak, September, 2003, p.B-1

Whittaker, S. and Marchington, M., (2003). Devolving Human Resources to the line: threat, opportunity or partnership? *Employee Relations*, Vol. 25 No. 3, pp. 245-261.

Winfield, I., (1994). Toyota UK Ltd: Model HRM Practices? *Employee Relations*, Vol. 16 No. 1 pp. 41-53. MCB University Press

Womack, J. and Jones, D., (2003). *Lean Thinking: Banish Waste and Create Wealth In Your Corporation*. 2nd edition, New York: Free Press

Wood, S., (2007). Employee Empowerment – the Key to Improving Performance and Promoting Innovation. Presented at NCCP conference “The Future of Manufacturing in Ireland: The Role of Partnership, Royal Hospital Kilmainham, 28/06/2007

Workforce Diagnostic System executive Summary, (2004). The Saratoga Institute and Price Waterhouse Coopers. Retrieved from www.pwc.com 04/04/2007.

Wright, P.M. and Boswell, W.R., (2002). Desegregating HRM: a review and synthesis of micro and macro human resource management research, *Journal of Management*, Vol. 28 No.3, pp. 247-276.

APPENDIX I: COMPARISON OF CORPORATION TAX

Corporation Tax

2007 Corporate Tax rate for selected countries

Ireland	12.5%
United Kingdom	30%
Belgium	33.99%
France	34.43%
Netherlands	25.5%
Spain	35%
Austria	25%
Germany	38.6%
China	33%
Czech Republic	26%
Poland	19%
Latvia	15%
Cyprus	10%
Lithuania	15%
Hungary	16%
Luxembourg	22%
Portugal	25%
Sweden	28%
Denmark	30%
Malta	35%
USA	39.5%

Source: Deloitte & Touche Sept 2007

Source IDA Ireland, (2007b)

APPENDIX II: FEEDBACK FROM PILOT SURVEY

Pilot Interview

Location of Interview: GMIT New Boardroom

Date: 24/10/2007

Interview Started at 9am

Interview Ended at 10am

Interviewee: Mr. Y

The pilot survey interview was held with a senior HR consultant, who will be referred to as Mr Y. Mr. Y has over 30 years experience in HRM and the medical technology sector. Mr. Y assumed the role of a HR manager in a leading medical technology firm for the duration of the interview and had some recommendations and comments at the end of the interview.

Key Recommendations for the Survey Questionnaire

- Culture of engagement and co-operation: Mr. Y suggested that the company culture is important to firm performance and that this area should be explored in the survey.
- Communication and Recognition: Mr Y. suggested that money is no longer the key motivator. Instead it is the recognition that employees receive that is key to the success of the organisation. Part of this includes listening to employees and recognising them before their colleagues. It also includes delivering the company message in ways that are future compatible e.g. if everyone is listening to their IPODs is the message the company trying to deliver IPOD friendly and what impact will this have on teamwork if everyone is doing their own thing?
- Performance Management System: Early intervention is critical to retaining good people as the costs of exiting and replacing people are high, therefore a robust PMS is essential. Mr Y. also suggested that team based performance

related pay needs to be the way firms compensate people if firms are to optimise the people formula.

General Comments/Observations

- He suggested including a Confidentiality Agreement in the initial contact with the firm.
- MR. Y also has reservations about doing a Focus Group, as he felt sharing proprietary information might be an issue for HR practitioners.
- Integration of immigrant workers. He suggested that immigrant workers don't connect with our Irish identity and that therefore trying to integrate that mix will be difficult.
- He also commented on the HRM tools that the HR function has been using up until now. He suggested these will not serve the needs of the future. HR personnel themselves will need to be more rounded, moving from HR specialists to HR generalists, they will need to be knowledgeable in all areas of HRM.
- He stressed the importance of the role the HR function. HR must play in strategy formulation and strategy implementation.
- He also suggested that a number of questions be asked with possible answers ranked to decipher what HR managers see as the most influential HR practices and then ask them why they are the most important to understanding the reasons why they are influential. For example, a small improvement in absenteeism could result in massive financial savings for a company.

APPENDIX III: FINAL QUESTIONNAIRE



Study of Human Resource Management Practices in the Medical Technology Sector in the West of Ireland

Researcher: Bernadette Hoban

This research is conducted as part of a Master of Business. The name of the firm will not be disclosed and all information provided in this study will remain confidential. For further information and confirmation please contact:

Supervisors: Dr. Noel Harvey

091-742127; noel.harvey@gmit.ie

Dr. Paul O'Dowd

091-742205; paul.dowd@gmit.ie

Winter 2007

The name of the firm is: _____

The name of the person is: _____

The Job Title of the Person is: _____

Today's date is: _____

Address of Website _____

Follow Up Action _____

Section 1: Background Information

1. When did this company set-up in Ireland?
2. What were the main reasons the company set-up here?
3. Do you think the decision to set up in Ireland was a good one for the firm?
4. Do you have any plans for expansion in the near future?

