Making Sense of e-HRM: Technological Frames, Value Creation and Competitive Advantage

Steve Foster

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Abstract

A wide range of Human Resources (HR) processes and information can now be managed and devolved to line managers and employees using e-HRM ('electronic Human Resource Management'). E-HRM has been defined as "*An umbrella term covering all possible integration mechanisms and contents between HRM and information technologies, aiming at creating value within and across organisations for targeted employees and management."* (Bondarouk & Ruel, 2009, p.507). Contemporary e-HRM technologies contain powerful functionality that can support organisations in reducing the cost and improving the quality of Human Resource service delivery, as well as enabling higher productivity and providing strategic capability. The aim of this dissertation is to explore why the development of e-HRM has been relatively immature, given that organisations tend to take an 'automating' approach that focuses primarily on administrative efficiency. The central thesis is that future development of e-HRM depends on two factors; firstly, that stronger links between e-HRM and competitive advantage at the organisational level must be defined and exploited; and secondly that shared frames of reference with regard to technology are critical to gaining the support of investors in e-HRM.

The dissertation explores the wider context of e-HRM and its relationship to contemporary themes such as HR transformation, service delivery models, the growth of the internet and changing employee and managerial workplace expectations. Various definitions of e-HRM are explored, together with a literature review that categorises and summarises e-HRM literature over a twenty-one year period, concluding that there has been inadequate focus on understanding how e-HRM creates value. The dissertation makes a key contribution to practice through the e-HRM Value Model, a framework for defining, understanding and articulating how e-HRM creates organisational value. Its focus is on the outcomes of e-HRM rather than its characteristics, proposing that only three forms of outcomes can be derived from e-HRM: Operational HR cost reduction, improved people management / productivity and increased strategic capability. It represents a means of defining not only the value outcomes of e-HRM, but also the linkages between value potential, value conversion and value outcomes, providing a practical framework for defining the linkages between e-HRM and competitive advantage, as well as the basis for a diagnostic tool.

The dissertation makes a contribution to knowledge through the analysis and subsequent synthesis of a wide-ranging literature review and interviews with forty-six managers and line managers across fifteen organisations that were planning for or had implemented e-HRM. It concludes with a series of proposed reasons for the slow progress towards greater strategic use of e-HRM, based on a technological frames approach with regard to the Nature of Technology, Technology in Use and Technology Strategy. The dissertation argues that unless HR professionals are themselves able to make sense of e-HRM and articulate the benefits in terms of competitive advantage, e-HRM development is likely to remain immature. Further research opportunities to develop and test the model are identified, together with an assessment of the implications for e-HRM management.

1. Introduction: An Uncomfortable Relationship?

1.1 The rise of e-HRM

A wide range of Human Resources (HR) processes and information can now be managed and devolved to line managers and employees using e-HRM ('electronic Human Resource Management'). Although a variety of definitions exists for e-HRM, ranging from those based on system functionality to those that see it as an overall approach to HR management, for the purposes of this thesis, e-HRM will be defined as "*An umbrella term covering all possible integration mechanisms and contents between HRM and information technologies, aiming at creating value within and across organisations for targeted employees and management."* (Bondarouk & Ruel, 2009, p.507). Major global software providers such as SAP, Oracle and Lawson supply dedicated HR modules as components of their Enterprise Resource Planning (ERP) systems, often including payroll processing capabilities. The market also includes a large number of smaller non-ERP suppliers (often termed 'best of breed') that specialise only in HR/Payroll software, or specific systems that handle a single aspect of HR. The available technology consists of powerful relational databases containing data about employees, managers and the organisation structure, in support of processes such as recruitment, absence management, training administration and personal data management. These systems are typically web-enabled, allowing the distribution of data and processes to managers, employees, applicants and other groups, whether based in the office, at home or any location with a suitable internet connection. Over 90% of US organisations claim to be using web-based HR technology to support administrative operations (CedarCrestone, 2009). Implementing e-HRM represents a major commitment of time and resource for organisations, with around $5.7bn pa being spent globally on related software and implementation (IDC, 2007).

The growth in e-HRM coincides with the rapid expansion of the internet, which has brought low cost access and massive content to the general population. In the UK and much of the western hemisphere, individuals have become increasingly technologically sophisticated, with growing numbers of people relying on the internet to run their personal and work lives, including on-line shopping, arranging insurance, booking holidays and managing bank accounts. There is now an expectation of immediacy in dealings with service providers, the ability to compare products, quickly access information, obtain virtual around the clock access and resolve problems quickly (Sobkowiak & LeBleu, 1996). Access to Human Resources services through the intranet/internet has now become a standard feature of many businesses and employees expect high levels of service, including access to policy information, benefits data, pay details and on-line access to transactions such as personal expenses claims. Technology typically underpins HR delivery solutions such as shared services and outsourcing and is generally considered to be the 'glue' that holds these HR service delivery models together (Boroughs, Palmer & Hunter, 2008). However, in some organisations, delays in the introduction of technology means that employees have better access to technology at home than they have in their work location.

Although the HR function was one of the first to take advantage of computers (through early payroll systems in the 1950s), it has been relatively late to implement and exploit the internet and other technology solutions. Although the administrative

efficiency provided by technology has been successfully employed by many as a means of driving down operational costs, evidence suggests that implementation is often restricted to administrative applications and only a minority have extended the use of technology beyond basic transactions. As Hendrickson (2003, p.392) observes, the HR profession has "*Spent the last decade playing catch-up to other business functions in terms of successfully integrating advanced information technology into their processes.*"

1.2 The Research Agenda: Why is e-HRM use typically immature?

As a consultant working in this field, I often engage with clients in helping them plan for, develop and implement e-HRM solutions. Practical experience suggests that the potential of e-HRM remains under-exploited in many organisations, typically being employed at the most basic administration level and often targeted at reducing the operational cost of the HR function. Many HR professionals are, indeed, still playing 'catch-up' with regard to technology, demonstrating typically low levels of understanding of its potential for supporting people management, increasing productivity and making a strategic contribution to organisations. Technology is often perceived to be a transactional tool and as a result, it frequently struggles to locate itself on the agenda of senior Human Resources management. As an example, a 2005 book '*The Future of Human Resource Management: 64 Thought Leaders Explore the Critical HR Issues of Today and Tomorrow*' (Losey, Meiseinger & Ulrich, 2005) contains just four indexed references to technology – three consist of a single-sentence reference to e-HRM and the fourth is a short paragraph containing a weak case example. It would seem that if there is a future for HR, the sixty-four 'thought leaders' do not see technology as being a significant part of it - even David Ulrich, who captured the imagination of practitioners across the globe through his prolific writing on transformation in the 1990s and is a co-editor of the book, did not take the opportunity to put technology on the HR agenda. Likewise, a brief review of the content of conferences organised by the UK's professional HR body, the Chartered Institute of Personnel and Development (CIPD) over the past ten years reveals that there has been very little specific HR technology content, apart from a few limited sessions on topics such as web-recruitment. In contrast, The US based Society of Human Resource Management (SHRM) is far more proactive in this area and there is an active community of interest in the topic; the SHRM has even produced an HR competency toolkit (cited in Meisinger, 2005, p.81) setting out five core competencies for the HR function, one of which directly addresses HR technology. It is perhaps no surprise that uptake of e-HRM in the US is well ahead of the UK and it is much better developed as a discipline.

This central research question of this dissertation concerns why, in many cases, the HR function has failed to exploit e-HRM technology, limiting its use to basic administrative functions. It is concerned with the (mostly) complex and uncomfortable relationship that exists between the HR function, line managers and technology, leading to an apparent reluctance to invest in, experiment with and develop e-HRM. In many organisations, HR technology is firmly defined as administrative in nature, raising a series of questions about the processes through which organisations understand, assess, plan for and implement e-HRM and the failure to develop its more strategic functions. Indeed, an alternative title for the thesis might be "*Getting the Ferrari out of the garage*", a phrase used by one participant in the research who was frustrated to see much of the potential of e-HRM technology laying dormant and unused. One might speculate reasons for this slow adoption; for example, Dunivan (1991) argues that because e-HRM has tended to

be technical in nature (software, hardware etc), HR professionals have been unable to research, independently, the effectiveness of systems and therefore must rely heavily on the opinions of IT staff to inform and shape their views. Alternatively, perhaps there is something in the character of HR professionals, as 'people people', that results in them not being 'naturally' drawn to technology, which they see as alien and threatening. In some cases, e-HRM leaves many HR professionals cold or at best, disinterested. This perspective reflects many discussions and workshops with senior HR people; on at least two occasions where I have spoken about e-HRM at conferences, I have been accused of trying to reduce Human Resource work to soul-less, mechanical processes through technology, creating a barrier that potentially de-humanises the employment relationship [1].

Clearly, the use of technology must be appropriate and relevant, but there is a sense that HR professionals are still testing the boundaries and have some way to go in becoming comfortable around technology, a clear barrier to its further development.

This thesis ultimately concerns a range of fundamental issues that arise in the management of any form of change; how to define the value that e-HRM creates, why its development may be resisted and what barriers exist for its development. Moreover, it involves an examination of the relationship between the HR function and line managers and how each groups perceives the technology in terms of its nature, use and strategy. Academic research in the e-HRM field has tended to avoid addressing these latter questions, instead focusing on the functionality and characteristics of the technology. This thesis will argue that the lack of a suitable framework for understanding value means that HR professionals and line stakeholders are unable to make sense of and properly debate future investment in technology. As a result, organisations tend to revert to simplistic strategies that lead to the implementation of administrative functionality, rather than the creation of more meaningful business value that can lead to competitive advantage.

The key research question addressed by this dissertation is why organisations have been relatively slow to adopt strategic e-HRM; through a process of literature review and research interviews, it will provide a framework for defining and understanding e-HRM value creation. The broader objectives of the research are as follows:

[1] The use of the word 'Human' in this field is interesting. Many people dislike the terms 'Human Capital Management', 'Human Resource Management' and even the 'Human Resources function' name itself because these terms suggest a hard, ruthless approach to business that does not deal with emotions or individuals. Why is it that, ironically, being referred to as 'human' in this context somehow seems to de-humanise us? By describing ourselves as human, it's as if we strip away our individuality and reduce ourselves to pure biology. As 'humans' we seem to be no more individual than an insect in a nest. In contrast, the word 'Personnel' at least makes it clear that we're dealing with people (i.e. persons) – a quick examination of the Latin and French etymology confirms this. But 'Personnel' is too soft - hence the rush in the 1990's to re-badge the profession away from 'Personnel' towards 'Human Resource Management' ('Personnel' had welfare connotations and that just wasn't cool enough). Business needed a term that made people management sound like a scientific activity so 'Human Capital Management' and 'Human Resource Management' seem to embody this idea [from The Big Book of HR (Foster, 2009, p.10)].

a. To identify the key themes relating to e-HRM value creation in organisations, in particular examining linkages with competitive advantage
b. To develop a framework for conceptualising e-HRM value creation, combining a review of relevant literature and an analysis of the content of research interviews
c. To explore the extent to which differences in shared perceptions between HR professionals and line managers might have a detrimental impact on e-HRM development

1.3 Dissertation Structure

This introductory chapter explains the contribution the thesis will make to the knowledge and practice of e-HRM, setting out my own personal perspective as a practitioner and researcher in the field. Chapter Two sets out the research strategy for the thesis, explaining the methodological choices, the approach to the interviews and analysis techniques. The context for the research is set out in Chapter Three, exploring the nature of Human Resources functions, the breadth of activities undertaken and key contemporary topics such as HR transformation, outsourcing and shared services in relation to its organisational role. It includes an examination of HR's aspiration to be seen as strategically focused; a key question raised by the analysis is how HR creates value, concluding that such definitions are complex and difficult, at times requiring a leap of faith where absolute measures do not exist. Chapter Four builds on these ideas, examining the nature of the value proposition for e-HRM, how it is conceptualised and in particular, the perceived business value arising from e-HRM investment. It argues that there is an opportunity to use e-HRM in more meaningful ways than simply as an administrative tool, by supporting higher level business outcomes that may relate to competitive advantage. Based on a detailed analysis of over 150 academic articles, reports and trade journals published over the past 21 years, it proposes that research on e-HRM to date has been overly centred on inputs (for example, functionality) or implementation issues (barriers to adoption), with limited attention being given to outcomes in terms of the value created and the underlying business case. The analysis also examines general IT literature, which has many parallels with e-HRM and clearly is an associated area of study. Having set out the general HR and e-HRM landscape, Chapter Five then builds on the human capital management theme, proposing a new conceptual model, the e-HRM Value Model, combining the key themes identified in the literature review with the themes arising from a series of interviews conducted with HR professionals and line managers. It concludes that there is an urgent need to link e-HRM technology to the creation of competitive advantage, giving practitioners a more useful language and a framework with which to build support and enthusiasm for developing technology use.

Chapters Six, Seven and Eight define of the Value Outcomes within the e-HRM Value Model – HR Operational Cost Reduction, People Management & Productivity and Strategic Capability respectively. Within each Value Outcome, the individual components are described, with reference to literature evidence for each theme and supported by evidence from interviews. Chapter Nine then builds on the e-HRM Value Model as the basis for examining perceptions of e-HRM, taking a technological frames approach to explore how two key stakeholder groups (HR professionals and line managers) view the use of technology in HR. The research explores the impact of different frames of reference between HR professionals and

line managers on e-HRM development. These variations in perception about the meaning and impact of e-HRM may explain why creating a business case for the use of e-HRM beyond administration is often problematic. It proposes that if stakeholders are able to define, understand and agree common (congruent) technological frames with regard to e-HRM, based on the model presented, organisations will be better equipped to progress beyond the administrative uses of technology, towards the more productive and strategic use of e-HRM.

Chapter Ten then assesses the research process, including a critique of the methodological decisions made, in particular issues of conflict inherent in the role of consultant as researcher. It then addresses the central research question, as to why e-HRM development remains relatively immature, offering a number of reasons for slow progress. Finally, it explores the implications for HR management, the limitations of the research and a proposed agenda for future research into the subject.

1.4 The Unique Contribution of this Research

Academic research can sometimes suffer from an overly clinical, mechanical approach to the way it presents findings; "*Sometimes academics take very exciting, engaging and important work and present it in such a way that it looks like a butterfly squashed between two pieces of glass*" (Blake Ashforth, cited in Bartunek, 2003, p.203). Ashforth contends that management research should not only aim to address important research questions and reach valid conclusions, using a sound methodology, but it should also be 'interesting'. Davis (1971, p.309) provides support for this view, arguing that *"A theorist is considered great not because his/her theories are true, but because they are interesting*", noting that what constitutes 'interesting' is really about expectations, the ability to challenge taken for granted assumptions and reveal new ways of looking at the topic. Clearly, making management research more interesting is likely to increase its visibility, improve its impact and motivate readers to become more engaged with the material, which is consistent with doctoral level research.

It is rare for consultants practising in the e-HRM area to be given (or take) the opportunity to develop their professional knowledge in parallel with academic research in the field. The primary contribution of this research, therefore, will be to propose an 'interesting' (and practical) model that provides stakeholders with a better understanding of the value created by e-HRM, as well as highlighting a series of flaws in current thinking, for example the difference between the potential to create value and actual value outcomes and the need to emphasise organisation level outcomes. Its unique contribution to *knowledge* will be the presentation of an original model for conceptualising the nature of e-HRM value, together with a series of observations that provide an insight into the way that e-HRM is understood by stakeholder groups. It will also make a contribution to understanding the adoption and acceptance of technology, arguing that knowledge about the nature, use and strategy of technology are important factors in developing e-HRM. Throughout this research, I have combined the insight derived from practical experience with academic research and the output from the interview programme, to develop an approach to the process of planning for and implementing e-HRM. The unique contribution to *practice* will be the use of these models in defining competitive advantage for e-HRM and to offer a framework for academics and practitioners that identifies some of the barriers to implementation success. The ultimate intention is that the e-HRM Value Model will be useful to HR practitioners, line managers, IT

teams and academics as a framework for creating a more robust business case that will permit the extended use of e-HRM. It also offers the potential for a new diagnostic tool to investigate e-HRM usage and identify change management issues in an organisational setting.

2. Research Strategy

2.1 A Personal Perspective on e-HRM Research

"*The researcher is able to carry out his or her research only in the context of his or her interests, world view, preconceptions, so-called expertise, and values. Without some context it is impossible to ask any sensible question*" (Dachler, 2000, p.577).

As a consultant working in the field of e-HRM, my role typically involves engaging with organisations to plan for the introduction of HR technology, building the business case, designing robust business processes and supporting the management of business change. I have built this experience on the foundations of a career in Human Resource Management, where I have held roles in the main functional areas, such as recruitment, reward and industrial relations and as an e-HRM project manager. For the second half of my career, I have been working as a consultant to various organisations across a range of HR systems. These roles enable the exploration of the research question from the perspectives of technology user, HR practitioner and consultant, although at times these roles are inevitably in conflict.

What has frequently struck me during the course of many implementation projects is the lack of clear understanding about the capabilities of technology beyond its administrative role. For many organisations, systems implementation is a technological endeavor, involving field size, servers and networks, with its relationship to business outcomes only a secondary consideration. These encounters have raised a number of questions about the development of e-HRM, ultimately leading to a desire to conduct structured research into this area, for which a DBA seemed an ideal vehicle to pursue these enquiries. I have found that the writing process is a valuable way of encouraging and channelling self-reflection and ultimately, making sense of my own experiences. This has surfaced publicly in the form of numerous articles in the HR trade press and through writing a number of commercial publications in the form 'of Guides to..' on topics such as shared services, outsourcing and e-HRM. It has also recently culminated in the authoring of a book, 'The Big Book of HR' (Foster, 2009a), a short, generalist textbook that covers a wide range of topics related to HR service delivery, in part inspired by some of the issues covered in this thesis. Indeed, there has been a symbiotic relationship between the book and the thesis, each feeding from the other, with ideas often transferring between the two – the book has required me to translate academic concepts into practical language for an HR audience and vice-versa. Indeed, the e-HRM Value Model, central to this thesis, came from a need to frame the research questions in practitioner terms.

Because of these experiences, it would therefore be impossible to approach this research without an accompanying set of beliefs, attitudes and assumptions about Human Resource Management and the use of technology. For example, I have observed that the planning and implementation process is, at times, more of an art than a science, influenced by the personal prejudices and assumptions of those who own the process. At times it often seems that stakeholders struggle to make sense of e-HRM and that much of my role is often to help organisations to understand the 'art of the possible'. I therefore arrive at this point with a combination of tremendous insight, long experience and debilitating baggage in equal measure. One of the most

useful aspects of the preparation for the project was the short personal biography section in the introduction and in *Appendix A: Personal Biography*, which explores my own perspective and examines how my views towards e-HRM have been formed.

As the opening quotation highlights, all research inevitably stems from an interest in a subject and is loaded with personal and organisational conflicts. Clearly, as both a consultant and researcher in this field, I inevitably bring my own prejudices and assumptions to the e-HRM debate, including being evangelical about the role of technology in supporting good people management and holding a frustration about the extent to which technology is often targeted at the most basic level of activity. My starting point for the research is best summed up by the following quote from Information Week, which I often use as an introductory slide in presentations:

"In many cases, technology is the easy part. The tough part is how you apply it to your business, how you optimise your processes, how you find new levels of collaboration, *how you reduce risk, how you become more competitive, how you please your customers more and how you constantly seek innovation*" (Information Week, June 2004).

The quotation effectively summarises how I see the ultimate purpose of e-HRM (and all technologies) which concerns its broader organisational impact and the need for alignment with business outcomes, rather than being inherently focused on the technical aspects of implementation.

2.2 Methodological Development: Overview

Tranfield, Denyer & Smart (2003) note that management research is a relatively young field, less well developed in terms of its agenda and question formulation than many other areas of research. Creating management research which is both theoretically sound and methodologically rigorous, as well as relevant to the practitioner community, has been a theme explored throughout the 1990s and 2000s. Much of the discussion has focused on the ontological status of the field, which is often fragmented and divergent in nature, typically concerning whether management research is a design science, rather than a formal or explanatory science such as medicine. This section addresses the ontological and epistemological choices that underpin the methodological decision.

The decision regarding methodology (that is, a way of thinking about and studying social reality) as distinct from methods (a set of procedures and techniques for gathering and analysing data) is an important aspect of any research project. Research methodology not only influences the design of the research, but also helps the researcher to identify the most appropriate approach and potentially suggests new designs not previously considered (Easterby-Smith, Thorpe & Lowe, 2002, p.27). Developing a methodology for research is fundamentally a decision about the nature of knowledge itself; indeed,Morgan & Smircich (1980) argue that the case for any research methodology cannot be considered in the abstract, because each methodology carries assumptions about the nature of knowledge, epistemology, ontology and human nature.

Methodological decisions are essentially a choice between two philosophically polarised positions, those of positivism and social constructionism. Positivism has its roots in the inductive and verificationist principles of Auguste Comte (cited in

Easterby-Smith et al., 2002, p.28) and the subsequent growth of logical positivism which rejected metaphysical speculation in favour of pure logic. Positivism starts from the ontological perspective (relating to assumptions about the nature of reality) that knowledge is objective, existing externally to the researcher and that its properties can only be measured through objective methods. The positivist position makes the epistemological assumption (about the best approach to knowledge of the world) that knowledge is based on observations of this reality, based on discovery, hypothesis, experiment, measurement and verification [2]. Under positivism, methodological rules must be designed in such a way that they expose any statement in science to the possibility of falsification. In the case of management research, the aim should therefore be to identify causal explanations and fundamental laws that explain regularities in human social behaviour (Johnson & Duberley, 2000). Individual sense-making processes are either ignored as unobservable or are seen as mediating variables that interfere with a causal relationship [3] . It follows Max Weber's demand for value-free social science (Weber, 1949), arguing that science should deal with facts and cannot resolve matters of value.

Positivist approaches are generally associated with quantitative methods, based on experimental methods that place the researcher into the role of detached controller and observer, with the intention of conducting value free, unbiased research, disconnected from human emotion. Its concerns are causality, validity, reliability, replication and generalisability, using methods such as surveys and questionnaires that seek to collect a body of quantifiable data that can be examined and analysed to produce patterns of association (Bryman, 1992). Quantitative methods remain the dominant, de facto standard for much management research, particularly in the case of many journals which continue to adhere to the fundamental quantitative meta-theoretical logic of inquiry. As a result, qualitative researchers often find themselves in a defensive position against quantitative academics (Dachler, 2000). The underlying positivist position of a quantitative approach assumes that statistics and data will themselves demonstrate proof, giving an impression of orderliness and linearity (Bryman, 1993).

The original starting point for the current research was essentially positivist in nature. During the late 1990s, when early exploration of the subject was taking place, there was a trend towards positivist HR theoretical perspectives, which sought to establish causal relationships between HR activity, HR practices and performance outcomes [well summarised in Patterson et al (1997)]. One of the most prominent was the work of Mark Huselid (Huselid, 1995), which included a highly statistical analysis of HR practices, relying on classic quantitative tools. Human Resource Management research concentrated on trying to quantify the links between HR practices and bottom line financial results). The original intention of this research project was to replicate this approach by defining links between the use of HR technology and business outcomes and exploring whether the use of e-HRM

[2] Karl Popper (1934) in his classic work, The Logic of Scientific Discovery, repudiated the classical logical positivist perspective and argued that it is only possible to verify and prove theory through the possibility of falsification.

[3] Positivism also leads to the 'paradox of circularity', in that any theory of knowledge pre-supposes the conditions in which knowledge takes place – Johnson & Duberley (2000) argue that it is not possible to use science to ground the legitimacy of science (!)

might be regarded as an HR practice. Indeed, the original research application proposed measurement of the links between the implementation and use of technology and quantifiable output metrics such as improved revenue, profitability per employee, output, productivity, share price, market capitalisation and other variables.

While the key strengths of a positivist, quantitative methodology are that it can provide wide coverage, is fast and economical, and that 'hard' statistical data can support policy decisions, the approach has a number of limitations. Through its emphasis on causality and detachment, it is typically ineffective in understanding processes and lacking insight into the significance of actions. Positivist approaches to management research suggest that managers face an objective reality to which they need only apply suitable assessment methods to come up with the correct solution to organisational issues (Johnson & Duberley, 2006, p.55). . As Morgan & Smircich (1980) comment "*social scientists are in effect attempting to freeze the social world into structured immobility and to reduce the world of human beings to elements subject to the influence of a more or less deterministic set of influences"* (p.498). Such approaches create an illusion of neutrality and risk insufficient attention being paid to ethical or moral issues and by definition require precise definition of the research question, supported by objective data collection, systematic procedures and replicable findings

Whereas the positivist perspective is based on causality, hypothesis, deduction, reductionism and generalisation, these concepts sit uncomfortably within social science, which sees reality as socially constructed rather than objective and external. In a tradition stemming back to 18th Century philosophers such as Emmanuel Kant, writers such as Berger & Luckman (1967) focus on the way that people make sense of the world through shared experiences and language based on a socially constructed reality. Ontologically, truth is established through a correspondence between observations and phenomena, taking the epistemological position that humans endow the world with meaning in a process of selecting, limiting, organising and interpreting experiences of external reality. Qualitative research is based on an epistemological tenet that rejects the notion of an objective reality that is knowable and can be discovered independently of the process of inquiry. In this case, the task of the researcher is to understand the different constructions and meanings that people place on their experiences, using meaning, reflexivity, understanding and sense making techniques rather than measurement and experimentation. The researcher determines, in the context of his or her perspective, what is to be considered as data with respect to a passive research object whose essence is to be discovered. The interpretive tradition therefore emphasises that humans give meaning to social reality before deciding how they are going to act. These meanings must be interpreted before social actions can be explained [4] research design therefore offers a number of options – action research, case study, critical enquiry, ethnography, experimental design, rounded theory, narrative etc. Qualitative research is part of this interpretative tradition, carried out for the purpose of discovering concepts and relationships by organising data into a theoretical, explanatory scheme (Strauss & Corbin, 1998, p.11). Classic management texts in the interpretive tradition include Melville Dalton's (1959) and Tony Watson's (1994) studies of managerial work and ground-breaking studies such as Huw Beynon's 'Working for Ford (Beynon, 1975) and 'The Affluent Worker'

[4] As defined by the New Fontana Dictionary of Modern Thought, Bullock, A., Trombley, S. 2000, p 442, Harper Collins, London

(Goldthorpe et al., 1968). These studies take an interpretive approach in order to elicit understanding in a more natural, narrative style, for example, defining the meaning that workers attach to their employment and as a result revealing insights into the nature and influences on attitudes and behaviour.

Van Maanen (1988, p.9) describes qualitative methods in terms of an array of interpretative techniques that seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency of certain more or less naturally occurring phenomena in the social world. Miles & Huberman (1984), in their classic work, point out that qualitative data is "rich, full, holistic and real, whose validity is unimpeachable", while Daft (1983) notes that the most significant studies in behavioural and organisational studies often approach the problem as an open-ended question rather than as a hypothesis to be tested. Glaser & Strauss (1967) argue that theory building is best conducted through inductive, qualitative research rather than continual hypothesis testing. Potential tools for qualitative research include questionnaires, structured interviews and direct observation of project teams. Case studies are also a highly useful tool to develop new thinking (Yin, 1984).

Of course, there are certain weaknesses with qualitative methods and these must be recognised during research design and planning. Miles & Huberman (1984) point out that because many types of data are collected during qualitative research, it can be time consuming and the sheer volume may overwhelm the researcher. Qualitative approaches may also be lighter on theory and fail to build theory into the approach, although techniques such as grounded theory focus on theory building [5].

Ultimately, research design involves a choice between methodological and philosophical approach. Those who see the social world as concrete and closed, who seek objectivity, hard evidence and empirical knowledge will tend to take a positivistic stance based on quantitative methods whereas those who view the world as an organic, open system, where interpretation and meaning are more significant, will tend to hold a more subjective, social constructionist perspective. While neither subjective nor objective approaches can be regarded as absolutely right or wrong, these underlying philosophical factors not only shape the research design, but they help to clarify what kind of evidence is needed to support the outcomes of research and the way it is presented. As Dachler (2000, p.575) states "*It has to be understood that doing quantitative research is dealing with a very different, "world" of insight and understanding than is the case for those that do qualitative research."*

Easterby-Smith et al (2002, p.57) provide a useful model that sets out the relationship between the underlying social science epistemological position and potential research design methods:

[5] Although as Eisenhardt & Graebner (2007) observe, one approach for dealing with the varied meanings of 'qualitative research' is to avoid the term!

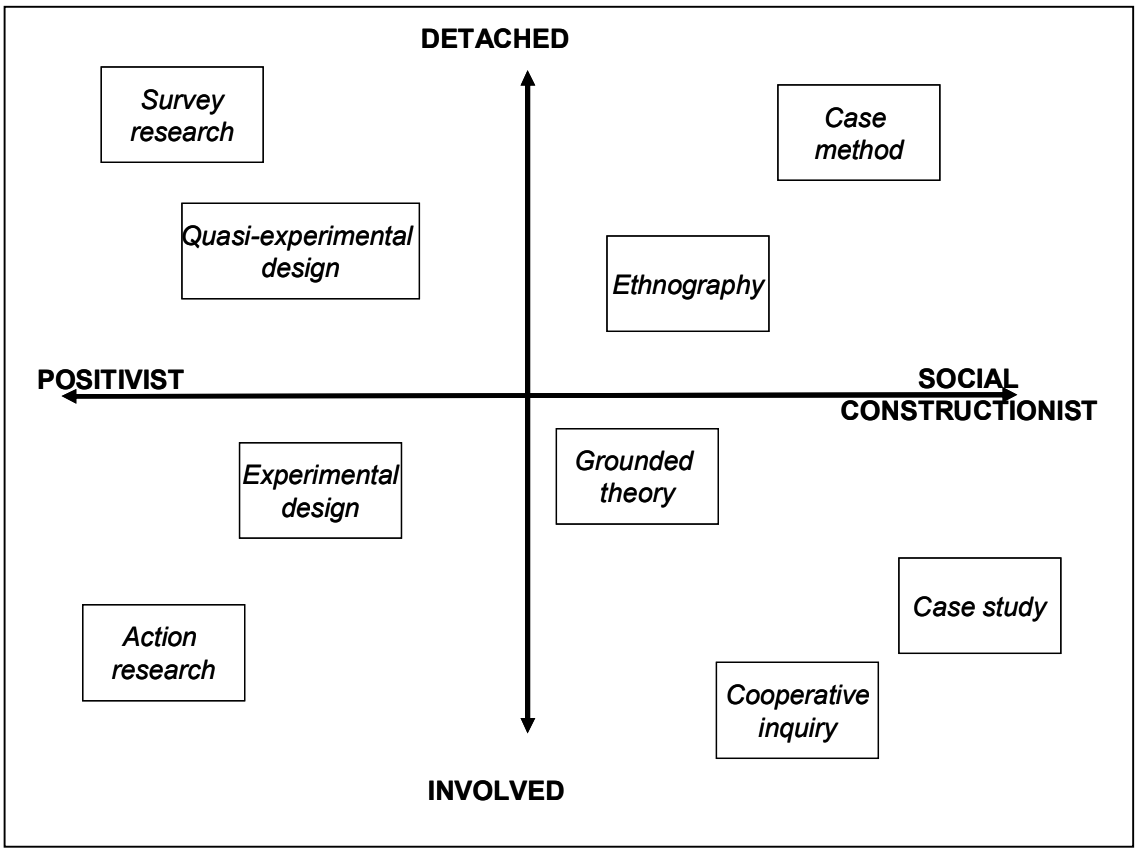

Figure 1: Matrix of Research Designs
(Reproduced from Easterby-Smith et al., 2002, p.57)

The epistemological approach underpinning research therefore reveals something about the ontological viewpoint of the researcher. However, the method employed is not necessarily indicative of the ontological and epistemological position; as Dachler (2000) observes, while conducting interviews is typically understood as a qualitative research method, it is perfectly possible to conduct interviews, perform a content analysis, count the number of times different respondents have mentioned a particular content and correlate these quantified measures with the results of a measure of personality or intelligence. For example, Kossek et al (1994) combined the use of quantitative surveys of the attitudes of the HR community towards HRIS with a long-term ethnomethodological case study approach (including attending project meetings and working with the implementation team).

In practice, there is no such thing as an entirely 'pure' approach – it is not possible to identify any philosopher who subscribes to all aspects of a particular view (Easterby-Smith et al., 2002, p.28), which perhaps explains why there is continual debate in this area.

2.3 Methodological Development: Proposed Approach

The eventual formulation and clarification of the research question, through a process of reflection, led to a critical point of realisation that the true purpose of the research was to focus on the impact of e-HRM on management capability and the value created by technology, rather than by reference to bottom-line corporate

outcomes. The critical point in methodological development was therefore the realisation that a quantitative approach would not (and could not) provide an insight into these sense-making processes, with the risk that less tangible and perhaps more powerful areas such as perceptions, expectations and value might be ignored. For example, a common theme of the workshops and interviews was that the introduction of e-HRM raised important questions about the ability of managers to manage people, as well as a view from HR managers that line managers might struggle with some of the basics of technology use. The essence of the research is therefore whether line managers believe that access to these technology tools makes them a more competent manager and creates meaningful value for them. As a result, questions of sense-making, expectations and perceptions are highly important, clearly relating to social construction, since 'managerial capability', and the idea of 'management' itself are themselves social constructs, discourses devised by a specialised interpretive community. Undoubtedly, these topics would not have arisen had a quantitative approach been taken, since assumptions about scope would need to have been made prior to the development of the instrument.

A quantitative approach also became less attractive as the research design progressed and a detailed literature review began to suggest that an HR practice-based approach would be laden with methodological problems (see Gerhart et al, (2000). Furthermore, the difficulty involved in isolating the specific variables involved would be problematic; even establishing a definition for technology is difficult, let alone isolating its impact (Dusek, 2006). A qualitative, social constructionist approach seemed to offer more opportunity to gain meaningful insight into the use of e-HRM technology.

Given the overall research objective of establishing the core issues and seeking explanations of these complex issues, it is unlikely that a quantitative approach would be effective in addressing these questions. As Albert Einstein is alleged to have said, "*What counts can often not be counted and what can be counted often does not count.*" [6].

The chosen research methodology was therefore the result of an evolutionary process that ultimately led to a significant shift from a quantitative, analytical focus towards a more qualitative, grounded theory approach. Development of the approach was a result of a series of 'turning points' that opened up new ways of looking at the field, for example, encountering Weick's work on sense making (Weick, 1995), Wanda Orlikowski's work on how organisations make sense of technology (Orlikowski & Gash, 1994) and Tansley, Newell & Williams (2001) proposition that technology plays a symbolic role in driving HR transformation, acting as a stimulus for a fresh approach to Human Resource practices and new employment relationships. The work of Tony Watson (1994) also provided inspiration through his explorations into the nature of management, which seemed to tell a rich story and cast far more light on the topic of management than an ANOVA statistic ever could. Watson used the technique of inserting direct quotations from his research participants into the text, as a way of highlighting the key issues and developing the underlying themes.

[6] I am not sure of the precise source of this quotation, nor of the context in which it was said, although several quotation websites attribute it to Einstein. Nevertheless, the sentiment is absolutely valid and is a good counter to the quantitavists.

Using an ethnographic [7] technique, Watson explores what it means to be a manager, using a blend of theory and dialogue to develop a narrative that tells a story and sheds light on the experience. Watson's writing technique also offered a model for presenting the research material that helped shaped my own presentation style and in turn informed the methodology. These inspirational leaps, often through a period of reflection and exploration, seem to be the essence of good research, a moment in time when some order emerges from the seeming chaos and a focus is found. One might think of the research process as a series of forks in the road that demand further exploration; some of them are intellectual dead-ends, while some lead to a more productive outcome. Even though much of this exploration has failed to find its way into the final submission, the process of exploration, filtration and evaluation nevertheless shapes the final product.

One technique employed during the work with COUNCIL 1 was participant observation. Participant observation has its roots in anthropology and involves social interaction between the researcher and informants in a practical situation, typically over an extended period and a wide ranging involvement. This technique, which allows researchers are able to obtain more detailed and accurate information about the people being studied, was highly appropriate to the consultancy situation. Such approaches include varied levels of involvement, from the role of complete participant (covert operation) through to complete observer (overt observation). Most are a blend of these roles, with the researcher forming relationships through which to observe events. The participant observer brings their own experience to the situation (Brewer, 2000) and through an inductive process formulates hypotheses.

For COUNCIL 1, the role taken was clearly 'participant-as-observer', where I was employed as a consultant during an e-HRM implementation project.

2.4 Approach to the Literature Review

Tranfield, Denyer & Smart (2003) argue that a systematic review of the literature is an important part of undertaking any research project, where the individual researcher maps and assesses the relevant intellectual territory, leading to clear development of the research themes and enabling the specification of the research question (p.207). This is based on the idea that the same principles should apply to management research as those used in medical sciences, to counteract accusations of bias and make explicit the values and assumptions that underpin the review. This 'evidence-based' approach is now finding its way into other forms of research and evidence-based approaches to human resource management have begun to appear; for example, Rob Briner has written extensively on this topic (Briner, 2007). Systematic reviews differ from traditional narrative reviews by adopting a replicable, scientific and transparent process through an exhaustive literature search of published and unpublished studies. Tranfield, Denyer & Smart (ibid) outline an approach for undertaking a literature review based on developing a formal plan for the review, conducting the review and reporting back to include a descriptive,

[7] A methodological strategy used to provide descriptions of human societies, where the researcher tries to immerse him or herself in a setting and to become part of the group under study to understand meanings and significances that people put on the behaviour of themselves and others, as defined by Easterby Smith, M., Thorpe, R. & Lowe, E. (2002, p49)

thematic analysis of the field, including the formation of an expert committee to validate selected research. The value of a systematic approach is well noted and while not fully complying with every aspect of the method outlined, the approach to the literature search and review has been especially rigorous and thorough using the principles outlined.

It became clear during the early research design stage that the exploration of several related bodies of literature would be necessary, given that the relationship between the HR function and the use of technology is complex and multi-disciplinary. For example, the context for e-HRM demands an understanding of the historical development of the Human Resources function and its perceived role in organisations; the analysis must also take into account a series of key ideas that have been central to HR thinking since the late 1990s, including, but not limited to, shared services, outsourcing, HR transformation, human capital management, business partnering, employee engagement and talent management. A simple examination of contemporary HR conference topics and the trade press suggests that these matters are high on the agenda of senior HR managers at the end of the first decade of the 21st century. At the same time, it would be impossible to examine e-HRM without also appreciating the wider context of information technology, especially the expansion of internet technologies over the past ten to fifteen years, since HR technology is one strand within a much wider field of academic study. Likewise, there is a growing body of academic research into e-HRM as an area of study in its own right, with the formation of specialist research communities that are now beginning to explore how HR technology is understood, adopted and used [8], including dedicated conferences and journal issues [9] as well as a range of books addressing specific aspects of e-HRM (for example, Walker, 2001; Gueutal & Stone, 2005).

As a result, the breadth of literature that might potentially be included in the literature review is vast, adding an additional layer of complexity to the analysis, in effect requiring multiple searches into related areas. In addition, a through review of literature concerning methodological approaches was required to develop the research design. Clearly, a detailed exploration of each of these individual topics would be impractical within the limited scope of this research project, highlighting the need for a systematic study. A literature review is inevitably a distillation of the most relevant areas following a rigorous filtering process and part of the skill of the researcher is knowledge as to what should be included or excluded.

Articles in the e-HRM field were identified by searching on relevant terms such as ‘e-HR’, ‘e-HRM’, ‘HR portals’, ‘HR Intranet’, ‘HRIS’ and ‘HRMS’ using Emerald, J Stor, EBSCO Business Source and Google Academic as a starting point. Additional articles were identified by tracking citations listed in the reference section of reviewed journal articles, each new article opening up new sources of investigation and expanding the search geometrically. This process also provided a means of validating that the most commonly cited articles had been included in the search, to ensure that ‘classic’ frequently cited articles had been reviewed. A large number of reports, trade press and online articles were also obtained and reviewed, although

[8] For example, the European Academic Workshop on e-HRM, which holds bi-ennial international conferences on this topic

[9] For example, the International Journal of Human Resource Management, 2009, 20 (3)

these are typically not peer-reviewed so their content must be regarded as contextual input rather than evidence. As recommended by Tranfield, Denyer & Smart (ibid), a detailed analysis was then conducted to establish the key themes in the literature and to set research into a historical context. This is particularly important in any field related to technology, given the rapidly developing nature of the subject being studied. For example, it is likely that knowledge, attitudes and perceptions about information technology were different in the early 1990s (prior to the expansion of the internet) from those of the early 2000s, simply because technology has become more mainstream and individuals have greater exposure to it in their daily lives.

A wide-ranging literature review was also conducted into general human resource management, with the intention of summarising the current state of thinking in this field. This also involved an examination of reports, academic research, conference papers and in particular, trade journals commenting on topical issues. Because human resource management is a very broad field, it was necessary to apply a series of filters to the search, so that topics such as reward strategies, leadership and organisation development were excluded. While these are fundamental concepts within the field, they are not strongly related to e-HRM apart from the linkage to management information. However, those areas that related to the delivery of HR services, particularly those concerned with transformation, HR structure and HR roles were included. The search for literature in the Information Technology (IT) field took place relatively late in the research programme, driven by a requirement to provide a context for the technology aspects of e-HRM. In practice, the general IT search was primarily triggered by the need to support theory development, so focused on matters such as the return on investment of IT, productivity and the creation of value through IT. Again, the field is extensive and a filtering process was applied to exclude deeply technical matters.

In each of the areas studied, articles were analysed using a mind-mapping technique to categorise the body of research, an approach which proved to be a valuable method for organising, linking and connecting ideas, thoughts and themes, as well a method for cross-referencing different research studies. Using an open-source software tool (Freemind) it was possible to construct an elaborate, systematic literature search for each area under review. Examples of the mind map developed are shown in

Appendix B: Example of Mind Map for Literature Review.

The key tool used to record and capture the literature search was Endnote, a database tool that allows researchers to record and catalogue each item of research

material. This was also used as a means of tracking articles that been identified but not yet obtained; in some cases, material that was not available through standard downloads had to be obtained from specialist library sources. To allow easy retrieval of the large volume of research material obtained (which eventually became in excess of 600 articles, reports and extracts), research material was stored in pdf format and allocated a unique reference code that was in turn linked to the Endnote record. This tool proved invaluable as a way of keeping track of literature reviewed, while also permitting rapid retrieval and incorporation of reference citations into this document. Over the course of the research programme, an extensive database was developed containing resources that are re-usable for future research projects. Past experience has shown that a failure to properly manage literature citations can add considerably to the researcher's workload.

The outcome of the literature review is divided into two chapters - Chapter Three sets out the general HR and people management context for the study, while Chapter Four focuses on defining and summarising the role of e-HRM, leading to the formation of the research questions.

2.5 Research Approach

Several methods were used to collect data, the primary method being a series of semi-structured interviews with a sample of HR managers and line managers to explore how the business benefits of e-HRM are perceived by these groups. Research also included analysis of documents such as internal presentations, business case proposals and strategy documents where these were available. Extracts from these are shown in the participant profiles in *Appendix C: Profiles of participating organisations*, together with the maintenance of a reflective diary to record personal observations and ideas and thoughts that arose following interviews or in various conversations that took place. An extract from this diary is shown in *Appendix D: Extracts from Personal Reflective Diary.* While this background information essentially provided context for the study, the informal discussions referred to in the diary often inspired new thinking that permeated research and theory development. Although time consuming, the diary is an important tool for the researcher to ensure that these thoughts are captured.

The sample was a series of organisations that were at different stages of their implementation of e-HRM technology, taking note of Eisenhardt & Graebner's (2007) recommendation to use numerous and highly knowledgeable informants who view the phenomena being studied from diverse perspectives. A profile of each of these organisations is shown in *Appendix C: Profiles of participating organisations*. *Table 1: Participants by Organisation Type* summarises the participating organisations and the numbers of HR managers and Line Managers interviewed in each organisation over the course of the research study. The major sample was drawn from the UK Public Sector, including ten councils, two government agencies, an NHS Trust and a police constabulary. Given that many Public Sector organisations are embarking on a programme of investment in e-HRM, it represented fertile ground for research into its use and an excellent research platform for monitoring perceptions and understanding with regard to e-HRM.

Oganisations were typically selected on the basis of opportunity; for example, while working as a consultant on an e-HRM implementation project, between 2006 and 2008, I had very good access to the Personnel team and a range of senior line managers at COUNCIL 1 in a way that an external researcher approaching the

organisation 'cold' would not be able to achieve. For this reason, COUNCIL 1 provided the largest group of participants. The context for interviews at COUNCIL 1 was different from the arrangements at other organisations, in that the role taken was often 'participant-as-observer'. This technique has its roots in anthropology and involves social interaction between the researcher and informants in a practical situation, typically over an extended period and a wide ranging involvement. The researcher typically forms relationships with participants through which to observe events, allowing more detailed and accurate information to be obtained about the individuals being studied. Such approaches include varied levels of involvement, from the role of complete participant (covert operation) through to complete observer (overt observation). The opportunity to observe the development of COUNCIL 1, as it moved from design phase into a live implementation, while also being able to monitor the responses of managers and the Personnel function is an opportunity rarely open to researchers. While many consultants are in a position to observe, few are able to approach projects from an observational, reflective stance. In addition, a large amount of background contextual material was available that provided valuable insight into the ongoing implementation project, including attendance at project planning meetings, access to documents and several informal conversations with team members and HR staff. Indeed, COUNCIL 1 presented a potential opportunity to take an action research based approach to the project, although this idea was discounted as a result of project delays and issues connected to the wider contractual relationship that broke up the continuity of the project. It would not have been sensible to rely on one organisation to provide the data required and in hindsight, it was a good decision to spread the participants more widely. At the same time, the maintenance of a reflective diary at COUNCIL 1 enabled me to keep track of events and capture thoughts and observations as the project progressed. Interviews were conducted in a traditional way, consistent with other participants.

AGENCY 2 also provided a large sample of interviewees, although this organisation was not a consultancy customer. AGENCY 2 was accustomed to engaging with other organisations on a range of research topics associated with their sector, so sharing ideas and taking part in research was part of their normal way of working [10]. Research was made much easier by this willingness and enthusiasm to take part. Other participating organisations were selected from a blend of consultancy clients of the author or through direct approaches at conferences, events etc. Participants either used, or expected to use, HR software products to support their e-HRM service requirements. Some initial screening was performed against participants to understand their suitability for research, the current stage of their project and whether reasonable access would be granted.

Two main groups were studied; the first was a range of HR professionals that included HR Directors and senior HR managers, the second was Line Managers, defined as organisation members with responsibility for the management of one or more people within their organisations, who are or would become users of e-HRM technology and would be aware of its impact. In practice, line managers were only interviewed in organisations where an HR manager had also been interviewed, primarily because access to line managers proved to be challenging. In some cases, HR managers became highly protective of their 'customers' and acted as

[10] On the three visits made to AGENCY 2's Head Office, there was great interest on my reflections on their project and any learning I could share from my experience with other organisations.

gatekeepers, often being reluctant to give permission to interview line managers until they had been through the research process themselves, after which they were more comfortable with the process. At POLICE 1, a high profile 'gatekeeper' resiliently protected access to senior non-HR staff, declaring that meetings with line managers might prompt concerns or raise expectations about the project. This in itself was significant, perhaps revealing more about the relationship between line managers and the HR function than the interview itself. In several organisations, the research was initially perceived to be about the technology itself and there were attempt to channel me away from HR towards IT project managers, perhaps indicative of the perception of where e-HRM fits into HR thinking. Perhaps the most complex aspect of the project was arranging the interviews, several of which were cancelled at short notice, although this was not surprising given the roles of some of the senior managers involved.

In total, forty-six interviews were conducted in fifteen organisations, with thirty-five interviews being conducted with HR managers and ten with line managers, as *Table 1: Participants by Organisation Type* indicates:

Organisation Type	Organisation Code	HR Manager	Line Manager	TOTAL
AGENCY	Agency 1	2		2
	Agency 2	9	2	11
	Agency 3	1		1
COUNCIL	Council 1	5	4	8
	Council 2	1		1
	Council 3	2		2
	Council 4	5	1	6
	Council 5	1	1	2
	Council 6	1		1
	Council 7	1		1
	Council 8	1		1
	Council 9	1		1
	Council 10	2		2
NHS	NHS 1	1		1
POLICE	Police 1	2	2	4
WORKSHOP	Workshop 1	1		
TOTAL		**36**	**10**	**46**

Table 1: Participants by Organisation Type

Participants include workshops with groups of line managers in COUNCIL 1 and one workshop at AGENCY 2, each of which was classed as one interview for the purposes of Table 1, since specific individuals in these groups could not be individually identified, to protect their organisations and provide anonymity for individuals. In addition, I acted as a facilitator at a workshop organised by the CIPD, consisting of HR representatives from a range of organisations which also served as input. Although this was a round-table discussion involving six attendees, it was also classed as one interview for recording purposes, because it was not possible to distinguish specific individuals during the session and not everyone spoke. However, notes were taken during break out sessions.

2.6 Interview Structure

Consideration was given to the extent to which interviews should be structured. Although more time consuming to organise and undertake, interviews provide an opportunity for researchers to probe deeply and uncover new issues, securing vivid, accurate, inclusive accounts based on personal experience (Burgess, 1982). A highly structured interview format was thought to be too prescriptive for the sample under discussion, given that the overall sample involved multiple organisations, in different sub-sectors, each at different stages of development with regard to e-HRM. For example, while COUNCIL 1 was in the planning and design stage of their project, AGENCY 2 had completed the first stage of their project and was moving to a second phase of development. A common set of questions would therefore have been impractical, because each organisation being studied had a very different starting point and the objectives, scope and dynamics of each project varied. Simply recording responses to pre-defined questions would not shed light on the underlying issues and an exploratory style would need to be employed. Instead, semi-structured outline questions were developed (set out in *Appendix E: Structured Interview Questions*) which allowed a more flexible approach in the interviews and a more 'open' exploration of the issues. It was felt that this, preceded by a clear statement of the area of enquiry and some overview of the research would best prepare interviewees for the discussion.

During preparation of the semi-structured questions, an 'intents' list was prepared to provide a succinct rationale that would test and validate the purpose of each question, as well as a provide a guide to follow-up questions, as recommended by Carey & Gelaude (2008). This acted as a memory aid during interviews as well as ensuring that all topics were covered. These subsidiary questions are shown alongside the structured questions. Interviews were aimed at obtaining an insight into how participants understood the nature, application and benefits of e-HRM and how they 'make sense' of the process of creating e-HRM value. Because all the participants to the research were senior line managers or HR professionals, it was assumed that each participant was sufficiently articulate and assertive enough not to be drawn into simply agreeing with the researcher, especially since there was no inherent incentive to do so. Interviewees were encouraged to engage in a broad-ranging discussion in order to provoke responses, rather than the interviewer being a 'speaking questionnaire'. Participants were encouraged to share their views on the context of e-HRM, including an insight into what progress had been made with technology, concerns relating to its introduction and their perceptions of the impact of technology. In later interviews, some participants were invited to comment on general themes that had emerged in previous interviews with colleagues as a way of gaining a deeper understanding of the organisation. During the interviews, questions were asked about (but not restricted to) the following:

- The current HR maturity level, opinions about the HR function and the relationship of technology to a more strategic model for supporting people management.
- Perceptions of the role of line managers in people management.
- The specific business drivers for investing in technology.
- Expected and actual outcomes of the technology investment, both quantitative and qualitative.

An anonymised example of one interview is included in *Appendix F: Example Interview*. Interviews lasted between 45 minutes and 2 hours and were recorded

using a small, unobtrusive, silent, digital recording device, which converted the interviews into a manageable MP3 file format. All interviewees were made aware of the use of the recorder and asked for permission to make a recording, with an assurance that they were purely for the use of the interview, to help the conversation flow freely and that it would not be made available to others. The recordings were then transferred to a laptop computer and backed up in case of loss or damage. Two of the interviews were not fully recorded due to an unfortunate battery failure towards the end of the interviews, although sufficient content was retrieved to enable the interviews to be useful.

A degree of confidentiality was critical to the research, especially when discussing opinions about the Personnel function and attitudes to the organisation. The manager's workshops conducted at COUNCIL 1 and AGENCY 2 were especially informative and revealed much about the collective attitudes of these groups [11]. Jones (1985) places emphasis on understanding the social situation in which the interview takes place. For example, interviewees make rapid decisions about researchers with regard to how much they can be trusted and whether information disclosed will be shared outside the meeting. Care was taken to ensure that interviews took place in a quiet room with no interruptions and the amount of time available for the interview was confirmed. At the start of each interview, participants were given a brief, informal overview of the research objectives and told that research was being conducted into how organisations use technology to support the delivery of HR services. It was also explained that the interview was subject to the ethical rules of the University and that their personal and organisational identity would be protected. Participants were asked to sign a letter stating that they had been informed of this and requesting their permission to make an audio recording. A copy of the letter is shown in *Appendix G: Project Objectives/Approval Letter*). In some cases, this permission was provided after the interview by e-mail and approved electronically.

Recordings were transcribed using Dragon Naturally Speaking software, a speech to text conversion program. While listening back to recordings using headphones, interview content was repeated into the software, which then converted the speech into text. This was then reviewed against the source recording and amended to ensure accuracy. Although a slightly cumbersome process, it was nevertheless highly efficient, permitting virtually 'real-time' transcription. All interviewees were offered a transcript of the interview, although only one took up the offer, providing additional useful commentary and further elaboration on some of the points discussed.

2.7 Interview Coding Structure

Quotations from interviews are used extensively throughout the key chapters to illustrate specific arguments, as well as cross-refer to theory. Throughout this dissertation, any references to specific interviews are shown following the quotation in a standard format, setting out the type of organisation (e.g. Council 1), the job role

[11] One must be careful to ensure that a 'pack' mentality does not arises during workshop sessions, where issues and concerns may be unduly amplified through the group. This is especially true if attitudes towards HR are being discussed, where HR may become a scapegoat for a range of individual grievances. The researcher needs to facilitate the workshops effectively to avoid this.

of the interviewee (e.g. HR Manager) and a code representing the interview number (e.g. 01). This structure allows easy reference back to the original source interview, which helped considerably in the management of a large amount of interview material.

Organisation	Role of interviewee	Interview Reference Number
Council 1	HR Manager	01

So, for example, quotations appear in the format:

"I actually think we're very computer based here, e-mails and so on, it will be a quicker way of doing it" [Agency 1, HR Manager, 6].

2.8 Analysis of interviews: Coding

Having acquired a large body of research material, a range of approaches was assessed for analysis of the interview data. Template Analysis is an approach to thematic analysis by which the researcher produces a list of codes (the template) representing themes identified in the text. Although these may be defined a priori, they can be modified as the researcher reads and interprets the texts. This ability to modify and develop themes as the research develops is a major advantage of the technique and intuitively provides a platform from which to explore and conceptualise underlying ideas. King (2004) argues that template analysis can be employed within a range of epistemological positions, from a positivistic quantitative stance where objectivity and coding reliability are important, to a 'contextual constructivist' position where there may be multiple interpretations of any phenomena. Template analysis works well when the aim is to compare the perspectives of different groups within a specific context and is often a preferred technique to support the development of grounded theory, in that it permits researchers to tailor the approach to match their own requirements. For this reason, in the context of the research objectives, template analysis was seen to offer the most satisfactory technique for thematically organising and analysing textual data.

Strauss & Corbin (1998) set out an approach to the logical analysis of research material. Coding is defined as a technique for conceptualising, reducing, elaborating and relating the data discovered through interviews, observations, documents, records etc. The coding procedure allows the researchers to see new possibilities in phenomena and classify them in ways that others may not have seen before, to reveal patterns in the data. The first step is 'Open Coding', concerned with generating categories and their properties, then determining how categories vary across dimensions. During the coding process, data are broke down into discrete incidents, ideas, events and acts. Through comparative analysis, other concepts that share the same characteristics are identified and placed into the same code. Identifying the common characteristics of data allows grouping and allows the researcher to answer questions about how, where and when, uncovering new relationships. In terms of creating the e-HRM Value Model, the three value outcomes (HR Operational Cost Reduction, People Management and Performance, Strategic Capability) were the result of this open coding process, based on defining common characteristics and themes arising in the interviews.

Subsequent steps in the analytic process involve 'Axial Coding' and 'Selective Coding', where data are reassembled through statements about the nature of relationships. Axial Coding is a process of relating categories to the subcategories

of the key concepts identified in Open Coding, according to their properties and dimensions. This step defines how categories crosscut and link around a conceptual 'axis'. In the development of the e-HRM Value Model, this stage involved the creation of relevant sub-categories; for example, the categories of 'P1 - Managers' Toolkit' and 'P2 - Change of HR Focus' arose during this operation. Finally, Selective Coding involves integrating and refining the theory based on the analysis conducted, that is, creating relationships between themes, around a central explanatory concept.

Template analysis broadly follows the approach outlined by Strauss & Corbin. The connection between a category and a passage of text is achieved by "marking" the document section with the category, i.e. "coding" a document. It also allows other details such as the role of the interviewee to be recorded and analysed against themes. It is also possible to produce reports summarising the frequency with which certain content arises, although the template analysis method suggests that this is not good practice and the counting of occurrences of particular themes leads the analyst to stray into a quantitative methodology, as the frequency of a code in a text cannot be taken to have any great meaning.

In its simplest form, a code is attached to a section of text to relate it to a theme or issue which the researcher has identified as important to interpretation. A key feature is the hierarchical organisation of codes, with groups of similar codes clustered together. One of the key benefits to using template analysis is the ability to use parallel coding, whereby the same segment is classified within two codes at the same level. For example, in the current case, a section of text relating to a view of the HR function may also contain text relevant to a view on line manager capability. The content of interviews is spread throughout the dissertation in the form of attributed quotations, to illustrate and highlight key evidence supporting the thesis.

A range of analytical tools is available on the market that fall under the category of Computer Assisted Qualitative Data Analysis Software (CAQDAS) that search, organise, categorise and annotate textual and visual data. Well known programs for this task include NVivo, Ethnograph, N6 and Qualrus. However, these systems are often complex and expensive, require training and are typically only available through university networks or by purchasing a private copy. As an alternative (in keeping with the technology theme of this research), several 'shareware' programs were investigated (freely available software that can usually be downloaded and trialled for a limited period). Two programs were identified as potentially meeting the requirements for a simple to use tool that would enable template categories to be coded and analysed. The first of these, EZ-Text was developed by the US Centers for Disease Control and Prevention, Atlanta, for their research into the spread of diseases such as AIDS (Centers for Disease Control and Prevention, 1998). However, while this is a powerful tool, it relies heavily on the standardised codification of responses using pre-designed, specific, structured questions, which was not appropriate to this research [12]. The other software identified was Weft QDA, an open-source tool specially designed for qualitative analysis (Fenton, 2006). Open source means that the source code for the program is generally open to a range of technical and non-technical developers, who improve the software at no

[12] Nevertheless, I am grateful for some helpful correspondence with the CDC who kindly shipped a CD version of the program to me, with extensive supporting materials.

cost. As a tool, it is simple and therefore takes minimal time to understand and use. Best of all, the software is free so it requires no financial outlay for the user. The concept of Weft QDA is that it enables the import of text based files, as well as audio and video if needed, providing character based coding and statistical analysis. Text can be marked into themed categories, that is, an analytic theme, idea, or variable that attempts to describe certain passages of the text data. These are sometimes referred to as "codes" in the literature. Themes must be set up in advance, but can be amended as required. Categories can be organised in a hierarchical pattern, and can have editable memos associated with them.

2.9 Methodological issues

One important issue that arose during interviews at COUNCIL 1 (and others to a lesser extent) was the conflict inherent between the roles of consultant and researcher. As a consultant contracted to COUNCIL 1, a key aspect of the role was to shape the client's thinking about particular solutions; a consultant often takes on highly political roles, including being coach/mentor, designer, facilitator and advisor, working with the client to developing strategies for minimising resistance, communications and change planning. In contrast, as a researcher, the role involves observing and reflecting on events to develop theories about what is taking place. In this respect, there is a potential conflict of interest, as one role impacts on the other and at times it was necessary to remind interviewees about this distinction, as well as suppress a natural desire to solve problems during discussions with interviewees. Tony Watson (1994), in his study into the nature of management, makes the point that he was not a neutral fly on the wall during his research, collecting attitudes and other data 'like a naturalist netting butterflies' (p.7). Any social researcher inevitably influences those that are being researched by the nature of the questions asked and the words chosen. While the skills of consultant and researcher overlap in many areas, suppressing a natural urge to guide and advise is paramount.

A further area of potential conflict for those undertaking research arises where interviewees are also in a commercial relationship with the researcher. It is therefore tempting for some interviewees to see the interview as an opportunity to raise matters of customer service, or in the case of e-HRM, even questions or concerns about the software product. In one case, arrangements had been made to visit an interviewee (an HR Director) following an informal meeting some weeks earlier, during which I had explored the research opportunity. However, in the same conversation, the potential participant had also expressed some concerns about project delays and had confused my request for a research interview with an invitation for a service review. Fortunately, the misunderstanding was resolved prior to the visit and the right 'hat' could be worn at the meeting, although I nevertheless sensed some frustration at the lost service discussion.

3. Creating Value Through People Management

3.1 HRM and Personnel Management

The Human Resources function has existed in some form since the industrial revolution, from its earliest incarnation as a worker's welfare function, through its role in the 1960s and 1970s as a counter to the rise of trade unions. Indeed, for the majority of the 20th century, traditional personnel management was essentially concerned with regulation and direction, often led by specialist areas such as a formal Industrial Relations section to deal with collective bargaining and negotiating conditions of employment (Boxall, 1996). However, the profession has changed enormously in recent years; as John Purcell (2004, p.2) argues, what constitutes HRM has "*Broadened beyond recognition*." Karen Legge (1989a) notes that towards the end of the 1980s, personnel management started to give way to 'Human Resource Management' (HRM), or more specifically to *strategic* Human Resource Management. The 1980s and 1990s saw the profession pre-occupied by a debate as to whether 'Human Resource Management' (HRM) was substantively different from 'Personnel Management' and whether HRM was simply 'old wine in new bottles' (Storey, 1989; Guest, 1997), re-labelled to give the illusion that it had evolved into something more substantive. Some have argued that modern concepts of strategic HRM effectively constitute a paradigm shift away from the old Personnel model - John Storey (1989) concludes that HRM marks a departure from the prevailing orthodoxy, implying something different from the collective bargaining, procedurally-centred model typically found in Personnel Management, while Legge has argued that what differentiates 'Personnel' from 'HRM' is that HRM focuses on what is done to managers, rather than Personnel's focus on what managers do to employees (Legge, 1989b).

Despite its long history, Human Resource Management appears to lack a core theoretical perspective, rendering comparison and definition complex and challenging. Indeed, Martin-Alcazar et al (1980) note that the historical confusion over the meaning of the term 'Human Resource Management' may have restricted its theoretical development. According to Legge (2005), theoretical approaches to HRM need to answer three central questions: how to conceptualise HRM, how to conceptualise performance and how to conceptualise the relationship between the two[13]. As will be explored later, these questions are highly pertinent to an exploration of e-HRM, which faces similar challenges of definition, conceptualisation and relationship.

Although most HR Departments claim to have strategic aspirations, historically, it has been a largely administrative function headed by individuals whose roles are largely focused on cost control and transactional processing (Ulrich, 1997b). Perhaps as a result of this, the HR function continues to suffer from a poor reputation in the general media - in the 1970s, 'Personnel' was often described as the 'Cinderella profession' (because it never goes to the ball). The media seems to enjoy portraying HR managers as either incompetent 'jobsworths', remote pen-pushers or fluffy, tree-hugging, new-age faddists. Journalists equally delight in relaying stories about any Chief Executive who is prepared to be openly critical

[13] In lay terms, this might be expressed as "is HR doing the right thing and is it doing things right?"

about the HR function – it seems that every few weeks, the message 'fire the HR function' forms the basis for a headline similar to the examples shown here. HR tends to have a weak reputation among many line management customers and informally, 'HR' is often said to stand for 'Human Remains' an unkind commentary on its organisational standing. As one interviewee in the research programme commented:

"*I'm not sure we've all got a shared understanding of what the hell they're supposed to be doing. I think that's the problem. For me, it's a people business; we should have a very strategic view of what the role of our HR support is."* [Council 1, Line Manager, 02].


"We don't need HR"

Personnel Today 14th March 2006, p.19

Management consultants often join in the attack - a PwC report (2008, p.39) concludes that "*At a time when human capital is being recognised as key to an organisation's sustainability, the reputation of the function is at low ebb. Its future is in doubt.*" Similarly, a report by Deloitte (Deloitte, 2009, p.1) stated that "*HR is at a turning point… we believe HR is faced with a stark choice. It can either evolve and make a significant contribution, or be diminished and be dispersed into the business*." Academics also have a long history of criticising the HR profession – Skinner (1981) described it as 'Big hat, no cattle' and some have questioned whether there is a future at all for the HR function – Ulrich (1998) starts from the position that HR as an *activity* has never been more necessary, but, as a *function*, it can only continue if it adopts an entirely new role and agenda, based on becoming strategically proactive. A cynic might conclude that the profession is not well positioned to ask for additional investment in e-HRM technology when it has such an uncertain future.


HR fights back after report sparks fears over its future

Personnel Today, 29th April, 2008, p1


Human resources departments: I've never understood the point of them

The Times, October 5th, 2009

3.2 The role of people management in creating value

Michael Porter (1980) states that to gain competitive advantage over its rivals, an organisation must undertake one of three competitive strategies: It can pursue *Cost leadership*, in which an organisation attempts to be the lowest cost producer in its industry, requiring a low-cost advantage gained through efficient operations,

economies of scale, technological innovation, low-cost labour or access to cheaper raw materials. Alternatively, a *differentiation* strategy is available when an organisation distinguishes itself from its industry competitors by obtaining a unique position in the marketplace, emphasising high quality, extraordinary service, an innovative product design, technological capability, or an unusually positive brand image. This position typically justifies a price premium that exceeds the cost of differentiation. Finally, a *focus* strategy is when an organisation establishes an advantage in a narrow market segment, achieved by either a cost advantage or differentiation approach aimed at a narrow market segment (Beckers & Bsat, (2002, p.45). Competitive advantage can be measured through business value (profitability, market share, market size), operational efficiency/cost reduction, management productivity and other strategic thrusts (Strassman, 1988).

Traditional resource-based models of economics consider resources that are rare, valuable, non-substitutable and imperfectly imitable to be the basis for a firms' sustained competitive advantage (Barney, 1986), suggesting that human resource systems [14] can contribute to an improved competitive position. Human capital theory sees people as a unique source of sustained competitive advantage, the "*Accumulated stock of skills, experience and knowledge that resides in an organisation's workforce and drives productive labour*" (Nalbantian et al., 2003, p.75),. Contemporary approaches to 'Human Capital Management' are based on economic concepts that emphasise the role of employees as a factor of production capable of producing wealth, recognising that people are the most long-term, enduring form of intellectual capital (Barney, 1991; Pfeffer, 1994).

Early usage of the term 'Human Capital Management' stems from research by Nobel prize winning writers such as Becker (1964), while accountants such as Lev & Schwartz (1974) and Flamholz (1985) later sought to explain how the contribution of employees added to the asset value of the firm, attempting to establish valid and reliable techniques for measuring the contribution of employees in organisations. While most forms of capital can be replicated by competitors, human capital within an organisation often represents many times the face value of formal assets such as contracts, buildings and equipment. Hand & Lev (2003) have estimated that up to 75% of the difference between the market and book value of an organisation can be attributed to intangibles, including people, while Huselid et al (2005) report that meaningful improvements in HR management can produce a 10-15% increase in shareholder value. These factors may explain why some businesses are sold at a premium price, to reflect the value created by their human capital. In economic terms, successful firms will strive to possess superior sources of human capital through recruitment, selection and development programmes and will seek to support this with better business processes (Boxall, 1996) that create a powerful form of competitive advantage (Huselid, 1995).

Until relatively recently, the study of HR practices was seen as a fruitful line of enquiry for demonstrating the impact of HR activity on bottom-line performance. Recent years have seen a growing emphasis on positivist perspectives that seek to establish links between HR activity and performance outcomes and a recent trend has involved seeking quantitative metrics that identify causal relationships between

[14] By this, systems refer to an HR 'architecture' rather than technology.

HR practices [15] and aspects of competitive advantage such as shareholder return, profits, organisational survival and productivity.