Section 2a: Workplace innovation and HRM policies and practices

5. What are the primary drivers for workplace innovation?
6. Is the company looking to increase levels of innovation?
7. What major change initiatives has the company brought about recently?
8. Did you encounter any problems bringing about these changes?
9. What level of involvement did the workforce have in introducing and implementing these changes?
10. Were these change initiatives successful i.e. did they have the desired impact(lower costs, increased productivity etc) What do you think made them successful?
11. Were there any unsuccessful change initiatives? What do you believe led to their failure?
12. What role did HR play in bringing about these change initiatives?
 - (a) What specific new HR practices did you introduce?
 - (b) Why did you choose these?
 - (c) Were they easy to implement?
13. Are there specific HRM practices that work especially well in the medical technology sector and in this company?

14. Do you believe organisational performance is directly linked to the deployment of HR practices? In what way?

15. How do you measure the impact of HR on business performance?

Section 2b: HR Now & The Future

16. What do you see as the main objective of the HR function in this company?

- (a) Recruit and Retain staff
- (b) Developing employee competencies
- (c) Improving the management of employee performance
- (d) Maximising employee involvement
- (e) Change in line management behaviour
- (f) Cutting costs
- (g) Other? _____

17. How have you seen the function of the HR department change in recent years? Do you think these changes have benefited the organisation?

18. How many are employed in the HR department?

19. What takes up the most time in the HR department? How has this changed in recent years?

20. Do you plan to grow the number employed in your HR department in the next 12 months? If so, in what area?

21. How do you plan to fill these vacancies?

- (a) CIPD members
- (b) Graduates

(c) Outsource

(d) Other

Section 2c: HR External Relations

22. Are you a member of the IMDA/IBEC? Do you find this useful?

23. Do you use consultants in HR? What for and why did you choose to use consultants?

24. Has any part of the HR department been outsourced and where to? If so, why?

25. Has it given rise to any difficulties:

(a) employee in-flexibility

(b) lower morale

(c) commitment issues

(d) Others?

26. Do you believe outsourcing has successfully supported firm performance?

Section 3: Recruitment and Retention

27. How many people are employed at this plant? Has this changed much in recent years?

28. Has the composition of the workforce changed much in recent years?

(skill-level, Irish/non-Irish divide, male/female)

29. Have you had any difficulty in attracting applicants? What new practices/incentives has the company introduced as a result of this?

30. Have you found people moving a lot from your company to other medical technology companies in the region?

31. What new practices has the firm introduced to address this?

32. Do any employees work: (tick all that apply)

- (a) From home during normal working hours _____
- (b) Flexi-time _____
- (c) Part-time _____
- (d) Job-share _____
- (e) Other flexible arrangements e.g. US time? _____

33. Do you have any plans to recruit employees in the coming 12 months? What categories?

34. What challenges do you expect to encounter in recruitment and retention in the future and how do you plan to address these?

35. What new recruitment and retention initiative do you believe contributed most to firm performance in the last 2 years?

Section 4: Training & Development

36. What are the primary drivers for training in this firm? (Staff retention, new products, difficulties encountered, etc)

37. What is the average number of training hours received by

- (a) A direct employee over the last 12 months?
- (b) A non-direct employee over the last 12 months?

38. How long does it typically take to get an operator up to speed? Have you found this to be a problem?

39. What type of training do you pursue for management? (e.g. leadership development activities, awareness training programme on diversity issues)
40. What new training initiative do you believe contributed most to firm performance in the last 2 years?
41. What new training initiative do you believe contributed most to firm performance in the last 2 years?

Section 5: Payment Systems and Pay Determination

42. What is the primary system of compensation for
- (a) Direct employees: Salary?
- (b) Non-Direct Employees: Hourly?
43. Has the payment system changed in recent years and do you have any plans to change it further?
44. How is the level of basic pay determined?
- | | |
|--|--------------------------|
| (a) By reference to industry comparators | <input type="checkbox"/> |
| (b) The cost of living index | <input type="checkbox"/> |
| (c) Local industry rates | <input type="checkbox"/> |
| (d) Other factors? E.g. Partnership | <input type="checkbox"/> |
45. How do wages compare to the average wage in the locality and in the industry itself?
46. What do you believe are the most influential factors impacting pay determination in recent years?
47. Has variable pay or non-monetary benefits changed much in the last few years? If so, what were the reasons for this?