3.3 The role of HR in supporting people management

If good people management is critical to creating value in organisations, then it follows that the HR function has a key role in enhancing the quality of people management. The HR function has been conceptualised as needing to meet three, often competing, aims: to make itself more cost effective by reducing headcount and ultimately, the cost of its services (*the operational problem*), to improve its services to increasingly demanding line managers and employees (*the relational problem*), and to address the key strategic drivers of the organisation (*the transformational problem*). This three stage maturity model, originally proposed by Yeung & Brockbank (1995) is frequently cited in literature and appears to be widely supported (Snell, Stuebner & Lepak, 2002; Gueutal & Falbe, 2005; Huselid et al., 2005; Ruta, 2005; Ruel, Bondarouk & Van der Velde, 2007).

HR fulfils many organisational roles and as *Figure 2: The HR / Payroll Process Framework* below illustrates [16], HR and Payroll activity can be summarised as providing sixteen value, operational and support processes, stemming from four strategic drivers:

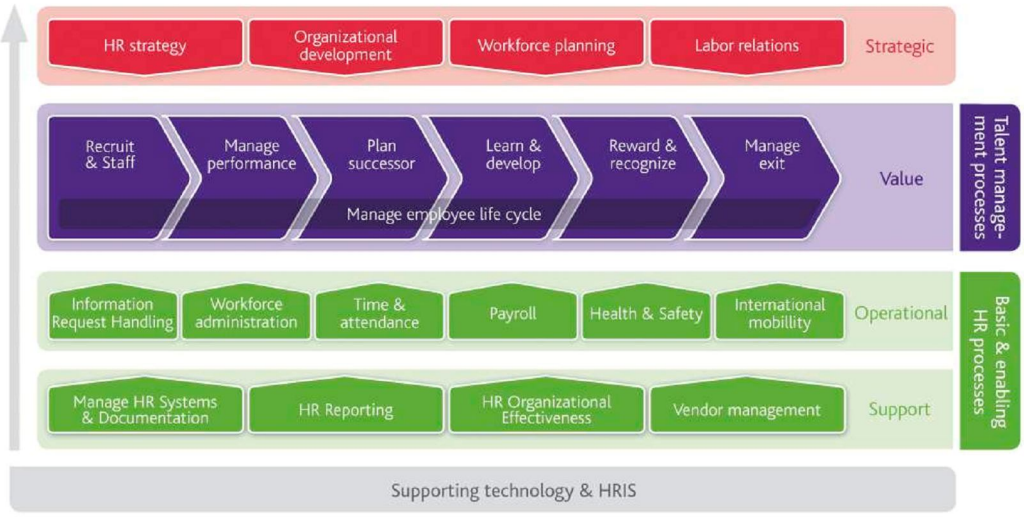

Figure 2: The HR / Payroll Process Framework

[15] Despite a surge of interest in HR practices in the 1990s (Pfeffer, 1994; Huselid, 1995; Patterson et al., 1997) there are now many who doubt whether the study of HR practices actually represents a useful way forward for HR (Guest, 1997; Gittleman, Horrigan & Joyce, 1998; Rogers & Wright, 1998; Purcell, 1999; Richardson & Thomson, 1999; Gerhart, Wright & McMahon, 2000) This is perhaps yet another example of a 'false dawn' for the HR profession, at a point where it believed its activities might become more than a 'leap of faith'.

[16] Reproduced with the permission of NorthgateArinso.

The breadth of HR activities can at first appear overwhelming – in total, there are potentially approximately 120 sub-processes across the HR/Payroll structure, being performed at levels ranging from administrative support through to strategic consultancy. The three key areas are defined below:

3.3.1 Operational Processes

These are highly transactional in nature and are an inevitable part of employing people, including areas such as payroll, time & attendance and general workforce administration such as starters, leavers and changes. HR is generally assumed to own the delivery of a series of services and processes relating to operational and transactional activity. For most organisations, the target is to deliver these processes as efficiently as possible and at the lowest cost, as they rarely provide competitive advantage. However, in some cases (for example, where time & attendance is linked to rostering and scheduling tools), they may have an impact on improved productivity (CedarCrestone, 2009). These processes can be broken down into further levels of process detail - for example, a major process area such as Recruitment and Selection includes a number of sub-processes (Level 2), such as vacancy management, position creation, job posting, job advertising, application management, assessment and selection and offer management.

Within each of these sub-processes, there are even further variations – for example, the process of advertising a job in a local paper is different from posting it on an external job board and managing applications for a junior role needs to be handled differently from applicants for a senior management position. Many of these operational processes can be delivered efficiently through e-HRM to automate transactions, or through employee and manager self-service functions that enable tasks to be undertaken from desktop PCs or remote computers.

3.3.2 Value Processes

These refer to the 'relational' processes that deliver high value to the business. Although they often have a strong transactional element to them, these processes are linked closely to people management processes and are usually tied to the culture and style of the business. They are sometimes referred to as lifecycle or talent management processes, as they are focused on bringing people into the organisation, developing them, rewarding them, managing their performance and ultimately arranging their exit from the business. Performing these processes well can provide competitive advantage by supporting human capital management strategies - for example, good recruitment processes give the organisation access to the most skilled people in the market, while supporting managers in the development of their teams and providing tools for performance management.

3.3.3 Strategic Processes

This category includes HR strategy, organisational development, workforce planning and labour relations, processes which are generally not highly transactional in nature. However, the information needed to support these processes typically derives from transactional processes.

As well as the above, HR functions also perform a range of support processes which are internal to the operation of the HR function itself, for example, the management of third party vendors, processes for maintaining the HR system and HR reporting management. In some cases, they include processes that ensure continuous development of the HR function.

3.4 HR and competitive strategy

The role and activities of the HR function in an organisation are likely to be strongly influenced by the organisation's competitive strategy. For example, if the organisation has a competitive strategy that requires it to be a low cost operator, then it is likely that the role of HR will be to provide basic services and compliance at low cost, with an emphasis on basic services. Likewise, if the strategy is based on differentiation, then a focus on innovate products is likely to support an emphasis on people management, leading to higher levels of investment in employee development and career management, with a higher profile for the HR function. Lepak & Snell (1998) argue that the true value of the HR function is when it helps the organisation to achieve competitive advantage, for example, through the development of core competencies; Lawler & Mohrman (2003) see HR's greatest opportunity as being in the development and implementation of corporate strategy, by helping the organisation to develop the necessary capabilities while Wright et al (2005) argue that supporting the creation of value through people is a key component of HRM effectiveness. One might argue that the entire raison d'etre of the HR function should be "*The development of human capital that enables the enterprise to become more competitive, to operate for maximum effectiveness and to execute its business strategies successfully.*" (Alvares, 1997, p.9); Or, as Bill Hewlett, co-founder of Hewlett-Packard expressed succinctly, "*The role of Personnel is to enhance the quality of management.*" (cited in Beer, 1997, p.51). These perceptions are complicated by the fact that HR has many 'proximate' or functional customers such as managers, employees, job applicants, contractors etc who depend on HR services, each with its own perceptions as to the appropriate role for the HR function.

Kearns (2003) sets out an HR maturity scale, reproduced below in ***Error! Reference source not found.***, that runs from 'No conscious personnel management' at one extreme through to 'Organisation becomes a whole system' at the other, and indicates a 'tipping point' between good practice and effective HR management, at which people become regarded as a source of competitive advantage.

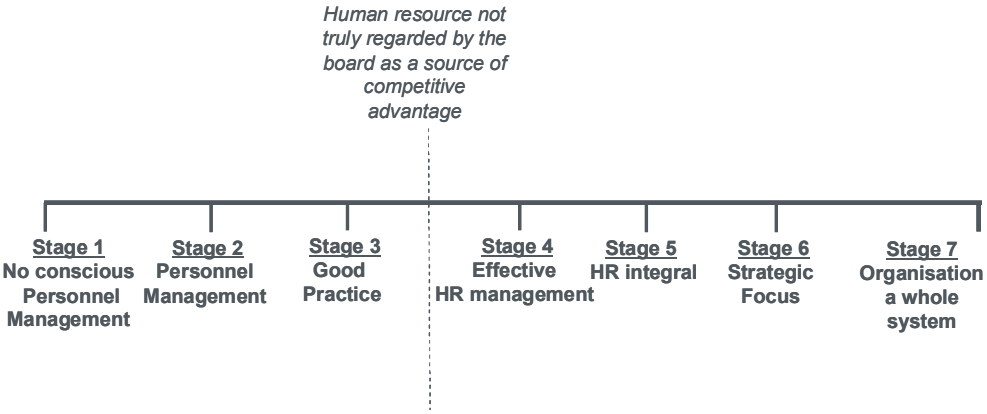

Figure 3: HR Maturity Scale

Reproduced from Kearns (2003) p.37

The choice of competitive strategy will also have significant implications for the role of e-HRM in an organisation – a cost-leadership position will demand a low-cost HR operation, with minimal HR management and basic administrative processes, while a differentiation strategy will shift the HR role to one based on support for acquiring and developing skilled people and the greater use of technology tools to support this strategy. This will be explored further in Section 4.7.

3.5 A focus on value and outcomes

Despite this evidence, Michael Hammer suggested that the phrase 'people are our greatest asset' is '*The biggest lie in contemporary American business*' (in Stiles & Kulvisaechana, 2004, p.4), because few organisations behave in a way that demonstrates they believe it. One reason for this is a lack of understanding about how people actually create value – in a Foreword to *The HR Scorecard* (Becker, Huselid & Ulrich, 2001, p.ix) David Norton, co-inventor of the balanced scorecard, states that most organisations have a poor understanding of strategies for developing human capital and "*There is little consensus, little creativity and no real framework for thinking about human capital*". Lepak, Smith & Yatlor (2007, p.180) concur, noting "*There is little consensus on what value creation is or how it can be achieved.* Perhaps the only conclusion that can be reached is that the mechanisms which create HR value are inevitably complicated and complex. One critical challenge for the HR profession is therefore how to translate the potential of people in the organisation into meaningful policies and strategies that will deliver the potential of human capital; as Martell & Carroll (1995) point out, since overall strategic success is typically measured in financial terms, HRM must be able to demonstrate a contribution to the bottom line through the creation of value through people. Indeed, Kearns (2007) claims that the concept of value is more powerful and more meaningful than the traditional profit motive. In his view, organisations would be better served by thinking in terms of value based *outcomes*, rather than traditional *inputs* such as staffing ratios, training expenditure and process efficiency which are more concerned with time and money. The focus on outcomes, in particular their linkage to competitive advantage, is an important foundation for the development of the e-HRM Value Model that follows in Chapter Five and underpins this dissertation.

3.6 Transformation of the HR Function

Beer (1997) argued that the HR function needs to shed its traditional administrative role and adopt a new strategic role, aimed at developing the organisation and the capabilities of its managers. The drive towards a more 'strategic' HR function has pre-occupied the profession for some time and HR functions are increasingly under pressure to become a 'strategic business partner' or an 'internal consultant', to become 'aligned to the business strategy', demonstrate its 'added value' (Alvares, 1997, p.9), and latterly, to become involved in 'Human Capital Management' [17]. HR professionals aspire to a strategic role because it raises their status, makes their work more interesting, lifts their personal career horizons and (hopefully) is better for the business as a whole. One of the biggest perceived barriers to achieving this strategic role is the amount of time spent on administrative work; although the amount of time spent on administration has been steadily falling over recent years, to 36% from 50% between 2003 and 2007 (CIPD, 2007a), a Mercer report on the HR function (Mercer, 2007) confirmed that HR teams would like to reduce the time spent on delivering services, transactions and compliance even more. The response by many HR functions has been to undertake a programme of significant organisational change, frequently labelled as 'transformation'. Consultancy firm Mercer provides the following definition:

"*The process of recreating or reinventing the HR function – such as re-engineering, restructuring, implementing new systems or a new HR service delivery model, outsourcing or co-sourcing – with the specific intent of enhancing HR's contribution to the business*" (Mercer, 2007, p.1).

It follows in the tradition of a long line of reports, conferences and seminars over the past 30 years that have argued for a shift in the focus of the HR function. For example, the CIPD 2003 report '*Where we are, where we're heading*' (CIPD, 2003, p.3) refers to HR as "*An increasingly complex HR function*" that is "*Facing a fork in the road – one leads to a highly automated employee services operation ... the other leads straight to the CEO's office",* suggesting that much uncertainty exists about the role and activities that HR should perform. Several years later, most HR professionals would probably agree that the situation is much the same. Indeed, there is some evidence that HR is becoming LESS involved in strategic decision making - although nearly three-quarters of CEOs still believe that the HR function has a key role to play in achieving business outcomes, only one in twenty HR professionals feel they have involvement in and influence on business strategy (Lawler & Mohrman, 2003).

David Ulrich's evangelism for re-inventing the HR service delivery model has been instrumental in bringing about some of the major structural changes of the past 15 years, through a series of books and influential academic papers (Ulrich, 1996;

[17] Many Government HR functions in the United States (such as NASA and the CIA) are already renaming themselves as the 'Department of Human Capital Management', raising a concern that functions will simply change their name for reasons of fashion, without changing either their approach to people management or their service delivery model. We have seen this before in those organisations that renamed themselves from 'Personnel' to 'Human Resources' in the 1990s without doing much more than changing the name above the door.

Ulrich, 1997b; Ulrich, 1998; Ulrich & Brockbank, 2005; Ulrich, Younger & Brockbank, 2008). Such is the popularity of these ideas that the profession has reached a point where many HR Directors talk of 'applying Ulrich' and his name has become synonymous with HR transformation programmes. 'The New Mandate', as Ulrich defines it, requires dramatic changes in the way HR professionals think and behave. Critically, Ulrich claims that unless HR fulfils the administrative role competently, it cannot progress to the other roles; administrative excellence is effectively the 'price of admission' to the strategy table (Mercer, 2007) and it is in this area where the biggest changes have taken place, with the growth of HR shared service centres, outsourced operations, centres of expertise/excellence and the separation of transactional activities from 'professional' HR roles. In his latest work (Ulrich et al., 2008) another role has been added, that of 'Operational Executor', an unfortunate term that sets out an activity for HR professionals as 'go-between' in the business to bridge the embedded business partner and corporate HR roles.

Even so, there is little evidence that organisations are delivering against the transformation agenda – a CIPD study (CIPD, 2007a) found that only twenty-eight per cent of organisations had implemented shared services, only thirty-eight per cent had created the business partner role and twenty-eight percent had implemented centres of expertise. More significantly, only eighteen percent had all three components of the Ulrich model, suggesting either that the model was not properly understood or there was a lack of motivation or ability to complete the process.

However, line managers do not necessarily share the strategic objectives of the HR function despite the quotation on page 38/39. Research by the Institute for Employment Studies (Hirsch et al., 2008) found that when line managers say they want a strategic HR function, what they actually mean is an HR department that will help them to solve problems that are strategically important for the business and the provision of robust, day-to-day guidance on business problems. People issues are urgent and stressful for managers, so they need to be able to access HR quickly, yet the IES study found that line managers were often unclear as to what the HR function offers and who they should contact over specific matters.

3.7 HR transformation and the public sector

The UK Public Sector faces a series of additional problems, generally having a poor reputation for Human Resource Management, associated with low status, low influence roles and representing an 'enclave' in the personnel profession (Jaconelli & Sheffield, 2000; Lupton & Shaw, 2001; Selden, 2005). Although some research (Kelly & Gennard, 1996) found that Public Sector Personnel Directors have developed a strategic role in managing the consequences of government changes, in others, the Personnel role has declined as industrial relations issues have become less critical. Evidence seems to support the idea that the HR function in the Public Sector is relatively immature and less sophisticated than its private sector counterparts (Vere, 2005; Teo & Rodwell, 2007).

The move towards HR transformation is of particular interest to the Public Sector (Lupton & Shaw, 2001; Brown, 2004). The UK Gershon Report (Gershon, 2004) put pressure on public sector organisations to undertake transformation programmes to become more efficient, proposing a total of £20bn of cost reduction across all back-office functions (including Human Resources), the driving force of which was to reduce over-staffing and inefficiency. However, it may be that the transition from an

administrative to a strategic role is particularly problematic in the Public Sector and little academic literature has focused on the effectiveness and operation of Public Sector HR functions (Teo & Rodwell, 2007). As previously identified, the role of the HR function is likely to be heavily determined by the context in which it operates and it may be that the multiplicity of stakeholders, the strength of central government imperatives and legacy factors concerning HR's traditional role may lead to a lack of clarity about the nature of HR transformation (Truss et al., 2002). 'Transformation' in the Public Sector may therefore be different to that of the private sector, indeed, in the interviews conducted for this research project, the term 'transformation' was used on only nine occasions and of these, it was used only by HR managers in two organisations in the 'Ulrich' sense. The other usages were as a short-hand for a general change to management styles and business processes rather than a shift towards strategy. Perhaps this indicates that HR in the Public Sector does not have a 'transformational' problem at all, and that the real challenge remains the delivery of basic operational services. Alternatively, one might also speculate that either the sector simply hasn't reached a point of maturity yet to be able to discuss this, or that it is simply not relevant to the sector. Guest & King (2004, p.421) pessimistically conclude that for the Public Sector, "*The opportunity that Ulrich identified to seize the initiative and become HR champions has been passed b*y." There is a clear tension in this sector between becoming a strategic business partner and providing an administrative service, with an often stated desire from line managers to push the HR function into different areas and encourage greater pro-activity.

3.8 Summary

Mercer (2007) reports that around 86% of organisations have undergone or plan some form of transformation. Research (CIPD, 2007a) reveals that the primary reasons for these changes are a drive to increase the strategic contribution of the function (54%), a need to improve services (34%), an increased business focus (30%) and cost reduction (29%). However, despite over a decade of HR transformation approaches, success has been mixed – a CIPD report (Reilly, Tamkin & Broughton, 2007) found that only 13% of HR Functions have delivered major cost reduction through shared services has delivered and only 29% have found a major improvement in service quality. PwC Saratoga reports a lack of consistent satisfaction with transformation models (PwC Saratoga, 2008).

Even so, the aspiration to become more 'strategic' is seemingly embedded in the HR mindset, despite a lack of agreement between HR professionals and line management as to what this means and even whether it is appropriate. It is not unusual for HR to define strategies that are misaligned with business strategy (Kearns, 2003) and many do not define their activities in the context of supporting the competitive strategy of their host organisations, rendering it ineffective and inefficient. From the perspective of this research, the use of e-HRM must also be seen to align with HR strategies that create value if it is to be perceived as beneficial. Chapter Four examines the role of e-HRM in supporting people management processes.

4. e-Enabling People Management

4.1 Overview

The changes in the HR environment take place as web technology reaches its second phase of maturity, with the growth of the internet in the 1990s bringing low-cost access and massive content to the general population. Across Europe, more than 75% of households now have broadband internet access and approximately 18.3 million households in the UK (70 per cent) have internet access in 2009, an increase of just under 2 million households over the previous year (Eurostat, 2009). In 2009, 37.4 million adults (76 per cent of the UK adult population) had accessed the internet in the three months prior to the study (Office of National Statistics, 2009), using services such as grocery shopping, booking holidays and organising car insurance. Choudrie, Weerakkody & Jones (2005) note increasing initiatives by governments to put services online, including making government information available on the internet, electronic voting and online bill payments at local and regional levels. Individuals now expect immediacy in their dealings with service providers, rapid information flow and virtual around the clock access in their personal lives. In some respects, the impact of technology on individuals has had a bigger impact on people's home lives than in the workplace, raising expectations and reducing resistance. As one interviewee commented:

"I don't think [managers] are as afraid of technology as they were back then, so we have managers now who are used to online banking, used to using computers at home, you go back five years, not many people had internet access and their whole attitude has changed now" [Council 4, Project Manager, 15].

Futurologists promise that the extended e-enablement of our work and social lives will continue For example, Puybaraud (2009) predicted that by 2030, workforces will become more mobile and technology will ensure that everything an employee needs is available to them regardless of location. This will result in a massive reduction in the requirement for head office space, the disappearance of individual desks in favour of hot desks and collaborative spaces. If this appears to be science fiction, consider that only twenty years ago, the internet (in its current format), mobile phones, digital photography and MP3 players simply did not exist. These social and technical changes have undoubtedly spurred on the implementation and application of electronic Human Resource Management tools (Strohmeier, 2007). E-HRM is one of the solutions identified by the HR function to meet its operational, relational and transformational challenges (Ruel, Bondarouk & Looise, 2004b; Martin, Alexander & Pate, 2005), as well as organisational solutions such as outsourcing and shared services (CIPD, 2005).

4.2 The e-HRM Landscape

It would be impossible to conduct an investigation into perceptions of e-HRM value without exploring the core technologies that define the capability and structure of e-HRM. The following diagram, *Figure 4: Conceptual Structure of e-HRM Systems* has been developed by the author as a simple way of explaining the structure of e-HRM to non-technical people during the early planning stages of implementation projects.

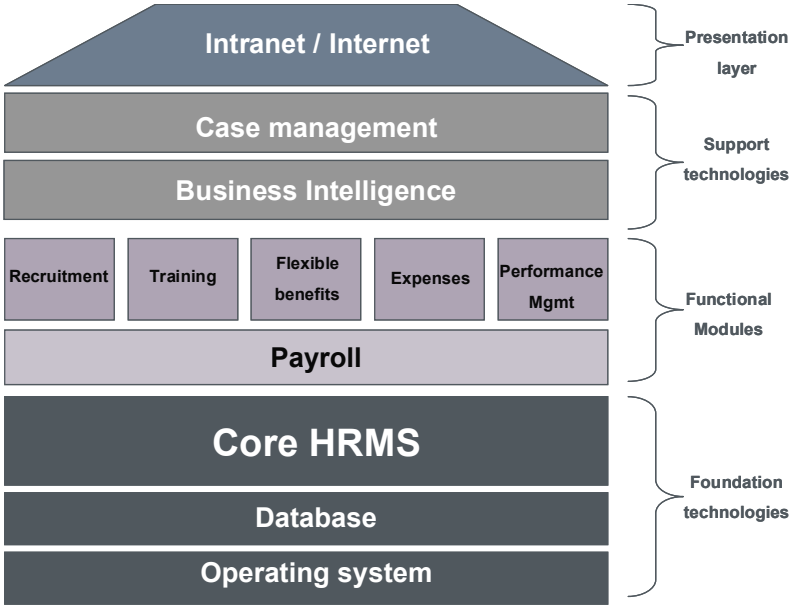

Figure 4: Conceptual Structure of e-HRM Systems (Source: Author)

This model conceptualises the structure of e-HRM as a series of interdependent layers, based in foundation technologies that form the technology infrastructure, such as the database and the operating system. The core Human Resource Management System (HRMS) holds all employee data such as job and post information, employee personal data and pay details, enabling data to be structured in a meaningful way to enable rapid access to related fields. Above this basic layer, subsequent layers include transactional processing modules such as payroll, recruitment, training, expenses and benefits management. A business intelligence layer allows manipulation of the data, enabling reporting that can be output in the form of formal reports and charts, or even as 'dashboards', presented through a web page or portal. Many modern systems also include the ability to generate e-mail alerts when pre-defined parameters or metrics have been achieved, for example, when a probation period has been passed or certain sickness absence parameters have been reached. Some organisations also use case management tools that allow the tracking, monitoring and resolution of employee queries. The final layer is manager and employee self service, whereby data is presented to employees, managers and HR users as a series of web pages for managing processes. It should be stressed that this final layer simply acts as a presentation layer and does not normally contain any new functionality – it simply acts a 'window' to present data from the layers below in a simple user interface, as the examples in *Appendix H: Example Self-Service Screenshots* demonstrates.

4.3 The use of e-HRM

A simple model has been developed to illustrate the wide range of functionality contained within modern e-HRM systems. This model (updated from Foster, 2009b) shown below in

*Figure 5: E-HRM **Landscape*** is often used in consultancy assignments and has proved to be highly useful as a strategic planning tool to demonstrate the 'art of the possible'. The model categorises technology as being either focused on managing business processes (Process Technology - lower half) or on people management (Human Capital Technology - upper half).

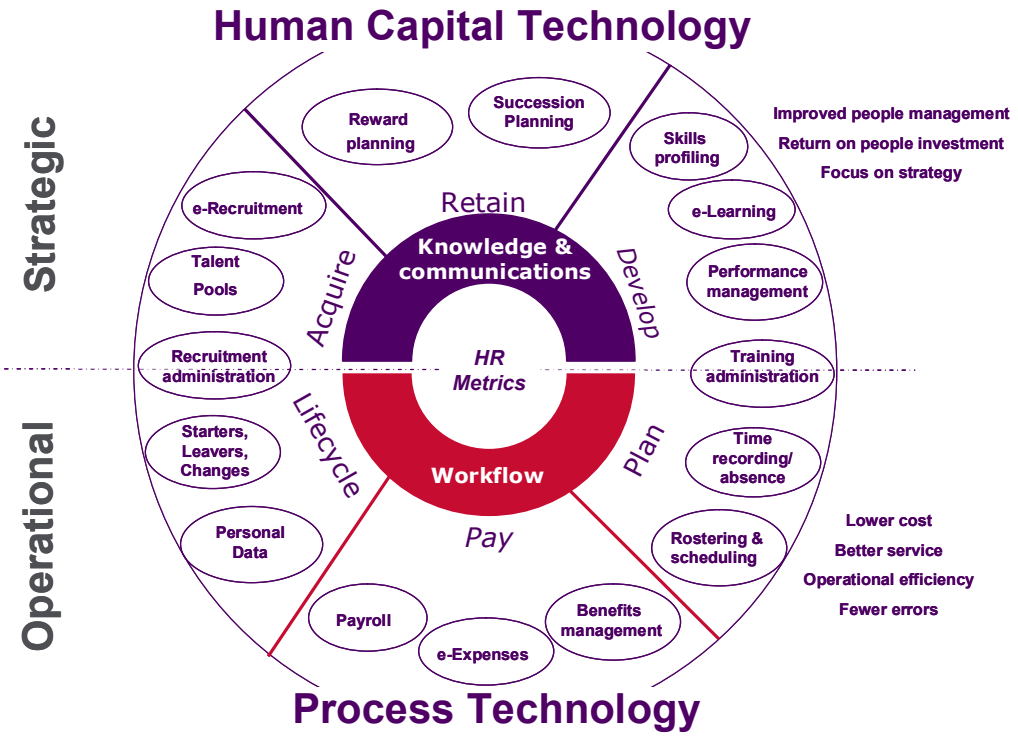

Figure 5: E-HRM Landscape
(Source: Author)

Process Technology provides basic transactions, now well-established and the foundation of all commercial HR technology. These functions include managing payroll, personal / organisational data and routine administration, aimed at reducing costs and achieving HR operational efficiencies through automation and web enablement. Much of this technology can be regarded as 'commodity' functionality, in that basic processes exist in all systems available on the market and it is difficult to differentiate between systems other than in terms of their ease of use, look and feel. However, an organisation that is 'world class' in terms of process efficiency and low-cost may at the same time offer little to managers to support good people management. The second group, shown in the upper half, are 'Human Capital' technologies aimed at supporting people management activities across the organisation, such as performance management, skills profiling and analytics. Because of the wider impact on business outcomes beyond HR operations, these functions are targeted at supporting people management rather than administration. These functions are focused on creating value and are more aligned to the wider needs of the organisation in managing people, rather than the internal efficiency of the HR function. It has been suggested elsewhere (Foster, 2006) that the term 'e-

Human Capital Management', or 'e-HCM' might be used to describe these more sophisticated applications of HR technology.

The annual CedarCrestone (CedarCrestone, 2009) study of the e-HRM market, now in its 12th year, provides a valuable insight into the development and usage of various e-HRM components. Although based on a predominantly US (86%) sample, it includes 1,008 organisations, collectively employing over 18 million employees, giving a good indication of trends in HR technology use. CedarCrestone believes the market can be broken into five sub-categories:

- **Administrative Applications:** The core HR, payroll and benefits record keeping systems.
- **Employee and Manager Service Delivery Applications:** The self-service transactional services that improve service delivery, reduce costs, and enable employees, HR, and managers to spend less time on administrative tasks.
- **Strategic HCM Applications:** The 'talent management' applications that enable an organization to plan, attract, develop, optimise, and reward key talent. The CedarCrestone study identifies 12 applications that contribute to strategic HCM including workforce planning, recruiting, performance management, competency management, learning management, succession planning, career planning and compensation management.
- **Workforce Management:** Functions for time and attendance, absence management, labour budgeting, forecasting, scheduling and task management.
- **Business Intelligence Applications:** Applications and tools that when combined, enable an organization to move towards metrics-based management. It includes dashboard, reporting etc.

In practice, there is some blurring across these categories – for example, many self-service applications have a dual role in supporting administrative improvements in the HR function as well as enabling strategic HRM processes. Likewise, many workforce management tools are also focused on administration and productivity. However, the CedarCrestone study (ibid.), reveals that while administrative applications are being used extensively, service delivery, productivity and strategic tools are not being used to anywhere near the same extent. *Figure 6: Adoption of e-HRM by Application* below, adapted from the CedarCrestone study, shows the adoption of various HR technologies across sectors.

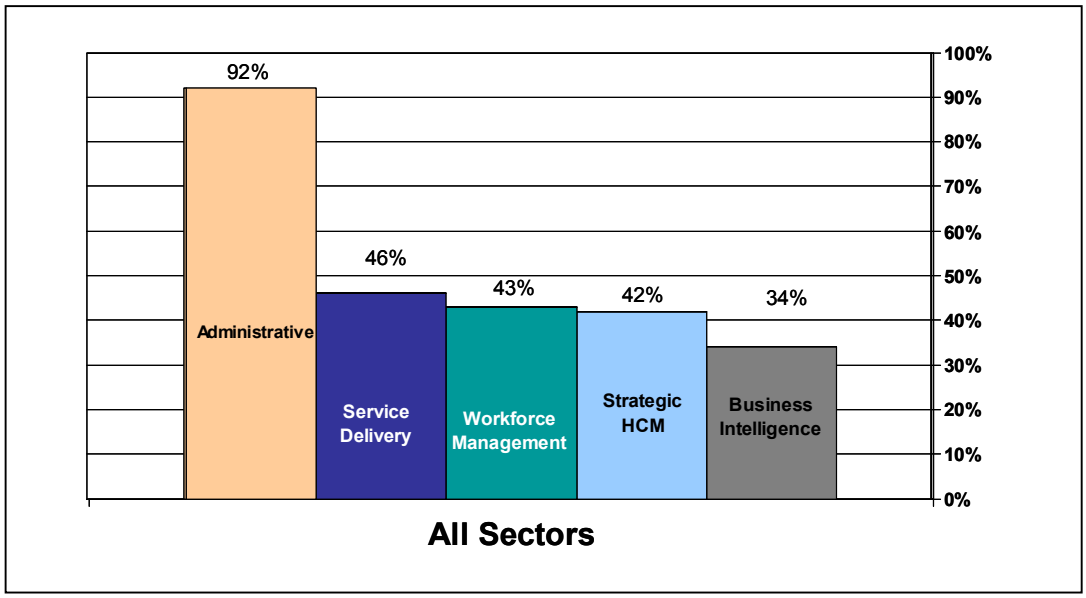

Figure 6: Adoption of e-HRM by Application
Adapted from CedarCrestone, (2009, p.8)

This data reveals that overall, an average of 92% of all organisations are using e-HRM administrative tools, with notable peaks in sectors such as high-tech manufacturing (95%) and Health Care (94%). The use of administrative functionality in organisations is very mature, which is understandable given that it includes older technologies such as Payroll and the core HR management system. However, the use of tools in the employee and service delivery category is substantially lower, being used by just over half of organisations surveyed, surprising given that these tools have been available for over ten years. The use of strategic HCM applications such as talent management, performance management, learning, compensation and succession planning tools is also relatively very low, with substantially fewer than half of all organisations using these tools. These tools are newer so one might expect a slower take up of their usage, but versions of these modules have been available for over five years in some cases, so this is not in itself an explanation for their slow adoption. It is also important to note that this is a predominantly American sample and that adoption rates are likely to be lower in other regions.

The Public Sector is of particular interest, with the lowest uptake of e-HRM. Historically, this sector has shown a low adoption rate for administrative tools, with only 70% of organisations using basic administrative technology in the 2008 survey, although this has risen dramatically to 91% in the space of one year. However, the sector continues to have low levels of adoption for manager and employee service delivery tools (41%), with only the higher education and consumer manufacturing sectors being lower. Strategic HCM tools are used in only 33% of Public Sector organisations, just ahead of the Agriculture sector with 29%. Finally, Business Intelligence tools, potentially a key driver in providing managers with people information, are also very low in this sector (31%), although again this has shown a dramatic improvement over previous years. There is little evidence that the Public Sector uses different functionality from the Private Sector – Ashbaugh & Miranda's (2002) analysis of the use of e-HRM in Government cited no sector specific differences.

The CedarCrestone study therefore reveals a great deal about the types of technologies organisations are adopting to support people management. While a recent CIPD study (CIPD, 2007b) provided evidence that some organisations are using technology to promote the types of transformational shift outlined in the previous chapter, it appears that the majority remain focused on operational improvements at the administrative level rather than value-adding people management. If, as the previous chapter discussed, improvement in people management and human capital management represent areas of high value creation for organisations, there would appear to be a missed opportunity to switch the focus away from administrative tasks towards organisational level benefits. Perhaps one reason for the slow growth of e-HRM is its failure to deliver expected benefits – a 2002 study by Keebler & Rhodes (2002) found that while 80% of organisations agreed that web self-service could lower HR operating costs, only 40% believed that their company was achieving this level of benefit. Two-thirds agreed that e-HRM could support HR transformation but only 37% felt that the transformation was being achieved in practice.

4.4 Defining e-HRM

To add confusion to the discussion, academic and professional HR literature employs a wide range of terms to describe the use of technology in human resources management; for example, the terms e-HR, e-HRM, HR intranet, HR portals and self-service are in common usage, while terms such as web-based HR(M) (Ruel, Bondarouk & Looise, 2004a) and Business-to-Employee (B2E) (Huang et al., 2004), are less common but equally valid. Older definitions, still used by many organisations and some academics, include the terms 'HRIS' (Human Resources Information Systems) and 'HRMS' (Human Resource Management Systems). If taken to its extreme, one might conclude that e-HRM consists of *any* form of technology that supports the delivery of HR services (Lengnick-Hall & Moritz, 2003).

Literature takes a number of definitional perspectives. One group of definitions focuses predominantly on system **functionality**, that is, what the system does, specifically relating to the underlying technology and management of data. For example, Walker (1986) defines a Human Resources Information System (HRIS) as "*A systematic procedure for collecting, storing, maintaining, retrieving and validating data needed by an organisation about its human resources, personnel activities and organisation unit characteristics*", although this clearly pre-dates internet usage and seems increasingly dated, as does Tannenbaum's (1990) often cited definition that refers to the acquisition, storage, manipulation, analysis, retrieval and distribution of information about an organisation's human resources. Surprisingly, this was the primary definition given in the 2007 CIPD 'HR and Technology' study, which appears primitive against more recent definitions. Sanchez & Aguayo (2007, p.181) describe an HRIS as '*Just a specific information system for a concrete environment of business management",* where the word 'just' perhaps diminishes the contribution of e-HRM. Similar functional definitions include "*The composite of databases, computer applications and hardware and software used to collect, store, manage, deliver, present and manipulate data for Human Resources*" (Voermans & Van Veldhoven, 2007, p.887).

Even relatively recent definitions are rooted in transactional functionality such as "*The application of conventional, web and voice technologies to improve HR*

administration, transactions and process performance" (Kettley & Reilly, 2003, p.3). Kovach et al (2006) also take a functional view, seeing technology as a hybrid of transaction processing and decision support, while Voermans & Van Veldhoven (2007, p.887) define e-HRM as "*The administrative support of the HR function in organisations by using internet technology*", again, focusing more on what technology is, rather than what it enables. On this basis, one might argue that e-mail should be included as a form of e-HRM. For most purposes, the terms 'e-HR' and 'e-HRM' appear to be interchangeable; e-HRM has been adopted for this research simply because it seems to be overall the most consistent with contemporary academic usage, while the terms 'self-service' and 'e-HR' are more likely to be used by practitioners, IT teams and software suppliers.

Other researchers have suggested definitions based on the **focus** of technology - both Ruël et al (2004a) and Reddington & Martin (2006) argue that the main difference between modern definitions of e-HRM and traditional technology-based definitions is that HRIS is directed inwardly at the HR department, whereas e-HRM is focused outwards to the wider organisation and that it represents the "*Technical unlocking of HRIS for all employees of an organisation"* (Ruel et al., 2004a, p.365), attempting to look outwards to connect with customers and seeking to create new value chains. Many researchers now recognise that there is a role for HR technologies that go beyond administration - Strohmeier (2007, p20) takes up the connectivity theme, describing e-HRM as "*The planning, implementation and application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities*." These definitions are more useful than those describing functionality, having a greater emphasis on the outcomes.

A final group of definitions concerns what technology **enables** in terms of the broader impact on organisational capability and service provision, taking a more strategic approach to e-HRM. For example, Kavanagh, Guetal & Tannebbaum (1990) refer to supporting strategic, tactical and operational decision making, evaluating programmes, policies and practices, supporting operations and providing management information. Reddington, Williamson & Withers (2005) claim that the greatest benefits of e-HRM arise when transformational outcomes are pursued to support and enable a more strategic approach. Others see e-HRM as a process of maturity and development (Lengnick-Hall & Moritz, 2003), where the first stage is enabling the publication of HR information, a one way communication from the company to employees and managers including policies, newsletters etc, developing into the automation of transactions including workflow and finally maturing into full transformation of the HR function. Tansley, Newell & Williams (2001) see e-HRM partly as being symbolic, where technology is an organisational statement about new ways of working and delivering HR, for example, in changing the role of the HR function. At its most bold, technology provides opportunities for virtual and networked organisations, linking e-learning to knowledge management and the potential for new HR business models (West & Berman, 2001; Martin et al., 2005).

It has also been suggested that e-HRM is ultimately a way of performing HRM rather than a collection of technologies; Karakanian (2000) defines e-HRM in terms an overall strategy that lifts HR out of the HR function and redistributes it to the organisation, rather than describing any particular technological functions.

Bondarouk & Ruel (2009, p.507), following conversations at a variety of conferences and an exploration of the literature, conclude that e-HRM is "*An umbrella term covering all possible integration mechanisms and contents between HRM and information technologies, aiming at creating value within and across organisations for targeted employees and management."* This broad definition seems to include not just the administrative elements of e-HRM but also the wider strategic outcomes, in particular using the key word 'value', satisfying the requirement for a definition of e-HRM that expresses outcomes as well as its inputs.

4.5 e-HRM Development

Although the HR function was one of the first to take advantage of computers (through early payroll systems), it has been relatively late to implement and exploit the internet and other technology solutions. Whereas other functions have exploited technology in areas such as Customer Relationship Management (CRM), financial reporting and e-business, HR remains rooted in transactional activity. Early studies by Desanctis (1986) and Martinsons (1994) found that unsophisticated applications predominate in HRIS and the focus is mostly on efficiency rather than business effectiveness or strategic purposes. As Broderick & Boudreau (1992, p.9) note, "*Most organisational investments in HR information technology support only a narrow range of administrative decisions*." Since that time, the widespread development of the internet, increasingly sophisticated software and the dramatically reduced cost of distribution should have led to the more mature use of e-HRM in organisations, in line with other organisational uses of technology. However, as the CedarCrestone report confirms, there remains a large gap between the use of administrative tools and other forms of e-HRM. The CIPD (CIPD, 2007b) provided evidence that while some organisations are using technology to promote the types of transformational shift outlined in the previous chapter, the majority remain focused on operational improvements at the administrative level rather than value-adding people management. Ball (2001) confirmed that the predominant focus of many software implementation projects remains administrative efficiency and HR operational cost reduction rather than strategic, transformational outcomes, questioning whether e-HRM will ever be used beyond an automated filing cabinet. The CedarCrestone study suggests that the basic conclusions reached by researchers over twenty years ago remain valid – HR is slow at adopting technology.

At the same time, there has always been an awareness of the potential to use HR technology for more advanced purposes. Even in the pre-internet 1980s, Barry (1989) argued that the advanced use of HR technology had the potential to change the nature of work performed by HR managers from an administrative to a strategic role while Broderick & Boudreau (1992) and Wright & Dyer (2000) argued that sophisticated technology applications had the potential to make a contribution beyond the management of routine tasks. Technology is widely seen as important to the future development of the HR function - in particular, Ulrich notes that "*Technology will change how work is done in general and how human resources is practiced in particular"* (Ulrich, 1997a, p.178) [18], while Boroughs, Palmer & Hunter (2008) observe, "*The development of human resources is bound inextricably to the technology that serves it*." The possibilities for HRM are, from a technical

[18] Although sadly this was not an opinion he transferred to his book on the future of HR.

perspective, generally thought to be wide-ranging and there is an assumption that HR must become e-enabled (Ruel et al., 2004a). As one HR manager commented:

"It became obvious to us that computer systems are now maturing, capable of much more than the older generation of systems that we were looking at and we wanted to make the best use of them." [Council 1, HR Manager, 12].

The breadth of literature regarding the potential of e-HRM is rich enough to suggest that definitions that focus only on operational or administrative outcomes are likely to be inadequate and that as a minimum, e-HRM should encompass a fully integrated, organisation-wide electronic network of HR related data, information, services, databases, tools, applications and transactions.

4.6 Development Stages of e-HRM

A high level review of the development stages of e-HRM reveals a remarkable fondness for applying the 'rule of three', that is, to present three stages of maturity in the use of e-HRM. It should not be surprising that academics like to reduce e-HRM development into three stages – three is a basic principle of storytelling (three pigs, three musketeers), of humour (Englishman, Irishman, Scotsman) and of great speeches (I came, I saw, I conquered). As Hodges (2008, p.72) notes, "*Perhaps three is the limit of what we can cope with directly…One, Two, Three, many…Gold, Silver, Bronze and also ran"*. *Table 2: E-HRM Development Stages* on the following page summarises the key developmental stages as identified by seven academics commenting on e-HRM development. There is a high degree of consistency in defining the maturity stages:

	DEVELOPMENT STAGE		
AUTHOR	**1**	**2**	**3**
Tannenbaum (1990)	Expert Systems	Decision Support Systems	Executive Information Systems
Remenyi et al (1991)	Automation	Information	Transformation
Shrivastava and Shaw (2003)	Adoption	Implement	Institutionalisation
Ruël et al (2004a)	Cost reduction	Improve HR services	Improve strategic orientation
Wright & Dyer (2007)	Transactional	Traditional	Transformational
Lengnick-Hall and Moritz (2007)	Publishing	Automation of transactions	Transformation of HR
Sanchez and Aguayo (2007)	Electronic Data Processing	Management Information	Decision Support

Table 2: E-HRM Development Stages

The above analysis suggests that although definitions of the development of e-HRM vary, e-HRM typically starts as a simple transactional or processing tool, developing into an information or decision support tool and finally evolving into a strategic tool that supports transformational efforts. These stages can be adapted to define a maturity model for e-HRM implementation. In observing organisations, one of three strategies tends to be followed:

Stage 1: Replication – under this strategy, organisations simply recreate the content and functions of the existing system(s). This is typically an IT 'refresh' activity, often followed because older technology becomes non-viable or is simply out of date. There is often no link between the system and a desire to improve HR/Payroll processes and services. Projects are by their nature unambitious, being highly focused on technology, the straightforward mapping of business rules and procedures and a focus on easier IT support and lower maintenance costs, rather than creating business value. This traditional approach to implementation typically supports HR operations but is administrative rather than strategy related. However, it is important not to regard basic replication strategies as being inadequate, as long as the implementation is aligned to organisational requirements.

Stage 2: Enhancement – improving on the functions of existing systems. New systems not only update existing functionality, but also provide additional functionality that the old system can't offer (for example, self-service, better integration or improved reporting) but are intended to have only an *evolutionary* impact on the overall HR service delivery model. There is usually some form of vision behind this approach, for example, making some basic features available through the web, such as the ability to change name and address, contact details and other biographical records. An enhancement approach is low risk and if there are problems, any potentially negative impact is limited. However, by limiting the scope of the project, organisations may not derive significant benefits and projects often fail to go beyond the initial implementation phase. This approach usually does not consider competitive advantage when defining and developing strategies.

Stage 3: Transformational – this strategy involves a *revolutionary* restructuring of the HR service delivery model, including the use of service centres, outsourcing and business partnering. Technology enables highly devolved HR services, where managers are more accountable and central personnel takes on a much more strategic role. For an organisation under cost pressure to transform HR services, this may be a better strategy. For example, managers will have on-line access to processes, policies and procedures and will be able to hire and terminate people directly, with e-mail alerts to payroll to keep track of what's happening. Technology has a truly transformational role with enormous benefits to the organisation, changing the roles of HR, managers and perhaps even employees. It will require a large investment in infrastructure and resources to make it work but the business case offers a good payback. HRIS is integral to strategy and is used to create new services, alter linkages with users and establish new standards of performance.

*Figure 7: e-HRM **Strategies*** graphically depicts these stages in e-HRM maturity, consistent with other approaches in academic literature:

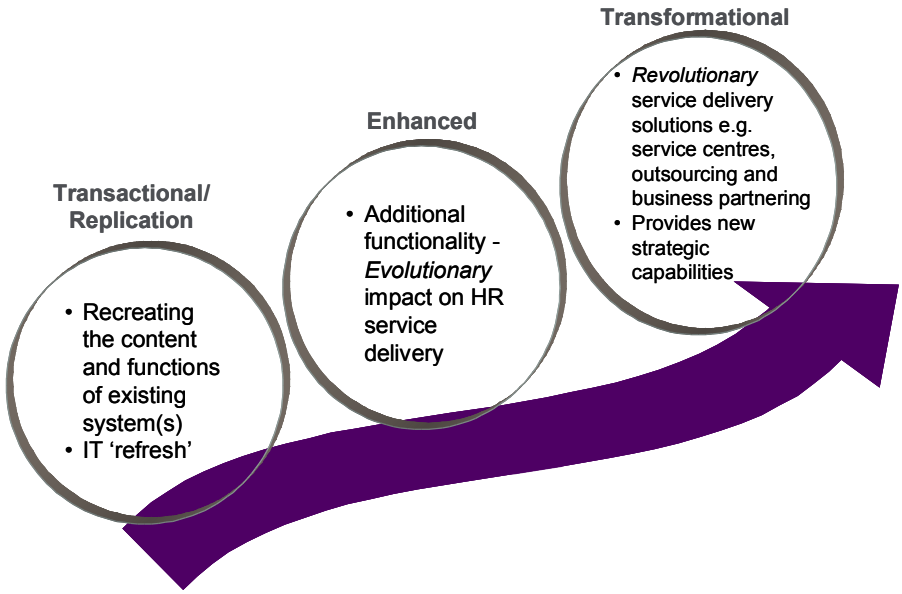

Figure 7: e-HRM Strategies
(Source: Author)

4.7 Implementing e-HRM

It is reasonable to assume that HR technology will vary with an organisation's strategy, objectives and environment (Broderick & Boudreau, 1991) and in this sense, e-HRM development mirrors Yeung & Brockbank's (1995) definition of HR objectives: starting at an operational level, moving to relational problems such as management information and services and finally addressing strategic drivers at the transformational level. Consistent with the discussion in section 3.4, Broderick & Boudreau (1992) suggest that HRIS strategy and usage are directly related to the HR and competitive business strategy of the organisation, suggesting a need to align e-HRM strategies to the overall HR and business strategy. For example, where the overall strategy is to reduce cost, transactional HRIS becomes the favoured approach, so that an e-HRM replication strategy (see section 4.6) is more likely. A competitive strategy based on innovation is likely to focus on good people management, leading to a more transformational, strategic approach to technology. Highly cost-focused, low-margin organisations (for example, distribution, basic manufacturing, catering and cleaning) will find it harder to justify an investment in sophisticated people management technologies, whereas technology, IT and professional services are likely to view people as unique differentiators where 'talent management' is critical [19].

If the e-HRM maturity diagram in Figure 7: e-HRM Strategies is superimposed on top of the Kearns HR Maturity scale shown in ***Error! Reference source not found.***, (p.**Error! Bookmark not defined.**) it can be seen that the lower end of HR function development aligns well with a technical replacement e-HRM strategy, while at the

[19] Locating the Public Sector in this spectrum is difficult, since Councils tend to employ a wide range of skills from basic maintenance operators to professional legal, accountancy and education specialists.

higher HR function development level, a transformative e-HRM strategy is more likely to be adopted and succeed, as shown below:

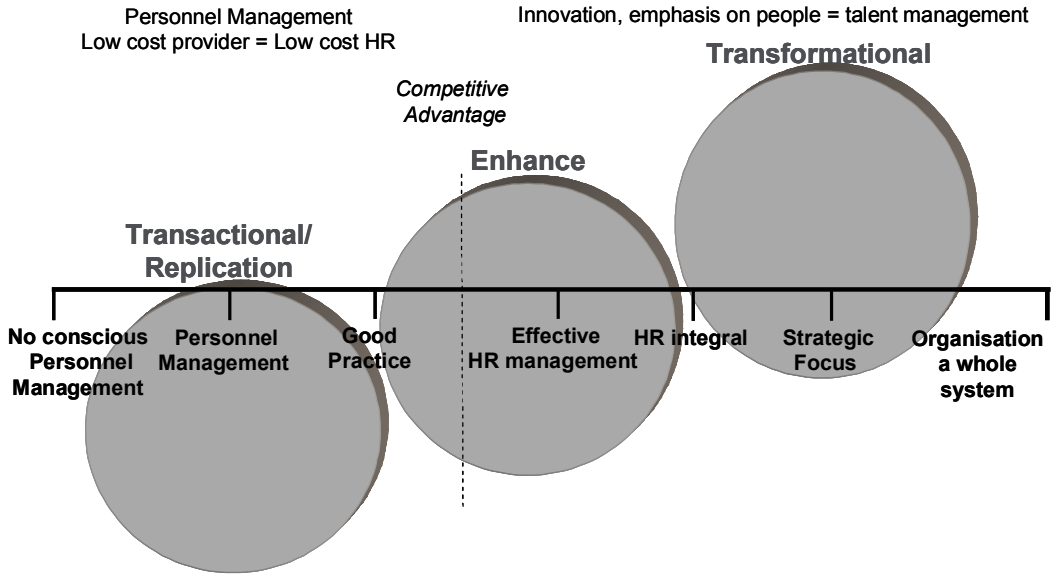

Figure 8: Alignment of HR maturity and e-HRM Strategy

Linked to this idea, Voermans & Van Veldhoven (2007) found that e-HRM is also influenced by managerial preferences as to the role of the HR function. This suggests that close alignment of HR strategy and e-HRM strategy is important. These writers saw that if managers prefer a more strategic approach to HR, then they will tend to be more supportive of e-HRM; however, where employees and managers prefer HR in the employee champion role, there will be a more negative attitude towards e-HRM, seeing it as a potential barrier to the relationship with HR.

The implementation of information technology also involves a choice between two competing strategies. Zuboff (1988) draws a distinction between an *automating* strategy and an *informating* strategy, asserting that as long as technology is treated narrowly in its automating function, all it does is rationalise work while decreasing dependence on human skills. However, when technology is seen as able to *informate* the processes to which it is applied, it increases the explicit information content of tasks and has the potential to reconfigure work and social relationships. Since organisations often fail to recognise the informating capacity of technology, its consequences are often regarded as unintended and its effects are not planned for. It is thus quite possible for firms to proceed with automation without knowledge of the informating potential of technology. It has even been suggested that this capacity for information is 'stumbled upon' (Shrivastava & Shaw, 2003, p.219); perhaps with this knowledge in advance of the planning cycle, organisational stakeholders would develop a better understanding of technology and be more likely to support an investment in e-HRM. Dunivan (1991) argues that because of the technical nature of e-HRM, projects are often led by the IT function, so that planning is often based around meeting technical requirements; HR functions therefore struggle to connect their business problems to technology solutions and are likely to

under-develop technology solutions. The implication is that HR users need to be more involved in the development process, requiring much better understanding of the contribution of technology.

Ball (2001) argues that the more simplistic use of e-HRM may arise from a range of organisational factors, such as the size of the business - for example, larger organisations may be more willing to invest in complex e-HRM systems because they have access to bigger budgets and other resources as well as having a larger employee population to manage. Larger organisations are also more likely to employ a large ERP system of which the HR module forms part of the infrastructure but ironically may be less likely to derive benefits from it (Dery & Wailes, 2005).

The implementation of e-HRM is usually seen as unproblematic (Liff, 1997) although one assumes that she was being sarcastic when she stated that "*Job requirements and individual skills are collected, fed into the model and better HR practice comes out the other end.*" (Liff, 1997, p.18). In practice, implementing HR technology is rarely straightforward and the process is often hampered by difficulties including delays, scope changes, cost increases, software problems and resourcing problems. Those that see implementation as a mechanical, technology based activity usually discover that even the most basic project throws up a range of questions related to policy and process that must be addressed. A revisit to COUNCIL 1 almost four years after the initial implementation began revealed that the project had encountered a number of problems at the technology level, with slow running systems and concerns that the planned processes could not be implemented:

"I think if I look at the design of the self service model it didn't work because the system is not able to help the manager enough. It takes an inordinate time for the manager to learn to use it, it is not a system that thinks for you. I've just approved someone's holiday and I have three requests, so instead of three requests coming up and I can just tick - tick - tick, you have to go into each person's so what normally takes less than a minute will take about five minutes." [Council 1, HR Manager, 46].

This frustration with the most basic level of technology implementation should not be overlooked as a factor in limiting the extended development of e-HRM. Most organisations are able to complete the first phase of their project successfully, usually involving the implementation of Payroll and/or basic HR functions. At this point, project teams often breathe a large sigh of relief and return to their day jobs, proud of their achievements. Experience suggests that in many cases, the period immediately after the go-live stage is so caught up with fine-tuning the system and fixing teething problems that no attention is given to the next phase, resulting in inertia. A common result is that no further progress is made and any plans to implement or develop functions such as self-service evaporate.

In general IT projects do not have a good track record of success. One classic report examining project failure (Standish Group, 1994) studied over 8,000 projects and found that 31.1% had been cancelled before being completed and that 52.7% of projects would ultimately cost 189% of their original estimates. Sixteen percent of projects were abandoned and 51% were described as 'challenged'. Likewise, a 2000 Gartner report (cited in Tichy & Bascom, 2008) found that 40% of IT projects failed to meet business requirements and a 2002 report by KPMG (also cited in Tichy & Bascom, 2008) noted that most Public Sector firms had written off failed IT

projects in the previous year, typically due to poor project management. The average loss incurred as a result of these failures was about €12.5m per project, with the single biggest write-off costing almost €210m. Among the reasons cited for failure were inadequate planning, poor scope management and poor communication between the IT function and the business. This may also explain why e-HRM projects have narrow objectives relating to basic administration – extended projects and software development are risky.

Bondarouk & van Riemsdijk (2007) observe that there are three possibilities for the continued failure of IT projects, including e-HRM. Firstly, it may be that research has failed to identify the obvious causes of failure and organisations blindly continue to make the same errors every time. Alternatively, even if research had identified reasons for of failure, the issues may be so complex that they are not easy to avoid. The third possibility is that the studies have failed to capture the interactive, complex reality of IT implementation in which users are involved, in particular the human and change management aspects of any technology based project. No specific data is available for e-HRM projects, but direct experience suggests that e-HRM projects are especially affected by relationships and decision making processes in which original assumptions are often over-turned, organisational politics surface and benefits are challenged. While there is not scope in this thesis to explore reasons for project failure in detail, these issues are clearly factors in the development of a theory as to why the scope of e-HRM projects is limited to simple administrative outcomes. The processes by which project team members develop an understanding of the capabilities and possibilities of technology clearly influence expectations and outcomes, a topic which will be discussed in further detail in chapter nine. Without a long-term vision or plan, evidence suggests that projects simply focus on the operational aspects rather than more sophisticated development, as the following perfectly illustrates:

"*There were tasks in there about business process re-engineering, looking at forms, trying to smarten it all up, but to be honest, because of the problems we had with the payroll system, once that was in, everybody just relaxed and said "thank God for that." And everything else just disappeared. No resources, no direction."* [Council 3, Project Manager, 13].

4.8 Literature Analysis of e-HRM

It has been observed that "*Rigorous empirical studies are uncommon*" in the field of e-HRM (Florkoswki & Olivas-Lujan, 2006, p.689), in particular regarding the impact of e-HRM on HR roles. To understand better the status of e-HRM research, a detailed analysis was undertaken to investigate the themes of e-HRM research over the past 21 years. Overall, 145 articles and reports were identified which used the terms e-HR, e-HRM, HR intranet, HR portals and self-service; a filtering process was then applied. For example, at times, the term 'HR systems' is used in the literature to describe HR practices and the architecture or structure of the HR function (for example, Arthur, 1994) and these were rejected. During the course of the research, over 30 articles were identified in trade journals or magazines such as People Management, Personnel Today, Human Resources, Workforce etc. However, because of the need to retain academic rigour, these were excluded from the analysis, as they tend to be highly anecdotal and open to journalistic bias or

written by representatives of software companies as 'thought-leadership' pieces [20]. Likewise, many reports are available in the e-HRM field, although many are directly sponsored by commercial organisations such as software providers and consultancies and may therefore present a biased view. This issue required some difficult decisions – while many reports are clearly written in a highly objective manner by reputable organisations such as the CIPD *People management and technology* report (CIPD, 2005) and *An e-HR introduction* (Kettley & Reilly, 2003), others are marketing materials thinly disguised as reports. Ultimately, all reports were excluded from the analysis for the avoidance of doubt, even though many were otherwise admissible. The titles of some articles suggested they would relevant to e-HRM, but in fact they focused on the people management implications of using a range of a range of organisational technologies (for example, Halachami, 1992) so were also excluded. Conference papers were included in the sample, although it is recognised that they are not necessarily subject to the same degree of peer scrutiny as formal journal articles. Finally, any articles written prior to 1988 were excluded from the sample, as before this date, the technology was immature and less likely to be representative of the overall field

This left 81 peer reviewed journal and conference articles on the subject of e-HRM between 1988 and 2009, covering a 21 year period [21]. The literature was then analysed for content to identify the core themes in each article. While some items appeared to fit into more than one category, the primary focus of the article was allocated to a category. Analysis reveals that academics have a broad and growing interest in e-HRM, as the academic world attempts to make sense of this new phenomena. Based on the review conducted for this research, the literature can be categorised as follows:

Functionality: One of the most popular forms of research is a descriptive piece setting out the range of e-HRM functionality, which accounted for almost 25% of the final sample. For example, Groe, Pyle& Jamrog (1996) examine trends in HRIS usage and describe what functions are being used. Elliot & Tevavichulada (1999) Bussler & Davis (2001/2002) and Hendrickson (2003) provide a general overview of e-HRM functions, while Lin (1997) and Martinsons (1994) provide comparative data for Taiwan, Canada and Hong Kong. Ashbaugh & Miranda (2002) examine the nature of HRMS within the Public Sector, summarising the various features and functionality available and examining the strategic application of HRMS. Many of the academic articles in this category were published between 1990 and 2000, and all were prior to 2004, indicating that at that time, researchers were interested in the new phenomena of e-HRM. It may be that the early exploration into the nature of e-HRM took place in this period as a way of understanding the shape and content of e-HRM – that period seems to have now ended and the focus is on other aspects.

HR impact: This category has become increasingly important in recent years as the growth of e-HRM has led to a desire to focus on non-administrative functions and this category accounted for over 25% of the final sample. There appears to be two main strands to this literature, which refers to how e-HRM is changing the impact and perceptions of the HR function within organisations. Early research (Broderick

[20] I can confirm that this is true, being personally guilty of having published approximately 20 articles in this category over the past 10 years.

[21] Although seemingly arbitrary, the analysis was started in 2008 and aimed to look at a 20 year period from 1988; as 2008 became 2009, additional research was added, providing a 21 year coverage

& Boudreau, 1991; Sobkowiak, 1991; Liff, 1997) concentrated on the development of management information and explored how it would enable the HR function to work with line managers at a higher level. Later, research began to explore the benefits of e-HRM in terms of supporting management accountability (Niehaus, 1995) while others (Kovach & Cathcart, 1999; Tansley et al., 2001) saw opportunities for HR to refocus, using e-HRM as a symbolic indicator of the desire to transform. More recent research (Gardner, Lepak & Bartol, 2003; Hempel, 2004; Marler, 2009; Ruta, 2009) has become interested in how technology enables a move to a more strategic role and the mechanisms by which it does so; for example, Dery & Wailes (2005) argue that HR modules within Enterprise Resource Planning (ERP) systems such as SAP and Oracle create the conditions for a shift to take place in the strategic focus of HR functions. Strohmeier (2009) explores technological determinism for categorising the consequences of e-HRM.

Adoption/ Acceptance: This category focuses on factors influencing the take up of e-HRM, including examinations of employee attitudes (Marler, Fisher & Ke, 2009), company strategic position (Voermans & Van Veldhoven, 2007) and barriers to adoption within organisations (Fisher & Howell, 2004; Huang et al., 2004). It also includes analyses of patterns of HRIS diffusion, (Florkoswki & Olivas-Lujan, 2006). This topic has been of increasing interest in the late 2000s and most articles on this topic have been published since 2004. As an area of research within e-HRM, it is highly relevant to the research objective although the main thrust of investigation has been concerned with how to encourage technology use once it exists, rather than factors affecting the initial take up of technology.

HR Effectiveness: A surprisingly limited number of articles have examined the impact of e-HRM on the perceived effectiveness of the HR function, in contrast to the impact on the HR organisation and structure of the previous category. For example, Ngai & Wat (2006) and Alleyne, Kakabadse & Kakabadse (2007) examined how e-HRM influenced line managers opinions of the effectiveness of the HR function. Haines & Lafleur (2008) explore the link between IT and HR effectiveness, finding that greater use of IT was associated with higher perceptions of HR effectiveness and greater involvement in the strategic roles of business partner and change agent.

Implementation: Again, the volume of research material in this category has increased steadily over time exploring the implementation of e-HRM from several perspectives. The content of this research ranges from the composition and interactions of the project team (Dunivan, 1991; Tansley & Watson, 2000) and the conditions for successful implementation (Bhatnagar & Sharma, 2005). Tansley & Newell (2007) investigate the relationship between HR and IT teams during implementation as well as the role of the project leader on implementation projects. This category also includes research into improving the effectiveness of e-HRM implementations, to the extent of setting out a proposal for a balanced scorecard approach to measuring HRIS performance (Hagood & Friedman, 2002) and the development of a measuring scale to support improvements in HRIS (Bondarouk & Van Riemsdijk, 2007).

Competitive Advantage: Surprisingly few research articles explore e-HRM in relation to competitive advantage, with only four articles specifically employing this theme. For example, Lengnick-Hall & Lengnick-Hall (2006) propose that ERP systems enable the creation of ‘distinctive and sustainable competitive advantage’ (p. 180) by creating knowledge in organisations. Authors such as Broderick &

Boudreau (1992) provide contingency models linking e-HRM usage to different competitive strategies, relating them to how HRIS might support each type of strategy and the types of benefit each might provide. Likewise, Beckers & Bsat (2002) explore how technology supports different competitive strategies and the importance of matching the e-HRM strategy to overall business objectives. West & Berman (2001) conclude that the factor that most explains the use of IT in HRM is the technology orientation of HRM managers, and those HRM managers who view IT as a source of competitive advantage are more likely to promote it. This is an important concept and refers indirectly to the concept of technological frames that will be explored later.

Literature Review: These articles offer a summary of research into the e-HRM field. Strohmeier (2007) provides a thorough summary of the literature on e-HRM, confirming that e-HRM research is multi-disciplinary, culminating in a series of implications for research in the field. Bondarouk (2009) discusses the challenges for e-HRM research and attempt to define a framework for future research.

Other: This category is intended for single pieces of research that do not easily fit into other categories, for example, an exploration of the legal and data compliance issues associated with data protection and e-HRM across international boundaries (Eddy, Stone & Stone-Romero, 1999). Cholak & Simon (1991) explore the question as to whether HRIS should report to the HR function or through IT.

Table 3: Summary of e-HRM literature analysis on the following page tabulates the research articles reviewed under each category.

THEME	DESCRIPTION	No.	REPRESENTATIVE AUTHORS
Adoption	Factors affecting adoption, diffusion and acceptance of e-HRM, user satisfaction, including international comparison of adoption rates	12	Ruta (2005) Sanchez & Aguayo (2007) Marler et al (2009)
Functionality, usage and applications	Description of the functionality of e-HRM, with little focus on business outcomes	18	Elliott & Tevavichulada (1999) Ensher et al (2002)
Implementation of e-HRM	Factors relating to the project experience, project team experience etc	14	Haines & Petit (1997) Bondarouk & van Riemsdjik (2008)
Impact on the HR profession	Impact on structure and organisation of the HR function	24	Hempel (2004) Hussain, Wallace & Cornelius (2007)
Competitive advantage	Linkages between the use of e-HRM and supporting competitive strategies such as cost reduction, differentiation	4	Borderick & Boudreau (1992) Beckers & Bsat (2002) Lengnick-Hall & Lengnick-Hall (2006)
HRIS effectiveness	Impact of e-HRM on the perceived effectiveness of the HR function by line managers	5	Ngai & Wat (2006) Haines & Lafleur (2008)
Literature review / research agenda	Summary of literature, research	2	Stanton & Coovert (2004) Strohmeir (2009)
Other	Data protection / HRIS governance	2	Eddy, Stone & Stone-Romero (1999)
TOTAL		**81**	

Table 3: Summary of e-HRM literature analysis

Full details of the analysis can be found in *Appendix I: e-HRM Literature Analysis*.

4.9 General theories of IT value creation

It can be seen from the previous analysis that early e-HRM research tended to focus on exploring the characteristics and functionality of the technology, followed by a wave of studies looking at issues such as adoption and effectiveness outcomes. Contemporary research has now begun to examine the overall impact of e-HRM on the HR function and its effectiveness (Ngai & Wat, 2006; Haines & Lafleur, 2008) and its potential strategic impact (Marler, 2009). However, there has been little analysis of the process through which organisations create and defend a formal business case for investment in e-HRM, a requirement shared with other forms of technology. The assumption behind most forms of business technology is that it provides a range of organisational benefits, including reduced costs, faster processing times and potentially improved productivity. It would not be possible to

explore the slow development of HR technology without an examination of the way that organisations view the formal business case.

Organisations are essentially rational in nature and an investment in e-HRM (or any other technology) usually demands a rational, economic justification, because few are prepared to invest time and money based on a simple 'leap of faith' that benefits will be created. Building a business case is usually unavoidable - all organisations have limited funds to invest and there will always be competition for capital, so organisations seek to spend where they will get the greatest return, leading to close internal debate and scrutiny. Most internal finance functions set complex hurdles for funding that require benefits to be expressed in terms of its payback and benefits, including the Return on Investment (ROI), Net Present Value (NPV) and a range of other financial indicators. The requirement for a business case usually applies whether an organisation is seeking support for outsourcing, shared services, e-HRM or indeed any kind of HR programme, but it is especially relevant for technology, which requires a substantial capital investment rather than incremental spending.

Business cases therefore effectively act as predictive devices to determine the likelihood that a particular investment will meet a given objective, although it is often difficult to assess variables (such as risk) that might affect achievement of the objective. Conventional accounting systems regard financial results as the 'proof' that a plan or strategy works by measuring the absolute amount of money created or saved by an investment. Investments in information technology must be seen to make a positive contribution to organisational success, by bringing about some fundamental improvement in the way the business operates against this narrow set of financial targets, usually in competition with other requirements for funding.

Practitioners (and consultants) have by necessity had to face these realities and have developed techniques for this activity, yet much academic work starts from the point at which funding for the project already exists; topics such as adoption, learning styles and evaluation assume that there is already an economic business case in place with clear project objectives. In practice, many organisations have spent up to two years simply fighting for funding for their projects, often with severe reductions in funding and radically altered scope (Ward, 2000). However, defining the actual impact of IT is highly problematic and it consistently ranks as one of the top issues in the management of information technology. A large body of research into the general benefits of IT (Ashford, Dyson & Hodges, 1988; Powell, 1992; Sethi & King, 1994; Willcocks & Lester, 1997) has produced mixed findings as to where value lies. For example, Rau & Bye (2003) conclude that there are four areas where IT can add value – expense containment, process improvement, customer advantage and talent leverage, although these benefits are poorly defined. They conclude (p.20) that there is a 'reasonably strong' connection between IT investment and business results and that IT innovation should result in a steady or improved revenue generation, cost containment, operating leverage or enhanced profitability. In contrast, users of systems are more likely to view IT investments in utilitarian terms, assessing the value of technology by how useful it is in meeting their own personal objectives.