48. Are any employees in the firm receiving performance-related pay?

49. What output/performance measures are used to determine PRP

(a) individual

(b) group/team

(c) organisation-based

(d) other?

50. How has the wage bill in this firm changed relative to overall costs in recent years?

51. What new payment initiative do you believe contributed most to firm performance in the last 2 years?

Section 6: General

52. How do you see the medical technology sector developing in Ireland in the future?

53. What are the critical factors which will ensure the sustainability of the sector in Ireland?

54. Would you be available to participate in a Focus Group at GMIT on this subject?

APPENDIX IV: SAMPLE OF GROUPING OF QUOTES BY KEY THEME

Difficulty Attracting Applicants

No Difficulty

Firm A: “Well you’re competing with MNCs but I think it appeals to some people and word of mouth and all that. And we offer good benefits. As a HR person in a small company you have to look and see well what can I offer that the MNCs can’t. And then you have to play on your good points like the hands on experience. In a big company you might make a decision but then your boss makes it and their boss makes it and by the time it gets to the top it might be a different decision. But here what ever decision you make you have to sit with it and that’s it.”

Firm B: “Not really, we’ve changed our strategy I guess, in that we use to use the press, and we found that for the more senior positions that wasn’t always effective, so we tend to go to recruitment agencies for those positions now. Otherwise we get a lot of cold applications, and we acknowledge them, keep them and then when we’re looking for someone, we’d go back over them”

Firm C: “No. There are a lot of CVs coming in as with most places. But I put an ad in the Times when we were looking for engineers but the Advertiser for the general operators. Got in tonnes of CVs”.

Firm E: “No”

Firm H: “No, we haven’t had any. There are so many people coming in off the street now with qualifications”.

Firm I: “No, a start up Medical Device with R&D, people are attracted to it. Engineers are always attracted to R&D”.

Firm K: “No we haven’t found it too hard. We filled all our positions, we did a good few internal promotions as well because a lot of our production staff would be highly skilled and have good qualifications as well so we do a lot of internal promotions. I know when we were recruiting for engineers last year we found that quite tough for a while

Difficulty

Firm G: “Yes, most definitely. Quality and Regulatory roles...just generally the number of companies that are competing for the same pool of talent, in those two areas particularly. And that would be in the last 2 years I’d have to say”.

Firm D: “Yes. They didn’t seem to have them until this year. I think the goal posts changed, they want someone who has an awful lot of experience and the agencies are firing in CVs with 2-3 yrs experience and the boss is telling me no I want 4-5 years”.

External Agencies used by HR professionals

Firm A: “I find IBEC very good. IBEC on the day to day running of things, something might come up that you just haven’t come across before and its not in a textbook and you have some one at the end of the phone. And they always come back, they’re quite good that way. The IMDA are good from the point of view newsletters, for positions and advertising especially if you’re looking for senior people”.

Firm B: “IBEC I find really support me hugely...its great to just shoot the breeze with John Brennan over something. The legislation is such a mine field now and it keeps changing so much, I find IBEC such a huge support because they bring out their guidelines on each piece of legislation so you don’t have to thrall through the actual law, you can just refer to their guidelines, and advice on various issues”.

Firm C: [on IBEC] “I’ve had some difficult situations where I can pick up the phone and its fantastic, they’ll advise you and they’re there. They have somebody, they delegate somebody to you and I find them very useful. I used to be a member of the CIPD of course but I finished my membership then because in the last place I worked it wasn’t continued. IBEC are brilliant, because you members you can access the website and get a lot more information than if you weren’t a member and I just find them very helpful on the phone as well. And I’ve been to a few IBEC seminars..like I went to one on Grievance and Disciplinary which I know very well and am very used

to but its still good to go and its interesting, you'll always pick up something you're not doing or never thought of so it is good.

The other thing as well is because I did the CIPD, I have a great network of people as well, college mates and colleagues that I can pick up the phone and talk to, I have a lot of friends who are HR managers and they've been a great help as well."

Firm D: I'm a member of IBEC myself.....and I would have their handbook as my third arm there

Firm I: I find IBEC incredibly useful and I do utilise them. IMDA is very useful as well for business development.

Firm K: (on IBEC) "We would find them useful for certain things like employment law and different training courses".

Future of the sector

Firm A: "Well, its all cost driven. When I started here (Feb 2002) we used to get plastics made in Sligo, and now that's gone to Taiwan, you might have been paying 2 or 3 euro up there and they can do them for 50 cent. I think manufacturing is going to be affected by all of this in the next few years."

Firm D: "Its all going to come down cost, staff are constantly looking for more and more money, our ESB bills are going up and people don't appreciate what they have anymore, you know I think we're nearly our own worst enemy.