One outcome of technology investment is operational cost reduction. Indeed, Weill & Olson (1989) note that the benefits arising from IT are typically measured in strictly 'cost reduction' terms, which can be demonstrated through basic financial calculations. Cost reduction is usually achieved through process improvement, leading to staff headcount reduction, or the displacement of other technologies,

making tangible benefits easy to identify. However, in an examination of nine case studies, Sheppard (1990) found little evidence of any formal evaluation of IT benefits and even where evaluation had taken place, it was generally acknowledged that benefits were hard to identify and often highly intangible.

The notion of productivity as an outcome of IT investment has also been a popular theme in general IT research, focusing on the concept that technology allows members of organisations to do more productive work as a result of its introduction. This is mostly based on an assumption that management productivity is synonymous with the flow of information (Weill, 1992) and that greater information leads to greater productivity. However, organisations vary greatly in their ability to harness technology for organisational purposes and research is inconclusive regarding productivity outcomes. This has led to a debate in the IT literature about the 'productivity paradox' (Brynjolfsson, 1993; Willcocks & Lester, 1997), which argues that despite large investments in technology over many years, it remains difficult to identify exactly where the return on investment has occurred and by what mechanisms. Although attempts have been made to quantify productivity improvement using measures such as the overall contribution to the business, customer satisfaction, effectiveness in meeting business goals and business improvement, measuring the linkage between IT and 'productivity' is difficult.

Several studies have attempted to examine the wider impact of IT on overall business performance. While some have been able to identify links between IT strategy and overall firm performance, evidence remains inconclusive. For example, Bharadwaj (2000) and Santhanam & Hartono (2003) found some correlation between companies with high IT capabilities and levels of profitability compared to competitors, while others found evidence that high performing organisations invest a significantly higher proportion of revenues in IT investments than companies with lower performance (Harris & Katz, 1988). McAfee & Brynjolfsson (1999) argue that a rise in the quantity and quality of IT investments has coincided with greater gaps between the leaders and laggards in an industry and the rise of 'winner take all' markets and that the internet and enterprise technology has sharpened differences among companies, rather than reducing them. However, Cron & Sobol (1983) reported that both high and low performers used IT extensively, while Turner (1985) concluded that there is no relationship between organisational performance and the relative proportion of resource allocated to data processing. It may be concluded from many years of IT research that the benefits of technology are ultimately intangible and qualitative in nature; Matlin (1979) observes that "*Managers make investments in information systems in order to obtain a business improvement – they are 'purchasing an objective*", with the implication that expectations of IT may be imprecise and wide-ranging in nature. Indeed, Bharadwaj et al (1999) argue that in fact, managers (as end users) intuitively believe that the benefits of information systems investments are intangible, giving them access to objectives such as improved customer service, better products, higher levels of service quality and better flexibility. There is inevitably tension between the need to 'prove' bottom-line business benefits and to enjoy the qualitative impact of technology [22].

[22] To take a mundane example, how might an organisation quantify the business benefits of upgrading a personal laptop to a higher specification model? Although it might give lower support costs, the major claim will be that it makes employees somehow more 'productive'. Certainly, from an employee perspective, the business case for a new model against the frustration of a slow, crawling machine will be convincing; yet, conventional financial models would struggle to quantify this value.

Perhaps the most significant but elusive outcome of an investment in Information technology is in providing competitive advantage. Porter & Millar (1985) argue that information technology transforms the way that value activities are performed and the linkages between them, stating that "*Information technology has a powerful effect on competitive advantage in either cost or differentiation*" (p.156). Johnston & Carrico (1988) found that organisations typically turn to IT solutions as a response to increased competitive pressures in their industry, particularly a dramatic change in the market such as deregulation or entry of a new competitor. Likewise, Towers-Perrin (1992) saw access to information systems as one of the most important corporate initiatives for gaining and sustaining competitive advantage, without specifically stating how this would be achieved in practice.

4.10 Linking technology to outcomes

It has been argued that investment decisions for IT now more closely resemble investment decisions in Research & Development (R&D) environments, taking several years to pay back, where the IT contribution to the overall business objective is difficult to separate out (Bharadwaj et al., 1999). It is perhaps no surprise that the most enthusiastic take up of HR technology has been within technology companies that have often pioneered the strategic use of HR technology[23]. In these cases, investment decisions are rarely driven by a formal business case, perhaps being justified by a general assumption that technology is inherently a 'good thing' and that its use is consistent with corporate culture. While it may be possible to create a business case for a simple operational cost reduction, it is clear that claims for strategic outcomes from technology are difficult to cost justify - traditional methods of capital investment appraisal simply do not lend themselves easily to IT investment, as they take no account of the long-term advantages that IT brings, especially with regard to aspects of competitive advantage (Ashford et al., 1988). Nor is this problem unique to IT – Powell (1992) observes that civil engineering projects face similar challenges in defining benefits and many HR initiatives such as training and leadership development programmes struggle to identify the return on investment in the short term (Kearns, 2005). These types of benefits are often justified as a 'leap of faith', despite attempts being made to develop models that make their contribution more tangible (for example, Fitz-Enz & Davison, 2002). Even IT cost estimates are merely predictions that '"*We do not expect to be accurate in the accounting sense"* (Thompson, 1981, cited in Powell, 1992, p.34).

One flaw in many IT business cases (one that e-HRM is particularly guilty of), is the confusion between simply possessing technology and actually realising the planned benefits. For this reason, recent years have seen exploration in the IT literature of new ways of examining the benefits of technology. One valuable contribution in this field is the Benefits Dependency Network (BDN) developed by Peppard, Ward & Daniel (2007), based on the idea that IT has no inherent value and that benefits only arise when technology enables people to do things differently, such as performing their roles in more effective or efficient ways. One key principle is that all IT projects

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Likewise, how does one quantify the additional productivity gained through the introduction of e-mail – does the investment justify the outcome?

[23] For example, Microsoft and Cisco are generally acknowledged to have been at the leading edge of e-HRM development, since the 1990s, using their own technologies to develop tools.

have outcomes but not all outcomes are benefits; benefits must be actively managed to be obtained. Moreover, business managers are the only ones that can release business benefits – not the IT team that builds it. Essentially, the Business Dependency Network (shown in *Figure 9: Benefits Dependency Network*) creates linkages between IT enablers, the enabling changes they create (possibilities), the business changes that take place as a result (practices, processes, relationships), the actual benefits these changes produce and finally how the ultimate investment objectives are met. When applied, it ensures that investments are driven by business demand rather than IT supply and forces organisations to focus on business outputs rather than technology inputs.

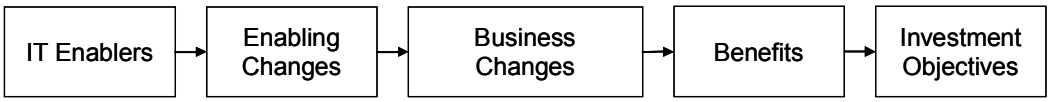

Figure 9: Benefits Dependency Network

The Benefits Dependency Network therefore suggests that the benefits of technology, other than the most direct cost reduction improvements, are part of a chain that links together IT enablers to the business changes that take place. The idea of a series of linkages between IT enablers and benefits realisation is important to the development of the e-HRM Value Model to be proposed in Chapter Five.

Like e-HRM, IT systems are expected to perform tasks efficiently at the most basic transactional level, but beyond this requirement there is a broader expectation that technology will contribute to other organisational goals by providing tools and innovation that move the company forward. In the e-HRM field, development of a business case based on intangible benefits is more complex and is rendered more difficult because HR functions are generally not skilled at identifying and articulating these types of benefits, the outcome being that investment decisions typically focus on obvious, tangible administrative benefits. Even practitioners understand little about the dynamics of the value created by e-HRM - as Stone, Stone-Romero & Lukazweski (2006, p.242) argue, the use of e-HRM is "*Often predicated on unproven claims about their functional consequence*." This may explain problems of de-scoping, reduced budgets and poor change control inherent to many IT projects.

5. The e-HRM Value Model

5.1 Overview

The previous chapter suggested that any organisational investment in technology can have multiple outcomes in terms of operational cost reduction, productivity and strategic capability. However, Information Technology research has tended to explore these outcomes as individual components rather than combine them into a single unifying model that sees simultaneous, multiple outcomes arising. This is especially true in the e-HRM field, where, as the literature review presented earlier shows, early research tended to focus on descriptive studies of e-HRM functionality while more contemporary research has explored issues of adoption. Little attention has been given to actual business outcomes, the planning process for e-HRM and how its benefits are articulated and shared across various stakeholder groups.

This chapter sets out a model for defining the value created by e-HRM, based on a range of distinct but linked outcomes. The model is holistic in nature and assesses the enablers and linkages between the potential for creating value and the actual outcomes of e-HRM which are expressed in terms of the competitive advantage created. The basic premise of the e-HRM Value Model is that all stakeholders must be able to understand the benefits, recognise the difference between the potential for value creation and actual outcomes and have a clear sense and shared understanding of the impact it will have on their operations. It will be argued that one reason why e-HRM rarely extends beyond administrative applications (which are primarily aimed at cost reduction) is that understanding is limited to only its transactional processing functions and that the HR profession has generally failed not only to communicate the benefits to line managers, but to educate itself on the nature of these benefits. The lack of a common language or framework for understanding e-HRM is seen as a limiting factor in its development.

5.2 Theory Development

The development of the e-HRM Value Model is the result of an extensive, systematic review of literature of e-HRM and general Information Technology, combined with a research interview programme to support the development of the new model. Inevitably, this process has involved a high degree of theory building, which has been based on a grounded theory approach developed by Glaser & Strauss (1967). A theory denotes *a set of well-developed categories (e.g. themes and concepts) that are systematically inter-related through statements of relationship to form a theoretical framework that explains some relevant social, psychological, educational, nursing, or other phenomenon* (Strauss & Corbin, 1998, p.22).

Grounded theory is an interpretive research strategy that challenges the notion that the purpose of social research is to uncover pre-existing and universal explanations of social behaviour. Its aim is to provide "*New insights into the understanding of social processes emerging from the context in which they occur, without forcing and adjusting data to previous theoretical frameworks*" (Lansisalmi, Peiro & Kivimaki,

2004, p.242). In its purest form, Glaser & Strauss (1967) [24] argue that theory building is best conducted through inductive, qualitative research rather than continual hypothesis testing. It should be sufficiently analytic to enable some generalisation to take place, but it should be possible for people to relate it to their own experiences. Indeed, Daft (1983) notes that the most significant studies in behavioural and organisational studies often approach the problem as an open-ended question rather than as a hypothesis to be tested.

Grounded theory is initially inductive in nature, as theory is generated from observations in the data which are translated into ideas through deduction and logic; tentative hypotheses are tested with existing and new data using an inductive approach. Constant reference to data helps to ground the theory. As an interpretive process, grounded theory therefore demands creativity and a spark of insight to enable new ideas to evolve, where the researcher is an important focus of the activity and brings their own knowledge and insights to the process. Grounded theory researchers must account for their positions in the research process through a process of ongoing self-reflection to ensure that they take personal biases, world-views and assumptions into account while collecting, interpreting and analysing data. It demands that the researcher examines not only the personal learning process but is also able to understand any pre-formed assumptions and naïve theories held prior to the formal theory building process. The role of the researcher is essentially to develop a theory that accounts for much of the relevant behaviour, using constant comparative analysis through a variety of means such as interviews, participative observation, documentary analysis etc. Unlike discourse analysis, grounded theory is less concerned with language and more interested in phenomena and processes. Essentially, data collection and analysis proceed simultaneously and the outputs of research are shaped from the data to tease out themes, patterns and categories. Self-learning makes the research more interesting and is more likely to be reported by peers (Rynes, McNatt & Bretz, 1999). This approach allows a complex question such as “does e-HRM technology enable you to manage people better?” to be answered, based on the interpretations of those it affects. The methodology also allows the interviewer to evolve the format of questions over the course of the research, to expand understanding of the key question areas, to explore the developing themes and use them as the basis for reformulation of development of the questions (Lansisalmi et al., 2004). These ideas have been central to this thesis; for example, prompting the early exploration of my own assumptions and drivers in relation to e-HRM in the introductory chapter.

However, grounded theory in its ‘pure’ sense has two limitations. Firstly, As King (2004) argues, there are grounds for scepticism about the existence of these ‘real’

[24] Since the original 1967 book was published, an acrimonious debated arose between Glaser and Strauss, with Glaser arguing that researcher should start with no pre-suppositions (Glaser, 1978) although Strauss recommended that researchers should become familiar with previous research and use a structured, mechanistic approach to making sense of the data Strauss & Corbin (1998). Problems of access have also led to some revision of the assumptions and approach to grounded theory. I am very much with Strauss in agreeing that pre-conceptions are inevitable and I have tried to set out my own assumptions regarding e-HRM and HR management in an earlier chapter. Easterby-Smith et al (2002) caution that this approach concedes a little to positivism, arguing that one should start with some theory about the nature of the world, but in any case these pre-conceptions are ultimately unavoidable.

internal states and one might instead take a 'contextual constructivist' position (Madill, Jordan & Shirley, 2000), on the assumption that there are always multiple interpretations to be made of any phenomenon, which depend on the position of the researcher and the context of the research. Secondly, grounded theory research is highly demanding in terms of analysis. It has also been argued (Suddaby, 2006) that there has been an overly generic use of the term 'grounded theory' and it has reached a point, he argues, where it is "*Often used as rhetorical sleight of hand by authors who are unfamiliar with qualitative research and who wish to avoid close description or illumination of their methods*" (p.633). He is keen to point out that grounded research is not an excuse to ignore previous research, is more than raw data, is not about testing hypotheses and should not become a mechanical (i.e. formula-driven) approach – what Suddaby claims is a 'neurotic overemphasis on coding'. These criticisms have been noted and as far as possible avoided in this research, for example, by acknowledging my own personal assumptions and allowing for multiple interpretations.

5.3 A Human Capital Management perspective on e-HRM

E-HRM shares a common problem with both IT and the HR function – how to define and demonstrate the value that it creates and present it in a way that a wide range of organisational stakeholders can make sense of and, critically, invest in. Even if it were possible to demonstrate an absolute cost reduction that enabled the firm to produce products at a lower price relative to competing products, there remains a need to evaluate the strategic contribution of IT and in particular its contribution to competitive advantage (Strohmeier, 2009). This thesis proposes that the resolution to the dilemma potentially lies in taking a Human Capital Management (HCM) approach to e-HRM outcomes. If one accepts that the role of the Human Resources function is to support the development of competitive advantage, either through low cost of operation or supporting a differentiated strategy, then it follows that any technology employed by HR should also be focused on competitive advantage. However, as data previously presented highlights, e-HRM use has generally been targeted at only one aspect of competitive advantage by trying to achieve the lowest possible operational cost for administrative services (typically in support of a low-cost competitive strategy). Traditional outcome measures such as return on investment are often limited to this single aspect of technology, whereas an understanding of how e-HRM affects organisations in terms of competitive advantage would allow the building of sophisticated investment models [25].

Beckers & Bsat (2002) explore the extent to which HRIS provides a managerial Decision Support System that can lead to competitive advantage. Mayfield, Mayfield & Lunce (2003, p.148) recognise that "*Information technology facilitates communication freely between integrated features. Such information sharing is crucial to learning organisations that view employees as their main competitive advantage*", albeit this was stated in the context of learning organisations. Reddington & Martin (2006) came close to defining a more complete model, arguing that e-HRM provides three forms of competitive advantage – reducing transaction costs and headcount, extending the reach of information to improve ways of

[25] During early presentations to my DBA peer group, I was challenged on several occasions to identify where competitive advantage might be derived from e-HRM. This was dismissed as an unrealistic topic for research, although clearly it prompted some reflection.

working, and finally by e-enabling HR to provide strategic value at new levels, such as knowledge management and new ways of working, although a model was not fully articulated. It is perhaps surprising that the concept of competitive advantage has not captured the imagination of researchers, given that it offers a well-understood, valuable construct for defining business success and the range of outcomes of investment, although no model exists that sets out a robust framework to explain e-HRM outcomes in these terms. As Sethi & King (2004) note, there is now a need to assess the strategic role of technology and its impact on competitive advantage.

During the research interview programme, a number of themes regularly arose that highlighted that competitive advantage was an important yet often overlooked issue, suggesting that this topic is a critical question in e-HRM research and practice. However, literature and interviews material suggests that it is possible to develop a model based on articulating the nature of e-HRM competitive advantage, to provide a common frame of reference for managers and HR. As I shall explore later, it will also permit managers and HR professionals to make sense of e-HRM.

5.4 A new framework for understanding e-HRM value

Research interviews revealed substantial gaps between HR and line managers across a range of issues. For example, there appears to be a gap between HR's aspiration to use e-HRM and its ability to 'operationalise' that aspiration in terms of actual delivery. Unless organisational stakeholders are able to make sense of the benefits of e-HRM, in a way that is tangible and aligned to the needs of the business, it will be difficult to define a compelling case for change and justify a financial investment. This may explain why the majority of investments remain at the basic administrative/ operational level; only obvious cost reduction is seen as a viable outcome of the use of technology, limiting it to the most basic processing functions. Based on the previous discussion, it is argued that in the absence of a conceptual model for understanding the linkage between technology and competitive advantage, it will not be possible to make these critical linkages and stakeholders will develop different frames with regard to e-HRM.

The central contention of this chapter is therefore that to gain investment in e-HRM, organisations must clearly demonstrate that the use of e-HRM creates value beyond its administrative capabilities. This presents a dilemma; if the benefits of e-HRM are seen as only tangible and related to cost reduction, the business case for e-HRM can only be based on this narrow aspect and investment in higher e-HRM functions (productivity and strategic functions) will not be made. Yet, if these intangibles represent the most powerful forms of technology investment, yet the organisation is not able to justify investment in them, they may be missing out on opportunities and the biggest benefits will remain out of reach. The e-HRM Value Model is an attempt to put structure around the value created by e-HRM in the context of competitive advantage, in a way that will be clear to all stakeholders.

5.5 Template themes

Based on the recommendations of King (2004) an initial template structure was developed to allow the initial analysis of primary research data. This was based on the high level themes indicated by the literature review, which suggested that the value created by e-HRM can be categorised into one of three value outcomes, that

is the operational, people management/productivity and strategic capability outcomes. Under each of these, a series of prototype themes was generated, based on a combination of a high level review of interview transcripts and those suggested by literature. Transcripts were then coded using the Weft QDA software, to provide the initial analysis. Following a more detailed analysis, certain themes were eliminated as they were either not strong interview themes or they could be more accurately be categorised under other headings. For example, early themes included 'Impact on HR processes', 'Impact on service delivery' and 'Impact on productivity', but these items were subsequently aggregated into other themes. In some cases, greater reflection about the appropriate category (particularly developing a better understanding of the relationship between Value Potential and Value Outcomes) led to elimination of themes.

5.6 Development of the e-HRM Value Model

The e-HRM Value Model is a conceptual model that has been developed using a grounded theory approach. It draws on an analysis of the output of the research interviews and with reference to existing academic research to build the overall model for describing e-HRM value creation. The e-HRM Value Model argues that there are only three types of outcome from the use of e-HRM, categorised as 'Value Outcomes'. As set out in *Table 4: Components of the e-HRM Value Model*, on p.75, the first of these, 'HR Operational Cost Reduction' is well understood and assumes that the use of technology will remove cost from day-to-day HR operations. Cost reduction can take two forms, either as direct headcount reduction savings or indirect savings such as the reduced use of materials, technology displacement and third parties. This category is highly focused on the HR function itself, so cost reduction is directly related to only internal headcount reduction rather than cost savings outside the functions. The next Value Outcome, 'People Management and Productivity', is described in various ways throughout general IT research, although the elements of productivity are only broadly defined. Interviewees in the research programme consistently spoke about these topics, which include enthusiastic descriptions of how e-HRM might support managers in this area, changing the way that the HR function relates to line managers and helping managers and employees work more productively. The final Value Outcome is 'Strategic Capability' referring to the creation of new levels of capability within the organisation that would not have been possible without technology, for example unique levels of competence, the ability to recruit in new markets and support for innovative management practices. The rationale for the selection of these outcomes will be explored in greater detail in chapters Six to Eight.

The model is consistent with the three roles of HR (operational, relational, transformational) as defined by Yeung & Brockbank (1995) and with themes set out in general Information Technology research that suggest cost saving, productivity and strategic outcomes are available. It is also consistent with various e-HRM maturity models that trace the development of HR technology through transactional, information and strategic stages. It also borrows from the ideas of the Business Dependency model, that sets out the need for business managers to act positively to derive benefits and that IT has no inherent benefits.

The model consists of a series of linked layers and is similar in structure to the Balanced Scorecard linkage model made famous by Kaplan & Norton (1996). The first layer relates to the potential for value created by e-HRM through initiatives such

as business process improvement, additional content and creating a technology infrastructure. Each successive layer in the model builds on the one below. The three levels of the e-HRM Value Model are set out below:

5.7 Level 1: Value Potential

When e-HRM is introduced into an organisation, it creates the potential for competitive advantage based on the following:

5.7.1 Business Process Improvement

Business processes usually improve as a result of the introduction of technology, often because a business process improvement exercise is typically associated with the introduction of e-HRM to simplify business processes (Weick, Sutcliffe & Obstfeld, 2005 p.411). Many contemporary e-HRM systems include tools such as workflow that can efficiently move transactions around the organisation, making processes more streamlined and less labour intensive. HR technology reduces the number of 'hand-offs' between process steps; for example, employees can enter their own data to support processes such as submitting business expenses or changing personal data, such that approval can be routed directly to managers, who then provide electronic HR approval. This reduces the need for central data keying, as well as improving accuracy and minimising physical paper. Indeed, as previously discussed, managers generally expect to see process improvements and efficiencies arising through the introduction of e-HRM and this idea forms part of the 'received wisdom' of e-HRM projects. The idea is simple – "use e-HRM, improve your processes". One line manager in COUNCIL 1 talked about technology replacing transactional work and his expectation that routine work would become less reliant on human effort and more reliant on technology [Council 1, Line Manager, 10]:

"Within reason, something that automates processes and takes paper out of the organisation, flows decisions around quickly, then by doing that, increases people's confidence in technology and they accept that it's the method of operation rather than pen and paper." [Council 1, Line Manager, 10].

One line manager commented that e-HRM would make it easier to manage administration, as all the forms would now be available online and there would be no need to worry about whether the form was up to date or available [Agency 2, Line Manager, 39]. The overall experience of introducing e-HRM was often expressed in terms of making process improvements, where technology raised high expectations about process change, for example:

"*What we're really hoping in terms of the new computer system we're introducing is that it will take away some of that pressure, particularly on some of the administrative things which will now be done automatically. We are relying very much on this new system doing that.*" [Council 1, HR Manager, 12].

Another HR Manager at COUNCIL 2 explained how e-HRM had allowed them to remove much duplication from processes and reorganise work away from the central payroll teams to local sites [Council 2, HR Manager, 11]. For many, the improvement in process efficiency brought about by technology was stark in comparison to previous ways of working. Many talked about the poor state of HR processes and the problems that previously existed in terms of running an efficient

service. At COUNCIL 4, which had completed the first phase of its technology implementation, the HR Director sponsoring the project declared that previously:

"The error rate at the time was disastrous. And the perception of the payroll service was horrendous, 7 to 10% error, I've never come across. In a short period, it was down to half a percent." [Council 4, HR Manager, 15].

Likewise, at an NHS Trust, the HR Manager running the project perceived that processes had been improved:

"Managers are saying that the recruitment process has improved – how do you quantify it? We have a recruitment development manager and an overall recruitment manager and the feedback from these groups is that the process has improved. Basically they're tying the technology into how the recruitment process works." [NHS 1, HR Manager, 32].

HR managers were quick to link process changes with the wider impact on the organisation:

"The way the system should be used by the organisation is driving all the transactional back-office work onto the system, removing manual duplication and manual processing wherever possible, creating a high degree of consistency and compliance across the business, because they have frankly no choice about how to process work other than use the system." [Council 8, HR Manager, 42].

Technology has clearly played a symbolic role in improving processes and focusing the HR function on improvement:

"I think generally the section of HR took a battering initially, when it became a central personnel department and in doing that it highlighted various processes that were being duplicated within the various departments. It came to me to try to automate a lot of these processes and technology seemed to be the best way forward, from our point of view, our main aim was to try to automate day-to-day process" [Council 4, HR Manager, 21].

Those that had not made major process changes perceived that their implementation projects had been less successful:

"I don't think we were actually radical enough in terms of redesigning the processes. I think if we'd asked those people who had been delivering those processes to redesign them, it would have benefited from a fresh pair of eyes looking at it." [Agency 2, HR Manager, 34].

Improved business processes also have an impact on the quality of HR service delivery. For many HR functions, service delivery represents an important part of the way their function is perceived and 'improved service' is an objective that is at the heart of many HR transformation efforts. Although often poorly quantified, HR managers were highly positive about service improvements, often seeing e-HRM as a key component in improving service quality. David Ulrich (1998) in particular has commented that good HR service delivery is the 'price of entry' to the strategy table and unless HR can successfully deliver HR administrative services, it will never progress beyond this level.

Perhaps this explains why so much emphasis has been put on HR service delivery and also why service delivery is not especially well valued – good service is taken for granted yet rarely valued and simply delivering good HR services does not in itself lead to competitive advantage. Disappointingly for the HR function, very few line managers explicitly commented on improved HR services.

"To be perfectly honest apart from the HR system, from a contact point of view you get the same level of service, there's always somebody there if you want to speak to somebody which is what you need, somebody at the end of the phone, at the end of the e-mail or somebody there if you want to speak to someone in person and that works whether you go through direct dial or through the service centre." [Agency 2, Line Manager, 36].

However, it was recognised that process improvement by itself would not deliver benefits, that e-HRM was simply an enabler with the potential for benefits:

"Its not just the technology which will make the change, it's a combination of modernising our HR approach, in combination with the use of policies, more of a business approach, shared services, it would be very dangerous to say it's because of technology, if you don't get people to use it, and work with you, it's not going to work." [Police 1, HR Manager, 09].

5.7.2 Extended Data Capture

As HR Information Systems are introduced, organisations start to gather a wider range of data than previously, including detailed organisational data relating to positions, job roles and salary structures, as well as extended data on employees such as personal and biographical data, career and training history, performance, skills and competencies and career aspirations. More data is gathered simply because the system now provides a suitable place to store it, where previously systems may only have held basic payroll data. Again, the potential provided for holding data is not intrinsically a benefit in itself, but simply a store of value that must be exploited to deliver Value Outcomes in the form of competitive advantage. For example, as will be examined, better core data means that information for operational decisions can better support line managers.

5.7.3 Extended Content

With the introduction of e-HRM, organisations also begin to store HR policies, help files and on-line communications materials, building up a repository of data that support better HR service delivery. This growth of data is enabled by technology which encourages (and in some cases, demands) more accurate, richer data. Once more, this simply represents value potential, that must be acted upon to deliver benefits – it does not in itself provide benefits.

5.7.4 Technology Infrastructure

Another feature of the value potential layer is that a new technology infrastructure is typically put in place that makes data accessible over the internet/intranet, making

access easier, more immediate and available at any time. This can include investment in specific web servers to support the deployment of e-HRM, improved network connectivity, enhanced desktops and a support team to ensure that technology is constantly available. This technology infrastructure also provides integration with other organisational systems such as Finance, so that key data can be shared. The technology infrastructure also supports improved management reporting in particular, long-term planning decisions. Together, this infrastructure might be compared to a 'train track', that, once in place, the organisation can choose to run an array of solutions that together form e-HRM.

5.8 Value Potential: The Fatal Flaw

Many organisations make the mistake of assuming that the components of the value potential layer listed here represent the ultimate benefits of e-HRM, confusing 'inputs' such as process improvement with 'outcomes' such as lower costs or competitive advantage. Critically, the e-HRM Value Model argues that these are merely inputs to the creation of value rather than outcomes of e-HRM. Something else must be done with the value potential to enable it to become a factor of competitive advantage. However, unless process improvement and service delivery can be converted into some form of competitive advantage, then they merely have the *potential* to create value. As the Business Dependency Network model (Peppard et al., 2007) demonstrates, possession of this potential is not enough and management actions are needed to convert the potential to Value Outcomes. For example, In the case of business process improvement, improving process efficiency is not sufficient as an outcome and must be combined with actions to reduce headcount. For most organisations, the harsh reality is that the only way to make this potential 'cashable' is to make people redundant or redeploy them elsewhere and, of course, these activities are often emotionally and organisationally difficult. At the highest level in the Value Model are a series of outcomes that specifically relate to aspects of competitive advantage – HR Cost reduction, people management/productivity and strategic capability. Only Value Outcomes that lead to competitive differentiation can be counted.

The central argument underpinning the model is that between Value Potential and Value Outcomes are a series of themes that represent how potential is converted to outcomes, based on a combination of literature evidence and the key themes arising from interviews. Likewise, HR managers can easily confuse process and service improvements with becoming 'strategic'. As an HR manager in AGENCY 1 explained:

"A couple of months after I joined, my Director, through the pressures of the Gershon agenda and through some central initiatives, decided to seek a change in the way we were delivering the service .. there were two drivers really, one was definitely efficiency to get the cost of the service down and the other driver was to get a more modern and professional service to meet the needs of the business. They were the two catalysts of change really, efficiency and modernising the service, making it a more strategic function" [Agency 2, HR Manager, 18].

It is therefore easy to fall foul of the 'fatal flaw', by confusing inputs with outcomes, illustrating why language and definitions around e-HRM value creation are important. Indeed, an initial version of this model saw both process improvement and improved service delivery as HR operational benefits at the value outcomes

layer; however, as a result of analysis of the template themes and some reflection, it was recognised that they simply form part of the potential for value.

The conclusion is that unless process improvement leads either to a reduction in cost (where a more efficient process requires fewer people to operate it) or creates an opportunity for greater productivity (where either managers and employees have more time to devote to other activities) then its potential will not be realised.

5.9 Level 2: Value Creation

Literature evidence, combined with the research interviews suggests a number of key themes that represent the first stage of converting the potential of e-HRM into outcomes. These are intermediary activities or strategies that the organisation must undertake to translate value potential into value outcomes. The significance of value conversion activities is that they must be based on a shared understanding of HOW potential becomes an outcome, a common series of reference frames for both managers and HR professionals. The overall model is presented on the following page *(Figure 10: e-HRM Value Model*) under three key Value Outcomes:

5.10 Level 3: Value Outcomes

At the highest level in the e-HRM Value Model are three forms of Value Outcome, related to competitive advantage. Each is strongly related to theoretical positions in the established literature, set in context against the emerging themes in the interviews:

HR Operational Cost Reduction: The outcome of improved processes and reduced headcount is overall reduced operating cost for the HR function (Chapter Six). The main impact of this outcome is on the operation of the HR function.

People Management and Performance benefits: This category consists of four themes, a manager's toolkit to reduce the administrative workload of managers, giving them more time to focus on employee performance issues, a refocused HR function that can focus better in supporting line managers, better information for operational decision making and a focus on managerial accountability (Chapter Seven). These outcomes have a direct impact on business operations rather than the HR function, supporting line managers in the management of their people.

Strategic Capability Benefits: These are benefits that are directly derived from use of technology (Chapter Eight). These outcomes have an impact on overall organisational capability.

The overall outcome of this initial review stage was the creation of a master theme list, as shown below:

CODE	VALUE OUTCOME	DESCRIPTION
HR Operational Cost Reduction		
O1	Headcount Reduction	Use of e-HRM to reduce HR staff numbers
O2	Indirect cost reduction	Use of e-HRM to allow reduction of other non-staff related costs e.g. IT, third parties, suppliers etc
People Management and Productivity		
P1	Manager's Productivity 'Toolkit'	The ability of e-HRM to provide managers with a resource to support people management. e-HRM enables managers and employees to spend less time on administration or will otherwise make them more productive
P2	Change of HR focus	e-HRM will impact on the focus of the HR function, enabling it to support line managers in the management of people rather than deal with administrative duties
P3	Information for operational decisions	e-HRM will provide information for managers and HR in making operational decisions, i.e. day to day questions about performance
P4	Impact on line manager accountability	e-HRM will have an impact on line management's accountability for people management
Strategic Capability		
S1	Strategic Information	e-HRM will provide better management information for long-term planning
S2	Culture Change	e-HRM will help change the culture of the organisation and improve employee satisfaction
S3	External branding	e-HRM will improve the employer brand

Table 4: Components of the e-HRM Value Model

Once this framework was established, transcripts of interviews were analysed in greater detail using this master template and passages of text were identified that related to each theme using Weft QDA. The themes were developed iteratively, with each theme being carefully analysed to justify its inclusion in each Value Outcome. For example, 'Business Process Improvement' and 'HR service improvement' were initially included as themes O3 and O4 at the 'HR Operational cost reduction' level, but were later re-allocated into Value Potential, since neither are ultimately outcomes unless they are converted into either a cost reduction or support improved productivity [26]. Likewise, 'P2 – Change of HR Focus' originally resided in the Strategic Capability Value Outcome but was also reallocated People Management and Productivity Value Outcome since a refocused HR function has an impact on managers in managing their teams. These decisions were important to the logic of the Value Model and required careful judgment. *Figure 10: E-HRM Value Model* sets out the entire Value Model in diagrammatic form and each Value Outcome is explained in detail in Chapters Six, Seven and Eight.

[26] Much is made of improved HR services but in practice, what is the impact? It can only bring about productivity gains by giving employees and managers more time to work or from an external perspective, give a good impression of the HR function to prospective employees. In itself, it has no inherent value.

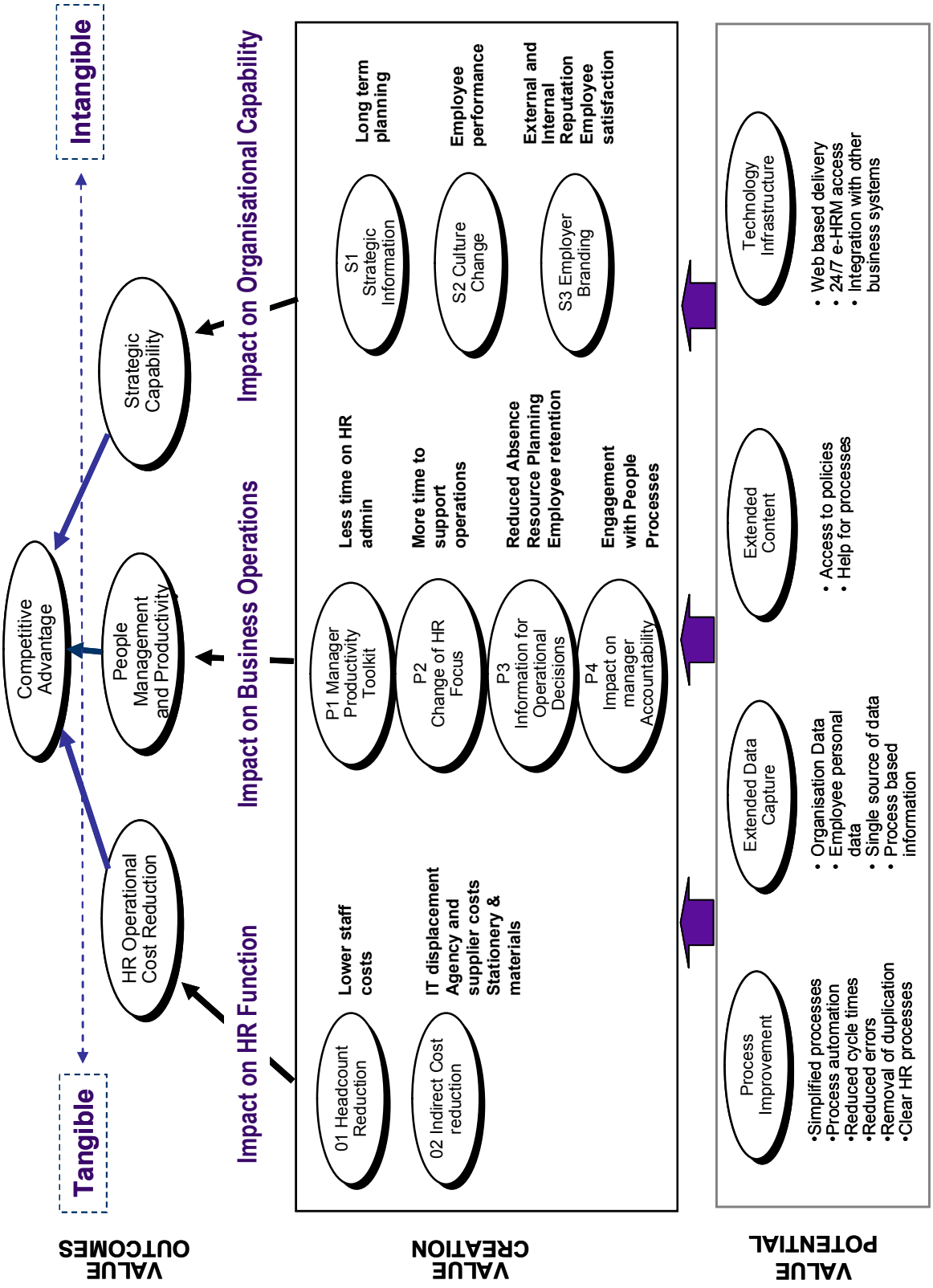

Figure 10: e-HRM Value Model

6. HR Operational Cost Reduction

6.1 Overview

Cost reduction is a key lever in any competitive strategy and even an organisation that is pursuing a differentiation or innovation strategy will also seek to control and manage its costs. Cost reduction is the most tangible type of benefit derived from e-HRM because it refers to real money that flows directly to the 'bottom-line'. It typically forms the basis for the business case and is the most tangible form of benefit, mostly appearing as a direct financial contribution. Indeed, for most organisations investing in e-HRM, it is unlikely that there will be financial funding for an e-HRM project without quantified operational benefits; economic pressures and the need for tight cost control drive 76% of investments in HR systems, although fewer than one third of organisations describe the internal HR function as 'very cost effective' (Aberdeen Group, 2009a). Cost reduction is therefore a critical driver in most e-HRM projects:

"Of course the cost savings were very important driver to us in choosing the system, if the computer system could do all these things it would reduce the cost and that's very important for local authority with a restricted budget because we're not funded to do the things that we do". [COUNCIL 1, HR Manager, 12].

The opportunity for cost reduction arises because any resource devoted to the delivery of transactional services, such as the manual entry of data, maintaining employee records, processing requests, filing and dealing with enquiries is expensive and organisations will seek to reduce these types of cost at every opportunity. Interviews confirmed that there is clear pressure within organisations to reduce HR operational cost:

"I still think there's an awful lot of cost inherently built into those processes that are people related costs and I know as a public sector HR Director that might sound a bit radical for four or five years, but the only way we'll meet efficiency target is to deliver improved performance and take cost out and move more of it to technology and streamlining what we do." [Council 8, HR Manager, 42].

Even organisations that had explicitly recognised the cultural and strategic aspects of e-HRM concluded that:

"There were two drivers really, one was definitely efficiency to get the cost of the service down and the other driver was to get a more modern and professional service to meet the needs of the business." [AGENCY 2, HR Manager, 18]

And more explicitly:

"It's more fundamental – it comes down to money, about being slicker, more effective, more efficient." [POLICE1, HR Manager, 09]

Interviews confirmed that absolute costs savings are typically the key driver in justifying the initial investment in e-HRM. Technology is often seen as the only way to achieve this reduction, by removing lower level administrative work from the organisation, although this may ignore the wider possibilities for HR:

"It seems that what the politicians want is us to be just a support service - they want to cut the cost as much as they can and put any money that may be available into front-line services ….of course the cost savings were a very important driver to us in choosing the system." [Council 1, HR Manager, 12].

Cost reduction can take one of two forms, impacting primarily on HR operations:

Value Outcome: HR Operational Cost Reduction		
O1	Headcount Reduction	Use of e-HRM to reduce HR staff numbers
O2	Indirect cost reduction	Use of e-HRM to allow reduction of other non-staff related costs e.g. IT, third parties, suppliers etc

Table 5: HR Operational Cost Themes

6.2 Headcount Reduction (O1)

The cost reduction capability of e-HRM is well documented in research. For example, Lengnick-Hall & Moritz (2003) note that e-HRM is able to reduce process and administration costs, while Bussler & Davis (2001/2002), Hendrickson (2003) and Hawking, Stein & Foster (2004) list the efficiency capabilities of HR technologies. Most approaches typically achieve cost reduction reducing HR staff as a result of the automation or streamlining business processes.[27]

There is general consensus that HR technology lowers HR operating costs although estimates as to the potential for operational savings vary, from a reduction in administrative staff of up to 40% and reductions in transaction costs of 50% (Wiscombe, 2001), to US evidence that suggests that a 20-25% reduction in HR costs is possible through e-HRM (CedarCrestone, 2009). These initiatives permit the organisation to serve up to 11% more employees when combined with a service centre approach, with an average 60% cycle time reduction across HR processes. The Aberdeen Group (2009a) found that Best in Class organisations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%. One important HR measure of administrative efficiency, apart from cost, is the number of HR people required to deliver the service relative to the number of employees supported – most large organisations strive for a ratio better than 1:100, that is, one HR person serving every 100 employees. Evidence suggests that the amount of time spent on operational (i.e. administrative) work is reducing as a result of past process improvement efforts - it has now fallen as a proportion of overall workload from 50% in 2003 to 36% (2007), achieved through

[27] Equally, benefits can be justified against cost avoidance, for example, in an organisation which is growing but wishes to provide the same level of service without increasing its headcount or other costs in line with the growth. E-HRM creates greater capacity to take on work, allowing growth without associated headcount or infrastructure costs. Avoided costs are normally valid in a business case if there is an incremental improvement with disproportionately lower investment. For ease, the term 'cost reduction' is used throughout but the concept also includes the opportunity for cost avoidance.

technology-enabled HR delivery models such as shared services and outsourcing. Of course, the extent of benefits achieved depends on current levels of inefficiency – the greater the current level of inefficiency, the more likely it is that improvements will be made.

For many organisations, introducing e-HRM represents the first stage of HR transformation, which is about efficiency, effectiveness and removing excess cost as well as improving HR service delivery. Interviews confirm the importance of cost reduction:

"We identified about £100k savings to be made from the self-service side, which is partly delivered, it's not all self-service because we changed a lot of processes - there was a lot of duplication before." [Council 2, HR Manager, 11].

In the case of COUNCIL 2, an annual £250,000 of cost savings were achieved through a combination of e-HRM and HR restructuring, including reducing the number of recruitment administrators from three people to only one person. Technology also allowed Payroll processing to be brought back in-house at no additional cost and over half a million pieces of paper were eliminated through file scanning.

HR teams generally recognised that there were significant opportunities to reduce their operational cost through a combination of technology and process improvement, mostly based on headcount reduction:

"*Efficiencies are being created as a consequence of having the system, we were able to centralise all of our corporate services functions and we actually reduced the headcount quite significantly from three years ago, so previously we've been running a central HR function and then outposting teams into each of our main service blocks. We now operate a single centralised HR service function which has considerably reduced headcount, so the cost of HR has reduced over each of the last three years."* [Council 8, HR Manager, 42].

One HR manager spoke not only of the improvements that had been made so far, but indicated that there was further scope for cost reduction through headcount reduction:

"*We've done some statistics on how many payslips per head the benchmark costs and we are below average in terms of what were achieving. I could do a quick calculation and you could afford to lose certain heads.*" [Council 3, HR Manager, 13].

"I think that I have got way-heavy on personnel staff compared to the number of staff in the council, we're about 1 to 110, in other places it is 1 to 70, you get into definitions but we still have more per head of the council and I'd like to get that down if we're supposed to be leading edge." [Council 4, HR Manager, 14].

Given that the organisational context to e-HRM is usually a drive for cost reduction, most HR managers were absolutely certain that without an element of operational cost reduction in the business case, there would be no funding for e-HRM, despite some of the less tangible benefits apppearing highly attractive. In AGENCY 2, even though the stated intention of the SAP system was to improve managerial capability, cost reduction was still critical:

"I remember having conversations with people who said you didn't have to have a positive NPV, but I don't think we would have got one (a business case for e-HRM),, I am sure we wouldn't. There was further noise in the organisation about cutting overhead costs." [Agency 2, HR Manager, 18].

The financial case for e-HRM is typically approached in very structured way, for example, as part of a clear strategy that involved centralising corporate services functions and reducing HR headcount, to operate a single, centralised HR service. The HR Director at COUNCIL 4 had taken a very bold position with his Board regarding potential savings. His approach was to strike a deal with the business that if he was allocated a budget for technology investment, he would deliver a recurring annual savings, allowing the Council to meet its savings target under the Gershon plan. Part of the proposition was a specific commitment to reduce the size of the HR function, through the automation of processes which he would realise by passing some HR workload and responsibility to line managers. It included an assumption that HR professionals were already performing more administrative work than was desirable or efficient.

"I was able to say 'I will save you lots of money if you integrate this function and the way I will do that is to develop [e-HRM] so that a lot of the processes are done electronically and I won't ask you as a line manager to do it any more. However, I'll ask you to do it differently; I'll save you money, because I won't use so many personnel managers." [Council 4, HR Manager, 14].

In COUNCIL 4, the investment level was gradually reduced as savings were delivered. These HR professionals were generally aware that they were considered to be inefficient and that technology heralded an impact on reduction in size of the HR team.

However, in many cases, HR functions felt that their cost reduction proposals came under close scrutiny, where the business case was often scaled back from the original proposal to a more 'stripped down' version of the original business case:

"*The full business case had estimated the savings in it based on each option. It had to go through three or four different committees including the Board itself. There are often the same people on all the committees, each of them tried to revise the business case."* [NHS 1, HR Manager, 32].

Nevertheless, from the perspective of the HR function, the cost reduction / avoidance argument appears to be solid and a key component of the Value Model.

6.3 Reduction in non-Headcount HR Costs (O2)

Some organisations commented that e-HRM might also bring about reductions in non-headcount related costs as a result of the e-HRM investment. While this is a secondary effect and less likely than direct headcount reduction to yield significant financial benefits, the structural changes that e-HRM enables create an environment for additional cost management. For example, Towers-Perrin (2002) notes how the use of e-HRM is creating opportunities for HR shared services delivery centres, which in turn lead to new economies of scale, including better greater efficiencies for HR operations. The Ulrich model, described in Section 3.4, proposes that HR administrative services should be separated from HR strategy, policy and advisory

activities, leading to the creation of new delivery operations. Murphy (2002) identifies several organisations that have been able to access better arrangements with benefits suppliers as a result of being able to channel more traffic through e-HRM, reducing the cost of cars and benefits provision.

Other cost savings might arise as a result of displacing existing technologies with resultant savings in licensing and support costs, or switching to electronic rather than conventional media. For example, the introduction of technology means that more documents (offer letters, interview invitations etc) can be sent on-line, with a reduced need for stationery, postage, facilities and other day-to-day costs. Recruitment processes, in particular are often highly reliant on the mail system, whereas e-recruitment eliminates this need. COUNCIL 4 made large savings simply by scrapping its physical applicant packs:

"We were shuffling a lot of paper, we were antiquated with a lot of processes, we were costly. An application pack was costing us between £1.50 and £2 to produce and we were sending out lots about 20,000 every year." [Council 4, HR Manager, 14].

More efficient processes also allow organisations to perform more work internally without the addition of more staff, or by transferring work back from expensive external contractors and agencies. Other costs in this category include lower IT infrastructure costs, given that many organisations are using older technology that does not permit web enabled self service, as well as lower licensing costs and consolidation of multiple applications. Others identified that there might be savings arising from reduced reliance on third party providers such as recruitment agencies, where e-HRM makes it possible to perform the work more cost effectively internally. For example, COUNCIL 1 had outsourced its recruitment services to a third party provider but was not getting good service; as one member of the Health and Social Services management team commented:

"There are examples where there's a real potential for saving money for example. In recruitment, if managers knew they could use the system for recruitment, with all the reporting, then it would save money." [Council 1, Line Manager, 02].

Administrative efficiency is clearly an important topic for e-HRM and there are obvious shared ideas about costs. In a competitive strategy based entirely on cost advantage, the provision of low-cost HR services is important, especially when the HR function is seen as an administrative overhead that must be minimised. Lower costs flow directly through to the bottom line, making products and services less expensive for customers or increasing the profitability of the organisation.

Indeed, Bondarouk & Ruel (2009, p.508) suggest that e-HRM has made organisations highly efficient in their transactional operation and that there are possibly no further costs to be cut, a similar argument to the 'Transformation 2.0' agenda proposed by Mercer (2007). Bondarouk & Ruel propose that research into e-HRM now needs to shift away from operational cost improvement towards the examination of other consequences.

7. People Management and Productivity

7.1 Overview

While cost reduction and cost avoidance are important elements in a competitive strategy, the operational benefits derived from e-HRM are mostly concerned with the internal workings of the HR function. Arguably, even if the HR function were the most efficient, cost-effective, lowest cost provider in its sector, it would have little impact on the ability of managers to manage employee performance. Given that HR operational costs typically account for around 1% of total operating costs, even a 30% reduction in HR costs make only a small contribution to a cost-focused competitive strategy. Moreover, under a competitive strategy based on product differentiation or innovation, low-cost human resource management may not be the highest priority, especially where people management issues are significant barriers and opportunities to business growth. Indeed, line managers may prefer to pay more for a more professional HR service that directly supports them with people management activity. This is particularly relevant to knowledge-based organisations such as professional services, technology and creative businesses, where the management of individuals is highly important and cost is less of a differentiator than product quality or innovation. Unless e-HRM can be linked to these wider organisational objectives, it may be seen to have a limited, administrative role.

The focus of this Value Outcome is therefore on the people management and productivity outcomes of e-HRM and the manner in which value potential is converted into activities that enable line managers to become more capable in managing their teams. The annual CedarCrestone study (2008) reported that the top three reasons for investing in e-HRM, with little difference in preference, were to achieve a return on investment, enable HR to operate more strategically and bring about improvements in employee productivity. In fact, these aspirations were ranked more highly than administrative service cost reduction, a finding consistent with CIPD research (CIPD, 2007b) that ranked improving the quality of information available (91%), more highly than reducing the administrative burden on the HR department (83%). In a similar analysis of Singaporean HRIS use, Teo & Rodwell (2007) found that the top reasons for implementation were to achieve more accurate HR information and better tracking of HR information. Its potential to create value is high - this outcome takes a human capital management view (see Chapter Four) and is based on an assumption that good people management contributes to the development of human capital and ultimately higher levels of performance. Cost reduction is not a priority in this Value Outcome, although clearly organisations will also seek cost efficiency through cost reduction. For example, by providing line managers with a toolkit that reduces the time spent on administration, there will be more time to devote to managerial activity, supported by greater levels of information with which to make operational decisions and clearer accountabilities with regard to people management. Another theme in this Value Outcome is the focus on people management that e-HRM provides to the HR function, enabling HR professionals to devote time to supporting line managers, in support of innovation or differentiation competitive advantage strategies.

This Value Outcome is strongly supported in literature. Section 4.9 acknowledges the concept of the 'productivity paradox' (Brynjolfsson, 1993; Willcocks & Lester, 1997), in general IT perspectives and the difficulty in identifying genuine productivity

improvements as a result of the introduction of technology. However, it may be possible to identify more precise productivity outcomes for e-HRM, especially when linked to people management and competitive advantage. Research suggests that organisations have an intuitive understanding of the productivity benefits of HR technology, although they are rarely quantifiable and different terms tend to be used. Lengnick-Hall & Moritz (2003) observe that e-HRM has the potential to improve employee productivity, employee morale, decision making and information. The CedarCrestone study (2009) identified links between investment in strategic HRM tools such as workforce planning, competency management and performance management and two year sales growth. This study found that organisations with competency management tools had 5.5% higher sales growth than those without and 3.3% higher growth in organisations using workforce planning tools than those without. Clearly, one cannot infer causality between software tools and sales growth, but there appears to be as a minimum some correlation between investment in strategic HRM applications and productivity.

So, while productivity arguments are not new to e-HRM (or, indeed general IT research), to date they appear not have not been set in a suitable context or framework with which to describe their contribution to competitive advantage. Template analysis of the research interviews revealed that several themes form this Value Outcome; essentially, the impact is on business operations rather than the internal HR function and can be analysed into four main themes as shown below:

Value Outcome: People Management and Productivity		
P1	Manager's Productivity 'Toolkit'	The ability of e-HRM to provide managers with a resource to support people management. e-HRM enables managers and employees to spend less time on administration or will otherwise make them more productive
P2	Change of HR focus	e-HRM will impact on the focus of the HR function, enabling it to support line managers in the management of people rather than deal with administrative duties
P3	Information for operational decisions	e-HRM will provide information for managers and HR in making operational decisions, i.e. day to day questions about performance
P4	Impact on line manager accountability	e-HRM will have an impact on line management's accountability for people management

Table 6: People Management and Productivity Themes

Each of these themes is explained below, together with theory supporting the themes.

7.2 Manager Productivity Toolkit (P1)

Line managers are a critical delivery point for a variety of HR policies and practices and there is a trend towards line managers increasingly taking on work previously carried out by the HR function. Managers spend on average 20 per cent of their time working on HR duties (Luthans et al, 1988 in Brandl, Toft Madsen & Madsen, 2009, p.196) dealing with topics such as employee administration, performance,

recruitment and development. Kochan & Dyer (1993) and Karakanian (2000) point to an organisational trend towards passing HR responsibilities to line managers, making them more self-sufficient in dealing with day-to-day people management, in areas such as performance management, managing employee disciplinary meetings and organising learning and development. A study by UK publication *Employment Review* found that 80.2% of organisations have devolved HR responsibilities to managers, with growth predicted in this area (cited in Williams, 2008, p.47). A manager in COUNCIL 1 agreed that line managers should perform their own administration, rather than HR:

"I think the way the members [28] would see it is that as much Personnel work as possible, including administration, is done in departments by the managers and their staff." [Council 1, HR Manager, 12].

A consistent theme arising from the interview programme was the idea of a 'manager's toolkit' that would support managers in dealing with their administrative workload more efficiently and creating more time for people management. The Aberdeen Group (2009a, p.13) found that Best in Class organisations were two and a half times more likely to allow managers self-service access to payroll data. One senior manager in the Health and Social Services Department of COUNCIL 1 noted:

"There is pressure on our managers, their number has been reduced and any tools which make their lives easier will help." [Council 1, Line Manager, 02].

The linkage between the toolkit concept and managerial productivity was conceptually well-understood and was often articulated as a way of supporting line managers in easing the administration burden. As one HR manager commented:

"What I'm hoping is that the administrative drudge is reduced for managers and Personnel staff and both sides can concentrate on the things that are important and we can do things better because we're wasting less time. It will also mean that we have time to improve the quality and be proactive rather than being bogged down in low level administrative returns." [Council 1, HR Manager, 01].

Another HR Manager in COUNCIL 4 agreed that technology would give line managers more time to focus on people management, observing that this would lead to performance improvements as a result of the managerial time released. While not very specific, there was a hint that this could be quantifiable, stating that

"*I reckon the return in the end will be that it will loosen up 'X' amount of time."* [Council 4, HR Manager, 15].

POLICE 1 used similar terminology to describe the impact of e-HRM, seeing it as a means of giving managers the necessary functionality to become more productive, where automation of HR administration was not the only outcome:

"It's about strategic change, giving line managers the tools to be more effective, that's what it boils down to, putting things on line, PDRs, sickness etc. we're giving you all that technology, they will have to deal with it in future and I think it's that transition which is most difficult." [Police1, HR Manager, 09].

[28] This refers to elected members of the Council who influence strategy and policy and are accountable to the public for expenditure

In the case of one health service organisation (NHS 1), much of the business case for e-HRM had been built around improving management productivity, with a clear recognition that managers spend a lot of their time working on the administrative aspects of people management. The introduction of e-HRM was seen as to be a way of improving how managers work, creating up to 10% more management time to devote to people issues:

"One of the things we tried to quantify was the number of hours that managers spend and we basically quantified that this normally takes them this much out of their working week - some are using spreadsheets, some are using paper. When we were doing demos and presentations we said this would save time and effort then will we spoke to individuals to qualify the time savings the general feedback was this would save us time." [NHS 1, HR Manager, 32].

In fact, NHS 1 accepted this improvement in management productivity as part of the business case proposal and was willing to accept that this additional time was a tangible outcome from the e-HRM investment. Many HR professionals also believed that this time saving principle could also be applied to employees and that productivity benefits arose because employees would not spend as much time dealing with HR related administration, for example, completing forms or telephoning the HR centre about simple issues such as bank details and changes of address [Council 4, HR Manager, 21]. However, these arguments were not generally thought to be acceptable and in fact were often met with cynicism among line managers, who did not always accept that such productivity benefits were realistic. However, once implemented, line managers gave positive reports of the productivity benefits of e-HRM:

"Again the initial feeling was, oh God, more work to do but it was easy just to cut-and-paste that's all you did. So again the initial reaction was once you've pulled off the guidance and it told you how to do it, it was easy." [Agency 2, Line Manager, 36].

A key challenge of people management and productivity based arguments was how to express this efficiency in tangible, cash terms, although there was a surprisingly high level of support for the productivity benefits of e-HRM among line managers:

"Managers will see the benefits quickly, if you get it all linked they will see the benefits, not being chased by Personnel, they're not stupid they will see it. There'll be a bit of work but a lot of gain." [Council 1, Line Manager, 02].

The idea of a manager's toolkit to ease the administrative workload was frequently mentioned by most respondents, albeit with slightly different interpretations as to what this meant. However, this theme is strongly supported and represents an important, often overlooked aspect of how e-HRM creates value.

7.3 Change of HR focus (P2)

The 'relational' challenge of the HR function is frequently mentioned in literature (Lepak & Snell, 1998; Reddington & Martin, 2006), that is, the requirement to change the relationship between the HR function and line management customers. In particular, this may involve redefining the role of the HR function. As previously explored, the HR function has invested significantly in transformation programmes over the past ten to fifteen years with the aspiration of changing its role from being administrative to strategic.

This theme is similar to P1 (Manager's ProductivityToolkit), although in this case, technology is used as a tool to liberate the HR function rather than provide managers with more time. Ng, Skitmore & Sharma (2001) note that in the construction sector, effective manpower development and planning is a key competitive differentiator and e-HRM has the potential to eliminate the repetitive, manual, paper-based chores from HR work, allowing the HR team to focus on value-adding people management rather than administration, consistent with the findings of others (Hope Hailey et al., 1997; McGovern et al., 1997; Cunningham & Hyman, 1999). Even in organisations where the HR business partner model has been implemented, evidence suggests that business partners find themselves pre-occupied by operational issues, unable to diagnose and develop strategic HR solutions and becoming 'bogged down' in detail (Deloitte, 2009). The central e-HRM argument in this case is that organisations encounter difficulties in breaking away from administrative tasks and therefore seek transformational approaches that enable HR to concentrate on other activities. For example, Snell, Stuebner & Lepak (2002), suggest that e-HRM technology enables organisations to become not only cost-efficient, but also strategic and flexible, shifting the emphasis towards people management processes. Several other writers (Davenport, 1993; Gourley & Connolly, 1996; Hannon, Jelf & Brandes, 1996; Liff, 1997; Tyson & Selbie, 2004) also refer to this transitioning theme. Ruta (2005) reports that a portal introduced by Hewlett-Packard in Italy helped in the refocusing of the HR function.

As well as having a practical impact on the HR organisation, e-HRM can also have a symbolic impact on the re-focusing of HR. Kossek et al. (1994, p.137) have noted the role of an technology in strategic positioning, that can "*Practically and symbolically represent the transformation of Human Resources into a strategic business partner"* (p.137). Likewise, Tansley, Newell & Williams (2001) contend that technology plays a critical part in driving HR transformation, acting as a stimulus for a fresh approach to Human Resource practices and new employment relationships. In this case, E-HRM acts as a stimulus to new ways of working and represents a philosophical break with the past and new ways of working, becoming both the enabler and implementer of process change. The introduction of technology therefore makes a statement about the transformational intent of HR and becomes a powerful vehicle for driving change. Martin, Alexander & Pate (2006, p.8) state that *"The fusion of existing HR practices and technology can alter the way in which an HR department perceives itself, interprets its organizational and strategic environment and does business with its clients and contractors*."

The concept of a refocused HR function has become so popular that it is now part of the 'received wisdom' of e-HRM, based on the idea that technology will reduce administration and free up HR time, which HR professionals use to become strategic. The idea is supported by Lawler & Mohrman (2003), who argue that improving transactional operations through the greater use of information technology

supports HR in becoming a strategic function. Citing results from their 1998 study, data is presented which draws links between the amount of time spent on HR strategy and the strategic impact of the function. Moreover, they propose that HR is more likely to operate at the strategic level when a fully integrated HR system is in place, although e-HRM by no means guarantees this will take place. Nevertheless, the perceived relationship between technology, time and strategy has been routinely exploited by software suppliers in their marketing, perhaps appealing to senior HR Directors who want to raise the profile of the HR function. Support also comes from Shrivastava & Shaw (2004, p. 201) who note that "*It appears that firms that undertake technology initiatives with a view to enable the HR function to focus more on value added activities are the ones most likely to realize the full potential of technology*."

Interviews often echoed the 'technology equals time' argument, regularly reinforcing the idea that e-HRM technology would remove the pressure on administrative activities, so that HR professionals could better concentrate on giving operational advice. One HR manager in COUNCIL 4 saw e-HRM as a key enabler in this area, observing that a large percentage of his HR team were professionally qualified and he would prefer them to apply their skills to more professional HR activities. Although he recognised that one outcome of this transition might be that there were fewer HR staff, he saw that those remaining would focus less on administration and operate at a higher level. It was also recognised that this approach would be more motivating for them:

"What they've realised is that if they stop pushing bits of paper around they can intervene in a more professional way so they become enablers rather than administrators." [Council 4, HR Manager, 14].

Likewise, an HR manager in AGENCY 1 argued that e-HRM would impact on the HR function:

"It's all around owning their teams and their own responsibility, it will have a huge impact there. The reason for us going down this route is to take some laborious things away, to allow HR staff to focus on issues guidance and advice so there will be fewer issues over time." [Agency 1, HR Manager, 06].

Many participants saw e-HRM as an opportunity to make a step change in the maturity of the HR function. One HR Director noted that e-HRM provided a unique opportunity to move away from day-to-day administration and change the role of the HR team. Much of the new role arising from this change would be concerned with providing better levels of support for line managers, who could then deliver better performance through their teams [Council 1, Line Manager, 05], hence this theme is included as part of the people management and productivity Value Outcome. In some organisations, the refocus of HR was necessitated by a forced reduction in the numbers of HR staff; for example, AGENCY 2 told managers that budget restrictions meant that HR staff would no longer be available to do basic administrative work or to manage people on behalf of managers. Despite some dissenting voices, the message had started to get across clearly that a shift in the role of HR was taking place [Agency 2, HR manager, 31]. Likewise, the HR Director at COUNCIL 8 painted a picture of the link between technology and different roles for the HR function and line managers:

"I would expect technology to start stepping into the breach at some of the lower end of professional advisory work as well, so that managers are better capable of doing their own HR work without having to reference a professional HR Officer, so I absolutely see there is an ongoing scale which will gradually eat away at the costs of those functions across the public sector. I can't see it being delivered any other way." [Council 8, HR Manager, 42].

This HR Director at COUNCIL 1 also added:

"*It will take us out of the role of chasing managers, having to police them, instead the system should help them and only that small minority of managers that aren't capable will say the system is coercing them, that the technology isn't delivering.*" [Council 1, HR Manager, 01].

A sentiment with which AGENCY 1 concurred:

"I see this as a much better use of their time. I feel what they do now with paper is a complete waste of their skills, or just focus more on the elements of their jobs that matter. Because we're restructuring we'll see how many we end up with." [Agency 1, HR Manager, 06].

Some had a very clear sense of the role of technology in this repositioning:

"*There were two drivers really, one was definitely efficiency to get the cost of the service down and the other driver was to get a more modern and professional service to meet the needs of the business. They were the two catalysts of change really, efficiency and modernising the service*" [Agency 2, HR Manager, 18].

A common theme was about the nature of 'strategic' HR. The HR Manager at COUNCIL 4 noted that this refocus would also have the additional effect of raising the credibility of the HR function [Council 4, HR Manager, 20]. This idea was again confirmed by the HR Director at COUNCIL 1, who was concerned that the 'administrative drudge' be reduced for both managers and personnel staff, so that each can concentrate on the things that are important:

"The idea is to give more time to strategic matters but also to give more time to casework to do that better. I wouldn't see it as giving more time to being strategic, not everything is strategic and if we're going to have a better Personnel services, we should also be careful that it also improves our operational capability, managers expect it but staff expect to be managed better." [Council 1, HR Manager, 01].

However, it was clear that some participants felt that there was some considerable way to go to make the shift to a change in the work that HR performed:

"I still think were stuck at the process change level and I think some of that is to do with the difficulty HR has in getting the Chief Executive's ear to understand the wider benefits of doing this. It's always perceived as an HR change and not necessarily a business change with wider business benefits. I still think there's a perception that it's about HR and HR's work." [Workshop, HR Manager, 25].

This issue was also raised at AGENCY 2, which saw that HR professionals were still being tempted to become involved in administrative work:

"I think there's been a transformation but I don't think it's there yet because the business partner model works in conjunction with line managers taking responsibility for much more than what they'd done previously. I think some of the business partners are still get sidetracked by what I would call basic transactional issues, advice on casework and how to handle sickness cases and that sort of thing. Although we try and divert them to the service centre it's not always possible to do that." [Agency 2, HR Manager, 31].

Hussain, Wallace & Cornelius (2007) find that HRIS is being used more for strategically related tasks and appears to be central to the strategic partnering role, although again the business partner role is potentially highly operational in many organisations.

7.4 Information for operational decisions (P3)

Closely linked to the manager's productivity toolkit theme in P1 is the idea that better information enables managers to become more self-sufficient in managing their teams and therefore make better operational decisions. The importance and value of information cannot be over-estimated; for example, a production manager on an assembly line will know the tolerance, speed and output of the machinery being used, while the warehouse manager knows exactly what is on every rack, how long it has been there and when it is due out. However, in an HR context, managers typically have much less information about their resources. Apart from some basic employee data (how many people, where they are, grades, pay etc[29]), few organisations hold information about the skills and capabilities of their employees, what skills gaps exist and the implications for people resources given planned changes to their business. Indeed, HR often lacks the basic information it needs to plan for the medium and long term and is often unable to provide answers to the most general questions.

In a 2006 study, HR managers were asked how long it would take them to provide basic HR information on topics such as retention and service (Adecco, 2006), yet more than half could not provide statistics on turnover or speed of recruitment within a week; only 49% could obtain a clear view on current staff turnover and only 46% stated that they felt close enough to the business to achieve their strategic goals.

During research interviews, management information was the most frequently mentioned topic and was seen to be a powerful driver for acquiring e-HRM. Clearly, improved information flow is beneficial for both line managers and HR professionals, providing HR professionals with better information, enabling them to handle queries more effectively (Greengard, 1996). Research by Gardner, Lepak & Bartol (2003) found that more extensive use of IT enables increased information responsiveness by HR professionals, giving them greater information autonomy. An examination of e-HRM use in the US public sector by West & Berman (2001) found that e-HRM allows greater access to information, improving data gathering and analysis and expanding managers' capacity to visualise and model solutions to problems.

At this point it is critical to make a distinction between the information used to support day-to-day operational decision making and long-term 'big-picture'

[29] There is a joke in business intelligence circles "how many staff do we have, broken down by age and sex"? It's not hilarious but it breaks the ice….

information used for strategic decision making, which belongs under the 'Strategic Capability' theme to be discussed in the next chapter. Operational information is focused on making day-to-day decisions, analogous to the instrument panel in a car that provides data on the current status of the vehicle, enabling better short-term decisions. It therefore has a powerful relationship with day-to-day people management because of its impact on how people work; for this reason it is seen to be a subset of productivity. Beckers & Bsat (2002, p.44) note that the concept of e-HRM as a Decision Support System (DSS) is a key test as to whether HR technology provides competitive advantage for an organisation, arguing that the value of an HRIS can be evaluated according to how many decisions will be improved by having the data, and how much value each improved decision produces.

One HR manager described how, prior to the introduction of e-HRM, management information had been poor:

"The planning had been pretty much abysmal, data of any kind at the top of the organisation was very patchy, it either didn't exist at all or we had data but didn't really use it. Not just HR, the Home Office had always bailed you out. There was a commonly held view that we needed better data, given that the biggest single cost of this organisation is people. The two are complementary; we have a lot of people, we need to know their cost." [Agency 1, HR Manager, 06].