Firm E: "I know that a lot of companies, and its something we're focused on, a lot of the stuff is moving to Mexico, a lot of it. This year alone, our two biggest customers that are probably 40%-45% of our business we had to reduce the price on everything to keep the contracts. And as you just mentioned wage bills are going up, the cost of raw materials is going up, which is why we have to stay fiercely focused on the efficiencies."

Firm H: “The only thing is the cost is killing us. Isn’t that why ‘other firm’ is in trouble. It’s not about efficiency or capability, its cost”.

Firm B: “I think we’re going to lose an awful lot of lower skilled jobs in manufacturing. The writing is on the wall, it has started already.”

Firm F: “I think we need to maintain a high skill level because I think with Medical Devices, I know a lot of what we do here can be taught quite easily, but at the end of the day, a lot of what we do we’re the only ones who can do it.”

Firm G: “I think the day of having massive production facilities is gone. I really do and that’s not just because what you read in the newspaper, just looking at the way organisations grow. We have a facility in Mexico, it’s up and running, it has its challenges, but nevertheless if you were to walk into it, it’s a superb cleanroom, you could be in Galway you could be in Dublin, you could be anywhere. So we have Mexico, a lot of our competitors have plants in Poland, Malaysia and all sorts of places, so I think the day of saying well going forward we’re going to be adding 500 people because we’re expanding our production facility, I’d say the chances of that are probably extremely slim. So the areas that we would trying to look at going forward would be value add, like shared services, R&D, they would be the big areas. So we have a lot of expertise in areas like Lean Sigma so we should as an organisation, we’re the shining examples here so we’ll consult with other parts of [the organisation] and show you how its done. Like last year we put 2,000 people through our process, between interviews assessments and hires, so we’ll do it for Europe, we have the facility, we have no problem handling heavy recruitment campaigns, its like going out there and selling ourselves is what we see as probably the way forward. Now that will mean that we not ever have significant jobs growth, I think that day really is gone. So its going to be in the more niche areas like R&D and shared services that we would see a potential future”.

Firm I: “You’ve got to be competitive and you’ve got to be cost efficient and you’ve got to understand your costs and you’ve got to know where your product is going,

who your target market is and all of that. I still think within Medical Devices, if you want the best medical device and if you're really serious about your quality, its still so manual, I mean I think automation will come in more. I'd like to think that we can keep it here, I really would. I'm in this industry 16 years now, more, a long time".

APPENDIX V: QUESTIONNAIRE FOR SECOND INTERVIEW AT FIRM J



Study of Human Resource Management Practices in the Medical Technology Sector in the West of Ireland

Questionnaire for further analysis of firm J

Researcher: Bernadette Hoban

This research is conducted as part of a Master of Business. The name of the firm will not be disclosed and all information provided in this study will remain confidential.

For further information and confirmation please contact:

Supervisors: Dr. Noel Harvey
Dr. Paul O'Dowd

General

1. You mentioned your company goals of Openness, Honesty, Flexibility and Innovation.
 - a) Can you elaborate more on these goals?
 - b) How do you achieve them on a day-to-day basis?
2. You mentioned you have a dedicated Innovation centre. How many are employed in the Innovation Centre?
3. There is a catalogue of achievements that the Innovation Centre has produced.
Can you give me an idea of what kind of items are in the catalogue?
4. You mentioned you had four key customers. How does your relationship with your customers help you achieve your organisational goals?

The Production System

5. Do you have strategic relationships with key suppliers?

6. Do you have team based assembly lines?
7. Would operators be expected to sort out production issues themselves rather than work around them?
8. Do you have:
 - a) Kanban
 - b) Kaizen
 - c) Six Sigma
 - d) Other production practices?

Recruitment

9. You mentioned you go to the “nth degree” to find the best talent. What practices do you use to do this?

Training & Development

10. You mentioned that employee development is critical to retaining talent and that you struggle to develop employees fast enough to support the growth within the firm. How do you approach employee development?
11. The aim with the training plan is to develop employees at every layer of the organisation using the same concepts. Can you explain what these concepts are and how you achieve this?

Performance Review

12. You mentioned you carry out a performance review for all employees. Why do you do this and what benefits do you see as a result of being able to do a performance review each employee as opposed to giving direct employees say a team based raise?

Metrics

13. You mentioned you have a HR KPI. How do you think that impacts firm performance?
14. Do you have a high turnover of production staff?

The goal of integration

- 7) How are people integrated into the company? E.g. through team building?

The goal of commitment

- 10) Suggestion Scheme: how many suggestions per employee would you get per year?
- 11) How many would be adopted?

The goal of Flexibility & Adaptability

- 13) How is the goal of a flexible workforce achieved?

The goal of Quality

- 15) Are employees involved in quality issues?
- 16) What measures do you pursue to improve the quality of working life for employees?