A commonly held view at AGENCY 1 was that better data was needed, especially given that the organisation spendt around £1.4m per year on employee development, but wasn't able to use the HR system to really manage and monitor spending to see if it was being spent in the right places. At COUNCIL 1, the expectation of better quality data was shared in a group session attended by senior managers, where one participant clearly linked management information to productivity:

"What we're doing with this system is increasing functionality, but functionality will go up much higher, our ability to generate data, produce reports and do analysis and therefore increase the performance of our management and staff." [Council 1, Line Manager, 02].

The ability to conduct day-to-day planning and management was seen as a major benefit:

"(previously) Management reporting was rubbish, data had never been cleansed, you look at something that someone had taken a week to hand crank and you'd know it was rubbish. We didn't feel we had data for the organisation; it was a pretty fundamental thing we needed to do something about….now, we have data which still isn't 100% but it must be 90% plus, we have a reasonable number of basic management reports, the ability to drill down and get what we need and the sense that its very useful and how did we manage without it?" [Agency 1, HR Manager, 08].

For example, obtaining good headcount information is a basic requirement of any organisation and lack of operational information leads to problems of HR credibility:

"Yes, there are things which should be there and it can be better than currently, if we ask for a report, we know it's wrong because we have the knowledge. For instance,

we're showing 49 casual people but we know there's lots more, we know that's wrong. The minute we get reports we know are accurate we'll start to change, we just mistrust information now." [Council 4, HR Manager, 04].

Within the HR function, poor management information typically led to frustration:

"I was asked recently for a list of people, I find it incredible that we have to produce it from HR, it ought to be there and out there and people should have confidence that it's right." [Agency 1, HR Manager, 06].

In some cases, the data was known to exist in HR systems but was not widely available to interested stakeholders. One HR manager in a Police organisation commented that she would like more information on employee headcount but to do so involved a laborious process, involving the management information team in the IT Department, using business intelligence software to manipulate HR data [Police 1, HR Manager, 38]. No data was available to line managers, even though the system allowed for this, because the organisation had not yet invested in it local tools. Another HR manager explained how the Chief Executive had asked for an up-to-date organisation chart which had taken three people working full-time for two days to produce, because of the intensive manual process required, involving transferring data between systems and manipulation. When Council members would ask for data, there was always a worry about its accuracy [Council 5, HR Manager, 17].

Management information is particularly relevant in the area of absence management, which is a key driver in many UK Public Sector organisations. The CIPD (2009) annual Employee Absence Survey Reports that absence is a significant cost to 90% of businesses. Employers lose 7.4 working days for every member of staff each year although in the Public Sector, the figure is higher at 9.7 days per year and is increasing. Sickness absence costs employers an average of £692 per employee every year, although again, the cost is higher in the Public Sector at £784 per employee (this cost is decreasing). For a typical council employing 3,000 people, a simple calculation reveals that almost 30,000 working days per year will be lost at a cost of around £2.3 million. Absence has major implications for productivity – people are not productive if they are not at work. The CIPD suggests that measuring rates of absence is an essential starting point for addressing the problem and that by identifying patterns of sickness, the organisation can take steps to improve workforce productivity. This not only reduces the immediate cost of absence, but also reduces the cost of replacement cover for temporary or contract staff. According to the CIPD report, the Public Sector is more likely to record absence than any other sector, although in many cases the tools for measurement are basic, being paper-based or created in simple spreadsheets. Interviews highlighted the importance placed on this topic, with one HR manager acknowledging that e-HRM provided significant levels of management information, tying in with the absence policy and alerting managers to the fact that absence was a cause for concern [Council 4, HR Manager, 14]. Another HR manager commented that:

"Sickness is a perfect example, it's enabled us to identify a lot of problems, short term and long term sickness, implementing remedies for both, being on hand to support a manager who previously didn't realise they had an issue and staff that were being missed from things. Being online it's easier to access, it's enabled us to

implement actions as a result to report more effectively, to report to those who need to know they have issues." [Council 4, HR Manager, 21].

As one HR manager explained, e-HRM based absence tracking made the process more transparent and enabled managers to analyse data over long periods of time. With this data came an implied 'policing' role to sickness management, particularly to monitor managers who were seen as failing to apply policy. As one HR manager put it:

"We can use it to catch people out, which is those that never input any sickness or those who apply sickness wrongly, they're the buggers who aren't doing their job properly." [Agency 2, HR Manager, 18].

One HR manager described how in a 'few seconds' he could tell exactly how many days were lost and which people were approaching absence thresholds, allowing managers to identify absence patterns, for example, where an employee had used up their quota of annual leave and was using sickness to 'top up' their holiday entitlement [Agency 2, HR Manager, 34]. Another observed that there was:

"No hiding place in terms of getting sickness absence and they can feel quite uncomfortable but it helps you beyond any doubt, that you can actually do something about this and it makes it very clear what the problem areas are. When I ask them what they've done about absence, with this new system, they can't say they don't know." [Agency 2, HR Manager, 37].

One participant explained how the introduction of online sickness had initially resulted in an increase in reported levels of sickness, which at first was perplexing. However, using technology encouraged managers to record sickness data, revealing that much sickness had previously gone unrecorded. This manager felt that he could now pinpoint where absence was taking place and which were the 'bad' areas [Council 4, HR Manager, 15]. However, it was recognised that simply having data on absence would not in itself resolve the problem and that technology would need to be linked to other organisational solutions, such as appropriate attendance management tracking for managers and 'return to work' processes, occupational health involvement and disciplinary processes:

"SAP is just an infrastructure tool which gives managers the tools and information they never had in the past, so for example we've got a managing attendance programme at work, all managers are going on workshops to understand proper interventions into sickness absence. What the SAP tool will give them is that information on the dashboard in front of them much more readily available and calling people to account." [Agency 2, HR Manager, 18].

Another was dismissive of the role of technology in managing absence:

"It hasn't made any difference whatsoever I don't think so. It's the way that individual managers deal with absence that makes the difference." [Council 5, Line Manager, 24]

Although an important point is made here about the relationship of technology to management practice, the comment ignores the role of technology in providing the base level of information. As well as the implications for absence management, organisations typically view good management information as a primary reason for

investing in e-HRM, believing it to be essential for the effective operation of the business. Indeed, there was a basic assumption among HR teams that providing greater levels of management information would be met with approval from line managers:

"I suppose it comes back to the debate that if you have an organisation that is focused on managing performance then managers need to have real-time access to data and information that will help them do that." [Council 8, HR Manager, 42].

The human capital management view would be that good metrics are essential for good people management:

"*It was always seen as a way of helping managers do their job better with better management information, understanding learning and development interventions, looking at their record of attendance, all of those things so it was more a tool to do your job but not the end in itself. Attached to that tool we have these are the programmes I talked about. It's the whole jigsaw. We tried to pull it together under a transformation umbrella, work stream packages, service delivered transformation is one of those work streams."* [Agency 2, HR Manager, 18].

Managers seemed to be equally enthused by the prospect of better information, yet at the same time were equally frustrated that access to good management information had taken so long to become available:

"In Housing, our managers will welcome this with open arms as it will bring HR to the same level as all the other systems we operate. We've been waiting for this for 15 years. One of my managers manages 115 staff and has a spreadsheet with every member of staff for starters and leavers, overtime and so on, so she can keep track of what she's spent on salaries and project forward, it's not linked at all the GL and she spends a lot of time doing this because she has no choice. This system has to be able to help that." [Council 1, Line Manager, 02].

The contrast in information availability following the introduction of e-HRM and beforehand was stark:

"(previously) There were 1300 bits of paper stuffed in cupboards around the organisation, or NOT as the case may be. I would ask what's happened, ask for results. What you find out after a bit of pressure is that actually it's not been done, you looked at some of the paper stuff and you found you had a quality issue. What we have now is a web based process, it's all recorded." [Agency 1, HR Manager, 08].

HR professionals seem to be ambitious with regard to extending the availability of information. One HR Manager in COUNCIL3 set out a vision for delivering information:

"I would hope to reach a point where any manager can ask for sickness levels, age profile and it's mixed up as part of self-service. So we've got a long way to be clear what we're expecting of managers and what were expecting HR to do for the future." [Council 3, HR Manager, 22].

At COUNCIL 3, it was suggested that managers had started to use information better and were now asking Personnel to become more involved in professional

issues, as their awareness of them increased. There is a belief that the line manager culture had changed, that managers increasingly see people management as part of their work.

There is further strong evidence that good operational data makes a difference to line manager productivity. An HR manager in AGENCY 2 confirmed that managers were appreciative of reporting tools, especially simple tools like an on-line team calendar that enabled them to see who was in or out of the office, an important feature where teams regularly travel between sites and are frequently out of the office. In this case, introducing a staff planning tool was a 'quick win' for e-HRM, immediately understood and easy to use [Agency 2, HR Manager, 37]. In most cases, line managers tended to value good information, for example, from the point of view of improved managerial control:

"The manager has a lot more control, can see what's happening in their team, they have a calendar view, they can see requests whether their whole team is off on that day, so there's lots for the manager doing it online, it's under their control. They can make an informed decision on whether someone can have annual leave. Instead of something completely alien and new to the managers, it's an advanced form of what they've got." [Council 4, Line Manager, 15].

This was particularly true from the point of view of one Finance Manager:

"It's really looking after the establishment, so we know how many posts we have where they are where were having problems in terms of leavers and starters, it enables us for the first time to capture that information, if we don't have that, if it's not accurate and maintained properly, all the stuff that personnel does we have no information to work with….I'm not a personnel expert but there must be basic personnel data you've got to have, without it you can't get to grips with how we want to change and what you should focus on." [Council, Line Manager, 05].

A common viewpoint was that better information would give line managers greater control over day-to-day tasks and support them in performing their jobs. The perception of HR managers was that e-HRM would allow managers to have a clearer view of what was happening within their teams. From the manager's point of view, simply being able to track the progress of key management processes, for example, the status of applicants during a recruitment campaign, was seen as a major improvement:

"You can go in and see the vacancies and can see the status of vacancies. But they can go in and see they have six candidates and the interviews and have offer letters go out and check whether the letter has gone out yet. Managers think it's great. So we've taken things like that on board." [NHS, HR Manager, 32].

One HR manager even saw this revolution in information provision as a key component of changing the shape of the HR function and the approach to people management, removing its intermediary role and disseminating data across the business:

"The Personnel function will eventually be reduced in its size because information will be available to everyone else, which will have a huge impact not only on personnel but in other groups across the council. You won't need that many people to actually manage the service." [Council 1, HR Manager, 07].

This theme (P3) naturally links to the previous theme (P2) about change in HR focus, with many HR people suggesting that the provision of information would fundamentally change the role of HR through; one explained how line managers were becoming better educated and potentially that they could eventually become more capable than HR people when they have the information at their fingertips [NHS 1, HR Manager, 32]. There was also awareness that managers would need greater levels of support if they were to get more value from the data. As one HR manager expressed this:

"*I think one thing I suppose you can learn from that is you can't just release information and expect something to happen you've got to have a backup plan so that you can go in and help people to use it properly. The information itself won't make any difference."* [Agency, HR Manager, 37].

Ball (2001, p. 50) comments that if the future of HRIS is in decision support, then the findings of her research do not show that this is the direction of travel. Shrivastava & Shaw (Kar & Bhattacharya, 2009, p.35) argue that technology liberates HR only when it also informates HR processes. They believe that most organisations fail to recognise the information capacity of technology and as a result, its benefits are not planned for. Nevertheless, it is clear that there is a link between operational management information and perceived improvements in productivity and in support of better performance.

7.5 Impact on management accountability (P4)

It became apparent during interviews that for many organisations, defining and changing the role of line managers and the extent of their involvement in people management was a major organisational challenge. Brandl, Madsen & Madsen (2009) point out that line managers have a key role in delivering HR programmes, yet there is often resistance to line involvement in HR activity with items such as team building, handling conflicts and coaching seen as having low importance. Managers may also be reluctant to become involved in direct people management activity - Harris, Doughty & Kirk (2002) found that 66% of Public Sector HR managers believe that line managers are either indifferent or reluctant to carry out team development activities. This may make attempts to devolve management tasks to line managers more complex than anticipated in the Public Sector, contrary to a general trend towards passing human resources activity down to line managers as a way of improving efficiency and reinforcing managerial roles. The development of managerial accountability also carries operational risks – in the UK public sector, one of the principal reasons for the development of central personnel policies is to ensure managerial consistency across employment practices and minimise the risk of litigation; passing the execution of these policies back to line managers potentially reduces central control and exposes the organisation to risk.

Interviews revealed that many HR professionals are typically cynical about the capability of line managers with regard to people management, often perceiving them to be more interested in managing budgets and delivery of the operational service than on their people management commitments. Managers were perceived to be so uncomfortable with their people management role that:

"Some people would like the Personnel function to come in and take away their people management responsibilities completely – to recruit people, bring them in a

box, open the box and when they don't want them anymore put them back in the box. And that's all they want." [Council 1, HR Manager, 01].

In some cases, people management was seen to be a burden, with managers seemingly reluctant to become involved in even basic people administration tasks such as recording sickness absence and approving holidays. This sense of lack of manager capability appeared to become significant the further from the corporate centre managers worked, where managers not based in the Civic Centre "*Don't seem to be able to do really simple things like return to work interviews."* [Council 1, HR Manager, 01].

For others, the problem was more fundamental and involved a lack of desire to take accountability for people management, to the extent that:

"It will be difficult, as a lot of them are fairly heavily involved in their day to day operational management of their service, I think its so damn obvious isn't it, there's not the appreciation across the organisation that you're a manager responsible for a particular service area, no amount of work will offset the benefits of getting that wider team fully engaged, working to performance targets, clear guidance, measured on a regular basis, getting the whole team, working effectively, we don't devote enough time to true management of the service area and employees within that service." [Council 1, Line Manager, 05].

However, evidence from general IT literature, (for example, Pfeffer & Leblebici, 1977) suggests that the use of IT is associated with greater autonomy for middle managers, with IT improving confidence in decision making and removing uncertainty from decisions. Kovach et al (2009) conclude that the engagement of line managers in implementing HR technology exposes line managers to HR issues and gives them better appreciation of HR practices, with significant outcomes for HR transformation. Several interviewees saw the introduction of e-HRM and subsequent process redesign as an opportunity to highlight and transform managerial accountabilities, where technology acts as both the practical enabler as well as the 'symbolic' representation of a new way of working. Passing greater levels of accountability to line managers through e-HRM was seen as a powerful statement of a change to the culture in the business (see Tansley, Newell & Williams, 2001). Indeed, many employers see e-HRM as a means to create a more 'grown up' relationship with staff, where people are allowed to take direct responsibility for their affairs without any 'hand-holding' from the HR department.

"*There is a chain - the technology can drive changes in the way that managers operate and the way we recruit - I also get really enthusiastic about this."* [Council 4, HR Manager, 14].

One large financial institution I am aware of, although not included in this sample, described this change as creating a more 'adult-adult' relationship with line managers rather than the previous 'parent-child' relationship it had in the past. During interviews, participants frequently cited technology as a vehicle for bringing about a change in the way that line managers work, giving them more time to become focused on people management, in areas such as sickness, absence, holidays, discipline, grievance and a range of policy matters. Ruël et al (2004a) conclude that e-HRM is valuable in pushing HR responsibility out to line managers, changing the way that HR is experienced in the company. The weight of evidence in this area therefore qualifies this theme to be included as factor under the

productivity Value Outcome. Such is its significance that according to Groe et al (1996) "*First prize" would be for HR to teach line managers how to better understand and manage their organizations using HRIS*."

One line manager was highly enthusiastic about the potential impact of technology in improving managerial accountability, describing it as 'beyond simple automation' and more about fundamentally changing what people do [Council 1, Line Manager, 02]. In some cases, the changes brought about through e-HRM were seen to represent a fundamental challenge to the perceived role of line managers, one that would require a robust response:

"The way around that is through the steering group to make it absolutely clear how this system will change a manager's role and what the benefits will be. Unless we can do that, we'll struggle to do much more than put some software in." [Council 1, Line Manager, 05].

Nevertheless, respondents were generally realistic, commenting that the technology would not in itself make people better managers, and unless it was backed up by a consistent approach to policy and performance management, technology would have little impact. While e-HRM would create the possibility of changing line management accountabilities in process terms, actually bringing about the behavioural changes needed would require other more fundamental changes to take place in the organisation:

"Organisations have got to recognise that simply putting in the piece of technology doesn't change the behaviour. The action needs to be done through a broader conversation which is where we started from which is what is the role of a manager and what are expectations of a manager. As a manager there are certain benefits and certain responsibilities. It is time to decide whether it's a carrot or a stick. It starts off as a carrot, some people decide that there's got to be a stick as well and technology is a means of deciding whether it's a carrot or stick. It's part of a skill set to understand and interpret the information that technology is providing." [Workshop, HR Manager, 25].

As one manager in AGENCY 2 commented, e-HRM would provide an indication of who were the better managers and where management control was good. However, managers often resisted improvements by blaming HR processes or even arguing that the forms for performance management were inadequate; however, as this HR manager argued, "Y*ou can have the best processes in the world, but unless they* (managers) *are willing to do certain things you can't do performance management."* [Agency 2, HR Manager, 34].

However, it was recognised that e-HRM would start to identify managers who were not managing processes well and failing to meet their accountabilities. One HR manager made the interesting observation that good managers seemed more comfortable with using technology and were more likely to ask HR to become involved in professional HR issues than poor managers. He believed that regardless of technology, less effective managers would still complain about having to do personnel work but was adamant that activities such as sending out application forms, letters, disciplinary notices and so on were line management responsibilities rather than for HR to administer [Council 4, HR Manager, 14].

"Yes, the good ones use the information or know the information is there and will ask us to get more involved in professional issues rather than processes. The less good ones will still complain about having to do personnel work but my approach, and I've been lucky enough to get the chief executive involved, is that a lot of the stuff around sending out application forms, of the letters, disciplinary, all that kind of stuff, all that is line managers responsibility it's not my responsibility or my staff's responsibility." [Council 4, HR Manager, 14].

In one participating organisation [AGENCY 2], the core of the e-HRM strategy was focused on bringing about a significant change in the way that line managers work, with the explicit objective of reinforcing management accountabilities. A presentation of the e-HRM strategy, shared with me by the project manager and summarised in *Appendix C: Profiles of participating organisations*, explains how e-HRM was seen by senior management as a way to bring about these changes. It was based around redefining the HR role towards providing better levels of support for line managers in the delivery of the business strategy. E-HRM would have two roles, firstly to support the development of a shared services organisation to reduce the administrative workload, and secondly to provide on-line tools that would emphasise managerial responsibilities and make them less dependent on central HR support. These objectives were seen as more important than cost reduction. AGENCY 2 described clear cultural changes as an outcome of their project, where managers become more self-sufficient:

"*That's part of the culture change, we've been trying to give managers more accountability and trust. It's been a hard year for the centre, because they feel they have to check everything - we said we're not going to be checking everything in future. Some of the managers think everything will get checked."* [Agency 2, HR Manager, 18].

The experience of AGENCY 2 in changing managerial accountabilities highlighted how a culture had previously grown up where managers had become isolated from people management, leading to reluctance to fulfil their people management duties. E-HRM was intended to send a clear message to line managers that HR 'handholding' was no longer appropriate and that there would need to be a change in the relationship based on advice and support, where the manager took business decisions rather than deferring to HR.

There had initially been resistance to the use of e-HRM:

"*When we first went live it was "and what has it got to do with you" and why is the HR service centre telling me as a manager what I should be doing? We had to reassure them that were not actively telling them what to do. We had to re-launch communications and tell people they will be prompted we were just advising them of the number of instances. We had a small number who were quite vocal* ." [Agency 2, HR Manager, 30].

In practice, e-HRM seems to have produced positive responses and HR teams were typically very confident that their approach to e-HRM and line manager accountability was the right strategy:

"I think the line manager culture has changed, in seeing people management as part of their work and it's not just around having a great knowledge of how to mend

a road, it's actually having some knowledge of how to manage people. I think that has hung off a lot of the electronic work, it's changing the culture." [Council 4, HR Manager, 14].

The question of managerial accountability is therefore critical for all organisations and therefore represents a significant area in which e-HRM can add value to the organisation.

8. Strategic Capability

8.1 Being 'Strategic'

The final Value Outcome of the e-HRM Value Model has potentially the most significant impact on the whole organisation, as well as being the most controversial. As previously discussed, any discussion of 'strategy' is generally difficult because the term is used in different ways to mean different things [30]. For example, in terms of competitive advantage, as defined by Porter (1980), strategy is strictly a management activity involving a choice between a cost-based approach and a differentiation/focus approach. In strictly Porterian terms, the HR function does not make decisions regarding competitive strategy, although it may contribute to the development of strategy and support managers and leaders in executing the strategy.

Nevertheless, as explored in Chapter Four, the desire by HR professionals to be seen to operate at a 'strategic' level has been a central driver of a range of initiatives, including HR transformation, Centres of Expertise and the Business Partner role. For many individuals, 'becoming strategic' represents a long-term personal and professional aspiration and the words 'strategic' and 'Human Resources' are commonly used in textbooks, conference programmes and academic articles to appeal to this aspiration. This raises important questions as to what HR professionals mean when they express a desire to be 'more strategic' and whether HR has a strategic role, topics that divide academics, HR professionals and line managers.

The concept of strategic HRM is diverse and ambiguous as well as contradictory, often relying on inconsistent assumptions (Mabey, Salaman & Storey, 1998, p.16) while Martell & Carroll (1995) point out that there is little consensual definition of strategic HRM. However, certain common themes exist that differentiate it from 'operational' HR, such as its long-term focus and an expectation that HRM should have an impact on bottom-line organisational performance, although the same is true of other business functions who do not find it necessary to use the 'strategic' tag [31]. Huselid et al (1997) observed that there is a broadly shared view that strategic HRM involves the development and implementation of policies, supporting the 'new mandate' HR models proposed by David Ulrich that define the role of a Centre of Expertise in developing and deploying policy (Ulrich, 1997b; Ulrich, 1998; Ulrich & Brockbank, 2005). However, Karen Legge (2005) dismisses the classical, rationalistic, top-down model of HR strategy, arguing that integrating HRM and business strategy is a highly complex and iterative process, dependent on many stakeholders, such that it cannot be owned by a central HR function. Even the term 'HR strategy' is ambiguous as to whether it refers to a general people management strategy or the internal strategy for the HR function.

[30] A trend is emerging – so far, this thesis has encountered the concepts of transformation, productivity, e-HRM and now strategy and found them lacking in a clear definition!

[31] It is unusual to find a 'Strategic Finance Director' or a 'Strategic Manufacturing Director', since the strategic aspects of the role are usually implied.

Interviews suggested that HR professionals and line managers are equally divided in their definitions and understanding of 'strategy'. In some cases, being a 'strategic' HR function is seen as simply an extension of operational activities, ensuring policy compliance. For example, one senior HR Manager, asked what a strategic HR function meant to him, defined strategy in terms of the application of policy:

"Strategic means assessing the policies, making sure the council operates in a consistent way and like any organisation employing people, that people abide by it." [Council 1, HR Manager, 12].

This HR Director expressed doubts as to whether 'strategy' was more appropriate to organisations that operated in complex competitive environments, rather than a local council. He referred to oil companies or highly people intensive operations such as consultancy practices as examples of businesses that might require a strategic HR contribution. In his view, he did not believe that the Public Sector HR could be 'strategic' since its activities were not at the core of business operations:

"It depends what you mean by 'strategic' and also how strategic a personnel function can be in an organisation. So I just wonder, is there an issue that if the organisation is more labour intensive, the personnel input is so critical that it's core and central to the business, whereas in the other type of organisation, it's very important but it isn't as core. " [Council1, HR Manager, 01].

However, this view was in stark contrast to his line manager colleagues in COUNCIL 1, who were highly critical of the lack of a strategic focus for the HR function:

"Where I think the biggest weakness is it's not a strategic HR function, it's rooted in traditional personnel roles and responsibilities and isn't really driving culture change." [Council 1, Line Manager, 10].

The concept of strategic HR was a topic that generally seemed to confuse and frustrate participants in many organisations – in COUNCIL 5, the HR manager argued strongly that the Public Sector could be strategic and was very critical of HR professionals who did not act strategically, commenting that:

"I think the biggest barrier is professionals not having the capability to be strategic and really focusing." [Council 5, HR Manager, 17].

However, when asked if there were barriers to a strategic HR function, her response suggested that in practice, her own HR function mostly responded to operational issues:

"*I think because of the nature of HR you are driven operationally."* [Council 5, HR Manager, 17].

When HR professionals talk about being 'strategic', in practical terms, they are likely to be expressing a desire to work more closely with line managers on operational issues, focusing on issues of employee performance, development, succession and so on; more precisely, the *execution* of strategy rather than its development. This is consistent with research by the Institute for Employment Studies (Hirsch et al., 2008) which found that when line managers say they want a strategic HR function, they really mean an HR department that will help them to solve problems that are strategically important for the business and to provide robust, day-to-day guidance

on business problems. This difference was aptly described by Huselid et al (1997) who made a distinction between *strategic effectiveness* , associated with the firm's overall performance and technical *HRM effectiveness*, which affects operational business activities. It is therefore proposed that HR references to 'being strategic' are potentially misleading, partly to do with the use of language and partly due to a lack of role clarity. The analysis of interviews provides some support for this idea, revealing that the word 'strategy' or 'strategic' was rarely used by interviewees, with fewer than one-third of participants using either. Where it was used, it occurred only two or three times during the course of interviews, and then only in a general planning sense. However, one participant [Agency 2, HR Manager, 18] made thirty-one references to 'strategy' throughout the interview, although it seems wise to attribute this to personal preference rather than meaningful usage.

It is therefore important to differentiate between the development of a strategy for people management and developing HRM effectiveness to support line managers in meeting their strategic objectives. In e-HRM Value Model terms, it is more likely that when an HR function improves its HRM effectiveness through the use of e-HRM, its outcomes will be manifested through **P2 -** Change of HR Focus, which impacts at the level of 'People Management and Productivity'. After all, a strategically focused HR function represents only Value Potential – it is not an end in itself and can create Value Outcomes only if it can convert this potential into an impact on business operations.

Literature also notes that to achieve competitive advantage, the organisation must identify, acquire, develop and apply distinctive strategic capabilities, which are most often derived from the unique relationships an organisation has with its suppliers, customer or employees (Kay, 1993, pp. 8-9). In broad HR terms, these capabilities might include having a skilled, flexible workforce or a unique culture that enables the organisation to gain superiority over its competitors [32]. It is argued that an effective e-HRM infrastructure forms part of this strategic capability, giving the organisation distinct capabilities that it would not otherwise have access to. Again, this is distinctly different from the concept of a strategic HR function, referring to capabilities that support Value Outcomes at the highest organisation level. An analysis of research literature reveals a number of themes that are appropriate to this Value Outcome, as shown below in *Table 7: Strategic Capability Themes:*

Value Outcome: Strategic Capability		
S1	Strategic Information	e-HRM will provide better management information for long-term planning
S2	Culture Change	e-HRM will help change the culture of the organisation and improve employee satisfaction
S3	External branding	e-HRM will improve the employer brand

Table 7: Strategic Capability Themes

[32] For example, Toyota's workforce is regarded as being highly innovative and focused on continuous improvement, which its competitors have been unable to replicate (See Kearns, 2007).

8.2 Information for Strategic Planning (S1)

Porter & Millar (1985) argue that information technology creates competitive advantage through the value chain, where improved access and quality of information supports better strategic business planning and the development of future initiatives. Interest in a more strategically focused HR function has increased the demand for useful information about people in an organisation, which may become the source of future strategies. An example from personal experience may help to illustrate this. Several years ago, when working as an external consultant for a large global chemical firm, I was in conversation with the new global HR Director, who had recently joined the business after spending 5 years working in another organisation. His previous employer had operated very sophisticated HR systems and he had access to good people data, but his new company did not have these types of systems in place, to the point that he did could not count, to within 2,000 people, how many employees worked in the firm – he guessed at around 45,000. He explained to me, with some frustration, how he felt he was '*flying a jumbo jet with the instrument panel turned off*'. Metaphorically, he did not know what height he was flying at, how many passengers he had on board and whether he was about to crash into a mountain. He also explained that he found good data essential for developing business strategy – sometimes, simply experimenting with 'what-ifs' raised new questions and informed new thinking, not for day-to-day operations, but for long-term planning. Although this is anecdotal, I find this to be a powerful example of the use of good people data to create strategic capability. Crucially, it differentiates routine operational data (referred to in **P3**) from the long term data that is essential for business planning.

Literature supports the idea of decision support as an organisational capability. For example, Huber (1990) proposed that Information Technology has an impact on organisational design, intelligence and decision making that enables technology to transform organisations. Beckers & Bsat (2002) assess the use of an HRIS for producing competitive advantage through its role as a decision support system (DSS) while Hussain et al (2007) find that HRIS is being increasingly used to support strategic HR activities such as the management and planning of industrial relations strategies.

According to Lengnick-Hall & Lengnick-Hall (2006, p.190), dynamic competitive capabilities arise from an organisation's ability to exploit its technology, build intellectual capability and create a superior knowledge base. This suggests that there is a powerful linkage between possession of the underlying data in e-HRM (which has Value Potential) and creating a strategic capability based on the greater use of information. Zuboff (1988) notes that when technology 'informates', it goes beyond simple automation, generating new forms of information that empowers managers and provides data that HR specialists can act upon to provide strategic level support.

Even though few HR professionals may play a role in developing business strategy or indeed, are directly involved in creating HR strategy, the data produced by e-HRM is likely to inform the development of strategic goals. Niehaus (1995) describes how HR data was used to develop models for assessing workflow reductions in a US public naval dockyard. This enabled planning for workforce strengths, projecting management actions, implementing an outplacement programme and maintaining skill levels, allowing the development of strategies for manpower planning and ultimately a reduction in headcount of 8,000. However,

Marler (2009) suggests that e-HRM does not in itself make the HR function more strategic and that e-HRM can only become more strategic in the hands of a strategically focused HR function.

Even the current trend towards 'talent management' applications is essentially concerned with providing management with better quality information to support strategic processes. Likewise, Ashbaugh & Miranda (2002) identified a series of strategic e-HRM applications in the Public Sector – including alignment with organisational performance issues, development of a human capital inventory and facilitating labour relations via management information and business intelligence. Data from the 2009 CedarCrestone annual survey suggests that organisations with e-HRM based competency management tools had exceptional sales growth, more than 5% higher than those without such tools. As the study suggests, "*These organizations have the right people with the right skills working on the right objectives at the right pay. The more an organization knows about its competencies, any gaps in those competencies, and what competencies contribute, the better it becomes*." (CedarCrestone, 2009, p.18). Again, while these data do not suggest causality, there appears to be a strong linkage between the use of certain forms of e-HRM and business success.

Lawler & Mohrman (2003) found that the greater use of information technology may be associated with HR being more of a business partner, arguing that "*It is much easier for HR to gather strategic data and analyze them in ways that can contribute to forming and implementing business strategy"* (p.21). They argue that information technology offers the potential for HR to take advantage of databases and powerful analytic tools to determine the value of HR policies and practices and to contribute to the understanding of what business strategies can be executed. They conclude that line manager engagement in self-service is critical because it involves line managers in HR and gives them better appreciation of HR practices. Literature also refers to a series of emerging roles for the HR function in becoming an 'information broker' (Kossek et al., 1994) or a faciltatator of learning and knowledge sharing (Lengnick-Hall & Lengnick-Hall, 2006) through the provision of information that supports strategic decision making. Lengnick-Hall & Lengnick-Hall see a role for HR professionals as 'human capital stewards', gathering data about the collective knowledge, skills and abilities within the organisation. Cox & Blake (1991) believe that the effective provision and use of HR information in this way can create a competitive advantage, resulting in lower turnover, increased job satisfaction, high motivation and less internal conflict.

Literature is therefore very clear on the contribution of e-HRM to strategic capability in the form of applied management information, as distinct from day-today operational data. Interview findings also support the relationship between technology and informing the long-term, strategic view. COUNCIL 1 were enthusiastic about the benefits of e-HRM as a strategic tool:

"Until recently we only had a one year horizon or strategy but in the last year we've decided we want a ten year horizon….a Personnel system would provide us with the information that we need to better hook into the future." [Council 1, HR Manager, 01].

Another HR Director at COUNCIL 5 saw that e-HRM could help in the provision of robust data for the development and presentation of business cases for HR activities. This manager noted that HR was at a disadvantage against her Finance

Department colleagues (the 'bean counters') who could easily quantify business decisions. However, she observed that HR people were often better equipped to make qualitative decisions based on a form of emotional intelligence, but that a combination of the two would be very powerful [Council 5, HR Manager, 17]. One senior HR manager was unequivocal about the impact e-HRM had on strategic planning:

"One of the huge benefits of using the system and having an integrated system is to produce proper business intelligence for the organisation, proper management information trend analysis, the ability to manage finance and HR issues in much more of a forecast manner, we can do much more effective workforce profiling and modelling now, we can do proper trend analysis and drill down analysis in areas of particular issues of concern." [Council 8, HR Manager, 42].

This manager recognised that the Public Sector had always been weak in the area of poor data and that long-term HR decisions had not been evidence based or management information based. His own organisation [COUNCIL 8] had invested heavily in technology and he now felt that he had information 'at his fingertips', with regular reporting on workforce trends.

Botta-Genoulez, Miller & Grabot (in Lengnick-Hall & Lengnick-Hall, 2006) argue that there is an inherent paradox in ERP and HR systems. Organisations that are mechanistic, dominated by routine, highly programmed technologies and tightly regulated operations present the best initial fit with ERP requirements but are paradoxically the least able to capitalise on the information potential these systems provide. However those that are best placed to create value from the knowledge are a poor fit with information systems. It is '*The non-routine learning and change processes associated with adaptive, complex, self-organising activities that enable the creation of distinctive and sustainable competitive advantage*' (p.180). Paradoxically, the factors that stimulate innovative ideas also inhibit their adoption. Organisations that are inherently rigid are most able to implement ERP yet are least able to achieve long-term strategic benefits from it.

8.3 Culture Change (S2)

Ed Schein defines culture in terms of the accumulated, shared learning of a group, stemming from a human need for consistency and stability: "*A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems."* (Schein, 2004, p.17). The process of socialising and inducting new employees and conditioning existing employees into compliance with these cultural norms is a critical aspect of organisational life, in other words "the way we do things around here". A strong culture can be seen as a distinctive capability that if nurtured and develop can provide the organisation with superiority over its competitors.

Sadri & Chatterdee (2003) discuss the role of e-HRM in shaping organisational culture. Their belief is that the people-technology relationship has the potential to alter drastically the pattern of organisational communication and development in an organisation and as a result, to reinforce organisational character. E-HRM therefore becomes absolutely necessary to support corporate leadership, culture and

relationships and that "*HRIS becomes an indispensible enabler for developing corporate character through strategic HR intervention."* (p.84).

Research also refers to the 'empowering' impact of e-HRM – for example, Lengnick-Hall & Mortiz (2003) note that by allowing employees to control their personal information, organisations are making a major statement about their relationship with employees and the culture of the organisation. In terms of Schein's definition, e-HRM helps to reinforce the shared basic assumptions about how to perceive, think and feel in relation to people management. One organisation I am aware of (not part of the research sample) believes the relationship with its employees changed from 'parent-child' to 'adult-adult' as a result of implementing HR self-service technology. Because of its social role in connecting people across the organisation, e-HRM therefore represents a fundamental change in the way employees relate to each other, their colleagues and their managers, in some cases being symbolic of a change in approach (for example Kossek, 1987; Tansley et al., 2001). Some research has reported as much as a 50% increase in employee satisfaction with HR through e-HRM and payback in less than 2 years (Martin et al., 2005).

There is also evidence that one outcome of e-HRM might be to help create better levels of trust between departments:

"A lot of it is about trust, it's about, we have a Finance community and an HR community, trust in one another's data, it's about what we say to Finance managers. We've empowered managers and they go away and generate all this data and it's about as an organisation culturally actually saying what we trust our managers to do. I think getting people to trust themselves, getting individuals to trust their managers and getting individuals to trust their managers, it's all about building up trust." [Agency 2, HR Manager, 37].

Interviews supported the idea that e-HRM has a major role to play in shaping the culture of organisations:

"We have said all the way through – one, it is needed to give us the means to implement the workforce vision, two, this is more a big culture change project than it is a big IT project." [Council 1, HR Manager, 01].

And simply:

"So it's more than simple automation, it's about changing what people do." [Council 1, Line Manager, 02]

There is also evidence that e-HRM can help create a more unified workforce, for example, the need for standardised, common policies across locations and geographies means that there is a greater sense of a single company and consequent shared values. Ashton (2001) describes case studies at IBM and Usinor where technology helped promote a greater sense of belonging to one single company. Over recent years, a group of technologies known as 'Web 2.0' tools has arisen that support social networking, collaboration and information sharing. These tools go beyond organisational boundaries and can be accessed by anyone with internet access. Facebook, MySpace, Twitter and blogging, are all part of this movement and employers are still undecided about their benefits. Although these technologies do not traditionally form part of e-HRM definitions, some authors have suggested that Web 2.0 is about to become a major force in changing the ways in

which organisations work and the culture of organisations (Aberdeen Group, 2008; Aberdeen Group, 2009b; Birkinshaw & Crainer, 2009). Because of the 'connective' nature of Web 2.0, people management, learning and development, communications and change management will be heavily influenced by developments in this area in ways that are similar to the impact of self-service. Arguably, these tools should now form part of the e-HRM landscape. There are clear implications for HR in supporting these developments that will blur the boundaries between work and home life; for example, HR Web 2.0 does not follow traditional hierarchies because it gets input from across the organisation rather than through formal channels, encouraging different ways of working. The Aberdeen Group reports that web 2.0 is being driven by an increasingly dispersed workforce and changing customer expectations. As 'Generation Y' enters the workforce in coming years, their expectation will be that these tools operate alongside more formal organisational systems (Penna, 2008). The Aberdeen Group (2009b) report that best in class organisations using Web 2.0 tools show 34% improvement in time to productivity, 31% improved employee retention and 78% report employees are highly engaged [33], demonstrating the deeper cultural impact of these technologies.

Some organisations interviewed had created a very bold vision in terms of the wider impact of e-HRM on the organisation:

"We can use technology not just for data, not just communications, but for knowledge bases, who's done this already and who as is it written down and can we take their stuff and move it. We don't have a knowledge base as such, I know some have done that, the possibility of technology is something we're in the infancy with, we're just thinking about Blackberries, it's more than that, but not many are hooked on the idea that technology isn't just at your desk. I think there a whole load of stuff we could use and it's much more than data and communications. We're a long way away from that our vision in terms of what technology can do for us is not as ambitious as it could be." [Agency 1, HR Manager, 08].

There is also evidence that e-HRM can change the way managers think about people management:

"You can have all the triggers you like on e-HR, process information but that doesn't change the culture, although I think the culture can be forced where there are reminders in place. I'm only focusing on absence and our roll out has only been relatively recent. I manage 12 people who are all experts in their field and I have to understand what they do and E-HR is about actually getting some knowledge,

[33] Some organisations are concerned that employees are using social networking and other Web 2.0 technologies in a way that might have a negative impact on their customer and employer brands. A recent newspaper headline claimed social networking sites are losing the economy £1.38bn per year (Daily Telegraph online, October 27th 2009). There have even been dismissals in recent times as a result of opinions expressed on social networking sites by unhappy employees, that clearly blur the boundaries between personal and work life. The response of HR has often been conservative, blocking access to social networking sites (which just looks like people having fun), whereas perhaps the questions should be "how do we exploit their intuitive appeal and creatively make good use of these new tools?" The line between business and personal technology is being blurred and it may be irrational to artificially restrict their use, especially when employees have equal access to the tools at home as well as at work.

because you have to inform a system about them, you're having conversations with them." [Agency 2, HR Manager, 27].

8.4 Employer Branding (S3)

E-HRM also presents opportunities for developing employer branding and can be truly regarded as a strategic capability that would not be possible without the technology. For example, Bhatnagar (2007) sees e-HRM as providing a powerful brand identity in the external recruitment area which would not be possible with traditional approaches. As people become increasingly technology-literate and the Internet raises expectations about the quality and method of service delivery in the workplace, those looking at the organisation from outside (such as applicants) will form a view about a potential employer from the way that it represents itself on the internet and the responsiveness of the HR function. E-HRM can help shape these perceptions in a positive way by providing the ability to access, collect and disseminate information, giving individuals greater access to information about job opportunities, benefits and setting expectations about working for an employer. The Aberdeen Group (2009a, p.7) found that Best in Class organisations improved employee satisfaction by an average of 9% through improved HR services.

Alleyne, Kakabadse & Kakabadse (2007) argue that because HR is a support function, service quality is also important for internal satisfaction, such that HR has to take on a service orientation. In an examination of line manager perceptions of the HR function, their research found that managerial satisfaction with the HR intranet had an influence on satisfaction with the overall HR function. These internal perceptions of the organisation and the HR function are also be shaped by the use of e-HRM through improved communications, better internal job application processes and access to policies. External applicants are also likely to form impressions of the organisation as they pass through the recruitment process. West & Berman (2001, p.50) in a study of public sector managers, found that line managers believed that good e-HRM would allow the organisation to compete with the private sector in attracting and retaining good employees. E-Recruiting is thought to "*Reduce the cost of the recruitment process, reduce the time taken to identify appropriate candidates and help organizations improve the quality and quantity of the applicants' pool*" in a way that "*increases HR productivity but also saves time and money to give a competitive advantage.*" (Kar & Bhattacharya, 2009, p.35). Panaytaoplaou (2007, p.285) found that 78.4% of his sample saw e-HRM as having an impact on company image.

However, little reference was made in research interviews to e-HRM in terms of its ability to influence the labour market's perception of the organisation, although the Public Sector has often struggled to present itself as a good 'employer of choice' and it may well be beyond the imagination of those interviewed to speculate on this. References to this idea were few but clear, for example, from the HR Manager at COUNCIL 9:

"*Our vision is that we have a completely integrated end-to-end recruitment system that integrates with SAP that will provide employer branding.*" [Council 9, HR Manager, 43].

The relationship between employee satisfaction and employer branding is perhaps best highlighted through the following comment, which illustrates how good HR processes can have an impact on the wider organisation. The HR Manager at COUNCIL 8 commented:

"If you think about the top hundred companies to work for, companies that have got really good branding, they will normally have a slick operation behind them and that's what I feel. People like to work for companies that get things right they have a good on boarding process that sends off good vibes about them and messages about security and comfort are highly intangible." [Council 8, HR Manager, 42].

8.5 Summary

While cost reduction is a valuable aspect of a cost-based competitive strategy, it is inherently focused on the activities of the HR function. From an organisation perspective, if e-HRM is focused only on internal HR cost reduction, it is unlikely to be perceived as making a contribution to business effectiveness and may be positioned as having only a transactional impact. However, supporting line managers in managing people and creating productivity outcomes can make a significant contribution to the wider organisation, with a more significant impact on business operations. Strategic capability is potentially the ultimate competitive advantage that HR technology can deliver, most likely through a combination of strategically useful information for future planning, supporting culture change and improving the employer brand. At this level, e-HRM supports the achievement of competitive advantage and is a true differentiator, providing the organisation with a capability that others cannot match. Strategic capability benefits therefore refer to areas where technology creates the potential for the organisation which did not exist without technology.

The concept of strategic capability is the most elusive and difficult to explain Value Outcome, yet it is potentially the most powerful benefit of e-HRM. The intangible nature of this Value Outcome is a challenge and most accounting practices are not able to allocate a value to these long-term capabilities, perhaps explaining why they are absent from many business cases. However, it might be argued that the value of being able to provide deep insight into the skills and competencies of the workforce in support of a critical business strategy is 'priceless' and that without this information, it would not be possible to develop to deliver any organisational strategy. The e-HRM Value Model attempts to define three specific outcomes under this category to allow organisations to explore these outcomes in a more structured way.

Strategic capability therefore completes the review of e-HRM Value Outcomes, which range from HR Operational cost reduction which focuses on HR operations through people management / productivity which focuses on supporting business operations, to strategic capability which looks at the organisation-wide outcomes. As an overall model, these three Value Outcomes are believed to encompass all possible outcomes from the use of e-HRM, providing a single framework which defines its use and breaks down the outcomes into specific themes. Using this model, Chapter Nine now explores how different perceptions of these themes might influence the way that e-HRM is used in practice.

9. Making Sense of e-HRM

9.1 Overview

The development of the e-HRM Value Model meets a key research objective of this dissertation, providing an overall framework for describing the outcomes of e-HRM. It makes a clear distinction between the potential for creating value, the specific ways in which the potential is converted to value and ultimately, its value outcomes in terms of competitive advantage. The structure of the model sets out clear themes that define how value is perceived, enabling HR managers and line managers to make sense of these complex concepts through common terminology

The central thesis of this dissertation is that lack of shared understanding about e-HRM Value Outcomes is a major barrier to the development of e-HRM, in particular those that relate to the achievement of competitive advantage. The e-HRM Value Model also provides a framework for an exploration of different stakeholder interpretations within each Value Outcome, to gain an insight into the nature of the barriers to e-HRM development. Prior to this analysis, it is first important to explore some key features of technology adoption theory.

9.2 Technology Adoption

Any form of Information Technology must be adopted and accepted by users if it is to deliver planned benefits, otherwise there will be no advantage gained from its introduction. Ginzberg (1981) showed how users' expectations of technology influenced their perceptions of it and how cognitive and 'micro-level processes' became important to understanding these perceptions. In e-HRM Value Model terms, without adoption, Value Potential will not be converted to Value Outcomes and technology is unlikely to develop if users fail to identify any benefits or value from its implementation.

A wide range of theoretical approaches exist in general IT literature with regard to technology adoption and acceptance, where individual cognition and beliefs about technology are generally thought to be important to successful adoption. Many of these approaches are founded on the psychological principle that a set of beliefs is formed about technology and actions are taken as a result of those beliefs, either positively or negatively. For example, the Technology Acceptance Model (TAM) developed by Davis, Bagozzi & Warshaw (1989), argued that users will accept and use a system only if it has significant perceived usefulness – essentially, people will tend to use an application if they believe it will help them perform their job more effectively. Beliefs about IT use are also thought to be influenced by institutional, social and individual factors under the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Ajzen, 1991).

Likewise, the Theory of Planned Behaviour (TPB) (Ajzen, 1991) proposed that if individuals hold a favourable attitude towards a specific behaviour, they will tend to hold a favourable attitude towards performing that behaviour, whereas a negative attitude will lead to an unfavourable attitude towards performing it. Simplistically (and possibly, *obviously*), if you think something is a 'good thing' you will tend to want to do that thing. The more that individuals perceive that

technology will help them to achieve job related outcomes, the more likely they are to use such systems (see also Venkatesh et al., 2003; Stone et al., 2006). TPB models have been used as a framework for examining the adoption of a number of technological advances, including internet technology (Venkatesh, Davis & Morris, 2007), the use of mobile internet services (Pedersen, 2005); (Wang, Lin & Luarn, 2006), internet banking (Ravi, Carr & Sagar, 2007) and general information systems (Chang, 2007). Rogers (1995, cited in Parry & Wilson, 2009) defined the Diffusion of Innovation Theory (DIT) model, which proposed that the innovation should have relative advantage over previous methods, compatibility with existing values and needs, be easily understood, have the potential for experimentation and be capable of observable results.

Martin, Massy & Clarke (2003) believe the idea of 'absorptive capacity' to be important, both for understanding and realising the potential of technology. Zahra & George (2002), adopting the earlier work of Cohen & Leventhal (1990), identify absorptive capacity as the acquisition, assimilation, transformation and exploitation of new knowledge to produce a new organisational capability. Those with higher absorptive capacity (i.e. those better able to make sense of its potential) will be better able to exploit technology and will do so more quickly [34]. Other approaches to adoption suggest that managerial involvement in the design (Preece, 1988) and learning processes (Bondarouk, 2006) are important. Kaarst-Brown & Robey (1989) note that where IT is well revered in an organisation, IT innovations experience little resistance and where IT is highly valued, organisations become early adopters and stand to gain competitively by applying IT to their business needs [35]. Previous experience of technology clearly has an additive effect to positive perceptions and likewise, bad experience breeds negative feelings.

In the e-HRM field, several studies examining acceptance and satisfaction have been published in recent years, for example by Ruta (2005) in terms of overcoming resistance to the introduction of an HR portal, by Sanchez & Aguayo (2007) in their examination of HRIS success variables and by Marler et al (2009), who explored pre and post self-service acceptance using a Theory of Planned Behaviour approach. Parry & Wilson (2009) examined the factors affecting the adoption of on-line recruitment, related to Rogers's Diffusion of Innovation theory (DIT) and Ajzen's Theory of Planned Behaviour (TPB) models. Kaarst-Brown & Robey (1989) saw that adoption of e-HRM may be limited if it is regarded as an opportunity for HR to abuse its power (HR becomes 'evil wizards') leading line managers to resist adoption in order to counter the threat. Further evidence of the influence of beliefs on e-HRM is presented, for example, by Aydin & Rice (1989), who found that some senior HR managers hold increasingly negative attitudes towards HR technology, since its use is perceived as a transactional, administrative activity

[34] A useful metaphor here is a sponge, which can absorb so much liquid, after which it becomes full and can take on no more. Human understanding of technology is similar to this, where individuals and organisations reach a point where further development potentially stops until previous experience is assimilated. Human capacity therefore places limits on technological development.

[35] A recent report published by the Cabinet Office, shows that on a scale up 5.0 most Public Sector organisations rate their IT capability at over 3.5. The average rating is 3.8. (Benchmarking the Back Office: Central Government, 2009) downloaded from http://www.hmg.gov.uk/media/52718/benchmarkingthebackoffice.pdf on December 9th, 2009

that does nothing to enhance HR's reputation. Likewise, Tansley & Newell (2007) identified that a lack of awareness and understanding of HR systems, combined with a 'silo' mentality towards implementation and the independent mapping of HR processes all tend to limit e-HRM development. Bondarouk & Ruel (2009) also explore different perceptions of e-HRM by different groups of users, particularly around the use of non-administrative tools, revealing differences in the use of e-HRM between line managers and employees.

In essence, most adoption models are based on the concept that individuals attempt to understand whether technology will be useful to them in achieving their goals, such that if individuals are unable to make sense of technology, or lack insight into its use, meaning and intention, then they are unlikely to make rational planning decisions, potentially constraining the development of that technology. While this research is now twenty years old, these themes are reflected in some of the research interviews, to be discussed later in this chapter.

Overall, these various theoretical approaches (TAM, TRA, TPB, DIT, absorptive capacity) share the concept that a new idea is good if it is perceived as better than what came before, assuming that people understand it and the results are clear. However, much of the research on technology adoption is based on general models which assume that individuals possess a good knowledge and understanding of technology, enabling them to make informed choices as to whether it will be useful to them. An exploration of the research question requires a deeper analysis that is specific to e-HRM at a level that has so far been absent from research in the field.

9.3 e-HRM as a social process

George Kelly (1955) suggested that individuals act like scientists, continuously striving to make sense of their world and their place within it. Organisations may therefore be seen as collections of people trying to 'make sense' of what is happening around them by making interpretations, translating events, developing models for understanding, bringing out meaning and assembling conceptual schemes (Daft & Weick, 1984). Individuals create mental models as sense-making devices during processes of organisational change (Townley, 1994) to test ideas and form new theories, which develop through negotiations and discussions with others. As Weick (1995) argues, organisations consist of people trying to make sense of their world, seeking some 'mastercode' by mapping out their world to create an intelligible whole where "*Sense-making starts with chaos and involves labelling and categorising to stabilise the streaming of experience, connecting the abstract with the concrete."* (Weick et al., 2005, p.411).

It seems clear from general literature that in order to interact with technology, people first have to make sense of it at several levels. Orlikowksi & Gash (1994, p.175) express this idea aptly in a manner that seems to summarise the nature of this research project: "*To interact with technology, people have to make sense of it; and in this sense-making process, they develop particular assumptions, expectations, and knowledge of the technology, which then serve to shape subsequent actions toward it*." This sense-making process is inherently social in nature - Pinch & Bijker (1987) argue that because technology is an artefact (i.e. of human creation) the social context of e-HRM is critical, since technology takes place exclusively in an organisational setting, where social processes such as argumentation and debate help individuals to derive meaning (Daft, 1986). If the development of e-HRM is

ultimately a product of collective sense-making processes in terms of the value created by technology, then it raises important questions about the nature of expectations and perceptions about e-HRM, how they are formed and how they differ across different groups of stakeholders in organisations; as Kossek et al (1994, p.152) argue, "*Implementing a new HRIS requires new frames or socially constructed views and ways of thinking*". Again, general theories are available - Lewis, Agarwal & Sambamurthy (2003) argue that beliefs about information technologies are a combination of institutional factors (top management commitment and local management support), social factors (the social norms of peers, leaders, department managers and informal networks) and individual factors (computer self-efficacy and personal innovation with technology).

9.4 The e-HRM Value Model and Technological Frames

Orlikowski & Gash (1994) argue that the concept of 'technological frames' offers a useful analytic perspective for explaining and anticipating actions and meaning. Technological frames are cognitive structures or mental models that are held and shared by individuals, typically operating in the background with both facilitating and constraining effects. These individual frames of reference are social in nature and have been described as "*A built-up repertoire of tacit knowledge that is used to impose structure upon, and impart meaning to, otherwise ambiguous social and situational information to facilitate understanding*" (Gioia, 1986, p.56). Orlikowski & Gash (ibid.), researching the introduction of Lotus Notes technology into a consultancy organisation, found that three 'domains' characterised interpretations of technology:

- Nature of Technology (NoT): People's images of the technology and their understanding of its capabilities and functionality – what technology IS and what it can DO.
- Technology in Use (TiU): People's understanding of how the technology will be used on a day-to-day basis – HOW it might be used to create value
- Technology Strategy (TS): People's understanding of why the organisation acquired and implemented the technology, its likely OUTCOMES and VALUE to the organisation.

These three domains clearly interact and overlap, although are not considered to be independent. However, it is useful to regard them as separate for analytical purposes, since this distinction highlights relevant differences. In their research, Orlikowski & Gash (ibid.) found substantial differences between the assumptions and expectations of technologists and end-users across the three domains, revealing significant 'frame incongruence' that shaped the implementation, development and communications around the technology. The influence of shared frames on technology outcomes suggests a potentially broader role for social processes in studying information systems, especially with regard to the often unacknowledged structural influences of shared interpretations. In the context of the current study, it suggests that if groups are aligned around a set of common beliefs (frame congruence) about the nature, use and strategy of e-HRM technology, then success is more likely to be achieved. However, where technological frames are significantly different (frame incongruence), difficulties and conflict may arise to the point where they may become "psychic prisons" that inhibit development because people "*Cannot look at old problems in a new light and attack old challenges with different and more powerful tools - they cannot reframe*" (Orlikowski & Gash, 1994,

p.4) and as Zuboff (1988) observed, some individuals may never come to terms with the incongruity.

Using a similar approach to that employed by Orlikowski & Gash, this chapter presents a technological frames based analysis of assumptions and perceptions of e-HRM as revealed in interview findings, supporting the view that a lack of shared cognitive structures is a significant barrier to the future development of e-HRM. The structure of the e-HRM Value Model provides an opportunity to explore the nature of these perceptions and in particular whether differences in perception play a role in limiting e-HRM development. By analysing and comparing the themes arising in the e-HRM Value Model against three technology domains, it is intended to shed some light on the nature of these expectations and perceptions.

9.5 Development of the Technological Frames Approach

The initial analysis of data, presented in Chapter One of the *Handbook of Research on E-Transformation and Human Resources Management Technologies: Organizational Outcomes and Challenges* (Foster, 2009b) provided a basic view of e-HRM perceptions based on the three Orlikowski & Gash (1994) domains of the Nature of Technology, Technology in Use and Technology Strategy. These initial findings were based on a prototype template analysis structure, which had not at that time been fully formed and was very much 'work in progress' and pre-dated the development of the e-HRM Value Model. The analysis focused on the differences between HR managers and line managers in terms of their general view of e-HRM, across the three domains. Even at this simplistic level, the three core technological frames revealed varying degrees of frame congruence and in some areas, some significant frame incongruence. This initial analysis revealed substantial gaps (frame incongruence) between the assumptions and perceptions of HR managers and line managers across the three domains, suggesting that there is disagreement on some of the basic assumptions underpinning e-HRM. For example, while HR managers see that e-HRM will reduce HR operational costs, line managers see e-HRM as yet another thing to learn that allows HR to pass its unwanted administration to the line. Likewise, HR views e-HRM as a mechanism for shifting its own role to a more strategic one, whereas line managers do not believe that HR has the capability to move to a more strategic role. The findings are summarised below in *Table 8: Initial Analysis of Technological Frames***,** reproduced from page 14 of the above book**:**

DOMAIN	How HR Managers see e-HRM	How Line managers see e-HRM
Technology in Use	▪ Managers will understand and use the system and will intuitively grasp the system ▪ The manager's friend: alerts, warnings, guidance	▪ Technology takes lot of time to get working and needs an investment from users to get benefits; it's just one more thing to learn ▪ HR is 'dumping its dirty work' ▪ Those with experience feel that that the system doesn't help them much
Nature of Technology	▪ Initially see technology as a way of reducing the cost of HR operations, reduced headcount ▪ Technology seen as a magic bullet, expert system, giving them greater control over non-compliant managers ▪ Believe that e-HRM will make managers better at their roles ▪ Believe e-HRM will produce better HR information	▪ Technology should bring about process improvement ▪ "These things never work". ▪ Technology not likely to be 'sold' to managers properly. ▪ Assume that better management information will be delivered ▪ Cynicism that it will lead to meta-regulation from the centre
Technology Strategy	▪ Strategic aspiration often limited to administration and HR services ▪ Desire to make long-term shift in HR function (time shift) ▪ Doubt that technology will bring about a shift in strategic focus ▪ Technology is unlikely to impact on professional HR roles	▪ Technology is an opportunity (but only one among many other strategies) ▪ HR needs to prove its operational capability before they can be trusted to implement technology

Table 8: Initial Analysis of Technological Frames

Although the above analysis is somewhat primitive and does not explore the nature of the differences between the two stakeholder groups, it nevertheless raised some important questions. The process of writing the book chapter proved to be important in terms of theory development, in that it prompted reflection about how participants understood the nature, use and strategy of technology. Perhaps the most significant of these questions was to contemplate "What is it that people

(managers, HR etc) have in mind when they think about e-HRM, that is, what is that they are actually making sense **of**?" This triggered a further period of reflection and analysis of research interview content, as a result of which the basic e-HRM Value Model was developed. This chapter therefore represents a genuine evolution in theory development, where a primitive technological frames analysis gave rise to the e-HRM Value Model, which in turn permitted a more thorough examination of the technological frames model.

The remainder of this chapter explores differences in technological frames across each domain, theme and stakeholder group.

9.6 Analysis: HR Cost Reduction Benefits

Interviews showed that HR managers were generally very positive about e-HRM's ability to bring about cost savings, with most seeing that e-HRM offered the potential to improve processes through tools such as workflow. Almost all agreed that e-HRM would reduce operational costs by reducing HR headcount (O1) and that the perceived impact of e-HRM was high, with most HR respondents speaking enthusiastically about reductions in operational costs, removing layers of administration, anticipating significant improvements to business processes. This is perhaps to be expected, given that cost reduction represents one of the primary components of the e-HRM business case. Line managers also generally understood the principle; for example, a finance manager close to the project recognised that:

"Later on when it's up and running, I see a hell of a lot of benefits in terms of the volumes of work, such as schools, if we could hook them up properly. Bigger cost benefits." [Council 1, Line Manager, 05]

However, there was also a degree of cynicism about HR cost reduction, especially from line managers, in terms of the reality of achieving planned benefits. This was particularly important in view of the additional workload that would be generated by process changes:

"But how much relevance do I see for e-HR that throws at first glance more work at you, when I want to concentrate on getting my operational side working, what's the value add of that system?" [Council 1, Line Manager,10].

In some cases managers were dismissive of the cost benefits and the complexity of the solution. A manager at COUNCIL 1 commented that:

"Unfortunately, our workload to produce that will also go up, although there are going to be savings in basic paperwork, that will be pushed back to managers…there are small cost savings that I've seen…very small...for introducing this. What hasn't been costed in is that it will be very difficult to do." [Council 1, Line Manager, 2].

Some HR managers saw that technology was a part of the transformation agenda and that manager self-sufficiency would produce operational cost-savings. For example, the view of the HR Director in COUNCIL 4 was that it was possible to save

money by removing expensive HR resource that had previously been dedicated to providing information. However, one line manager in COUNCIL 4 had mixed feelings about the changes, acknowledging that the HR function needed to be freed from administration work, but also recognising that this had been somewhat at the expense of line managers. It was particularly revealing that while the most senior HR person in COUNCIL 4 [Council 4, HR Manager, 15] thought that cost reduction had been successful, interviews with line managers in the same organisation [Council 4, Line Manager, 23; Council 4, Line Manager, 24] confirmed that managers believed they had actually taken on more work as a result.

"People saw personnel centralising and reducing costs and [the HR Director] saying he'd save them £100,000 in the last year; managers said yes, but you've given the work back to us and transferred the cost back to us." [Council 4, Line Manager, 23].

Clearly, these managers did not share the views of the HR team. HR managers in COUNCIL 4, attempted to defend their position:

"At first they saw it as Personnel dumping on them, I think it's much more now seen as a different way of doing it, a lot of managers didn't know that it was on the way, so they have a different view, some of them see that Personnel don't do half of what they used to, we've got the ability now to look online, we didn't have that before. People can do many things that they needed to rely on personnel for, able to do much more now, it's pointless putting a system in and doing it for them." [Council 4, HR Manager, 15].

However, a line manager in the same organisation commented that:

"The backlash from managers has been a centralisation that has led to managers doing more - in fact Personnel don't do much now managers are doing it. I have some sympathy but I think that's where the changing working practices is beginning to hit us without us really embracing it." [Council 4, Line Manager, 23].

My personal diary described how there seemed to be a clear division in COUNCIL 1 about the success of this project, based more on a historical view of the capability of the HR function rather than on the potential of the technology itself. One line manager in COUNCIL 1 stated:

"I think it's a bit duplicitous to say that we're going to get increased savings on the Personnel side. The cost is that managers will have to do more work. I'm not saying that is wrong, but we have to factor it in." [Council 1, Line Manager, 2].

Another manager in COUNCIL 5 commented that:

"The cynicism among line managers extended to the reduced staff numbers and costs, but of course it increased the work elsewhere. "[Council 5, Line Manager, 24].

However, another manager in AGENCY 2 commented that the idea of managers taking on HR administrative duties had been an initial concern but that after consideration, she realised what was being asked of them did not represent a major change:

"As an individual my reaction was that this was passing the buck - it shouldn't be but the problem was the reaction from most people. When you look at the actual

responsibilities that you've got, they are really no more different than what you should be doing anyway." [Agency 2, Line Manager, 36].

From the perspective of some line managers, promised cost savings alone appeared to mean very little, especially as many thought that the HR function was highly inefficient and that technology was simply a correction for past inefficiency. As a result, responses showed general support for the idea of HR cost reduction but a great deal of disagreement on how it would be achieved and the way in which the HR function was approaching it. Some felt that there was still a great deal of the technology yet to be exploited:

"I think we've still got a good 30% of the system that can be exploited, we don't have all the modules in use, we don't necessarily have all the functionality switched on, but because we're now in a shared service environment and have created a joint roadmap to develop it. Moving forward, we are very clear about making further functionality gains. That will improve performance for the business and dare I say, we've managed to take more cost out of the processes." [Council 8, HR Manager, 42].

Of course, cost reduction involves making staff redundant or redeploying them and culturally, these actions sometimes do not sit comfortably in the Public Sector which often perceives it has a wider social responsibility to provide employment, or at least not contribute to unemployment. Some line managers expressed cynicism that HR would be capable of building on the potential of e-HRM and translating it into actual bottom line outcomes. The comments of one line manager at COUNCIL 1, the head of a large business improvement project, were particularly striking, when he observed that:

"One of the reasons why I've been a bit of a wet blanket in terms of supporting the system – I've never yet seen a successful Personnel system and I've seen three. The reason is they all get watered down and Personnel say "we can't do this" and managers don't get engaged and the managers say that it does nothing for them." [Council 1, Line Manager, 10].

Few HR or line managers mentioned the impact on indirect costs (O2) and most HR professionals also seemed to lack an insight into the role of e-HRM in reducing non-staff costs, possibly because process work had been carried out in isolation from overall HR strategy. Line managers were generally not interested in the scale of HR operational costs at this level – simply that HR was taking action to reduce costs.

Although cost reduction is a well documented and intuitive outcome of all IT investments, interviews reveal that HR managers and line managers hold different perspectives about this domain. There is therefore a high level of frame incongruence between HR and line managers even about the achievable outcomes of cost reduction. While there is generally high agreement about the *Nature of Technology* and its potential to reduce costs, it is less clear to stakeholders how this will be translated into effective outcomes and the impact on day to day activity. For this reason *Technology in Use* has been rated as only medium. Indeed, this disagreement also extends to views within core stakeholder groups, with differences between HR professionals about how these benefits would be delivered. *Technology Strategy* was rated as low as there was little congruence around long-term outcomes.

9.7 Analysis: People Management and Productivity Benefits

9.7.1 Manager's Productivity Toolkit (P1)

There was high congruence between the HR manager and line manager groups in terms of the ability of e-HRM to provide a manager's toolkit to simplify HR administration and The *Nature of Technology* domain showed high frame congruence for both for HR managers and line managers. As many line managers pointed out, any technology that could make their lives easier would be seen as a benefit. E-HRM was therefore seen as a way of enabling managers to spend more time on people management and employee performance, an idea that was widely supported by both groups. The overall view from HR professionals was that e-HRM would help managers create more time to focus on employee performance:

"When it comes to our HR Payroll system, when it comes to duty management systems, it was different, we knew we had antiquated HR systems in place, we had continuous problems in aligning HR and payroll, asset management, sickness, annual leave, etc. We knew we had to become more automated and at the same time help managers manage their businesses." [Police 1, HR Manager, 09].

Some managers expressed initial concerns about using the technology, but later changed their opinions:

"I haven't got time to sit down and learn it, but once I actually did, I found it very useful, they have simple job guides, I just go in and it takes you through. My worry at first was you would need to know the system, you know, it was almost like you wouldn't be able to do your day-to-day job unless you understood how it all works, but I like the way you can go in piecemeal and they'll tell you to do it." [Agency 2, Line Manager, 36].

HR teams were understandably defensive of the criticism and were keen to argue that e-HRM would not require any more effort than paper based approaches:

"*They don't have to do much apart from approving leave, we're not creating work for them, were asking them to do what they do now, I actually think we're very computer based here, emails and so on, it will be quicker way of doing it.*" [Agency 1, HR Manager, 6].

However, the introduction of e-HRM into day-to-day business processes initially tends to raise doubts among managers because of the potential shift in workload. Research literature has noted the problems involved in the passing of HR responsibilities to line managers – for example, McGovern et al. (1997) noted that the institutional reinforcement of HR practices, managerial short-termism and de-layering were potentially counter-productive, because it might limit the amount of time managers had for people management, at a time when perhaps a greater focus on people management is necessary. One manager felt that the system was sometimes counter-productive to their role:

"I'm conscious that there was quite a bit of resentment initially about the system and I have to say my team was quite sympathetic, saying this is going to give you a lot more work and feeling sorry for me and they were kind. But I'm conscious when I get a request from any of them, not so much the sickness because you do that when you get back, anyway I feel obliged to turn it round as quickly as possible so the system continues to have a good reputation." [Agency 2, Line Manager, 39].

There was also a concern from some HR managers that the greater use of technology might place a barrier between the HR function and line management. COUNCIL 4 had experienced a major shift in the relationship with line managers, although the changes were perceived to be positive:

"That change happened in 2003 and that has changed the way that we interact. Now we make the assumption that they're doing things on their own rather than picking up the phone and talking to someone in personnel. We want them to do that thinking first and look on the intranet and then come and talk to us after that. So we have less contact with managers prior to what we had in 2003, especially on things like recruitment." [Council 4, HR Manager, 20]

In some extreme cases, line managers were dismissive of the changed relationship, regarding new processes as adding little value to their work or being counter-productive. It is also clear that some organisations had failed to consult line managers properly on the basic system design and process changes, also leading to criticism of e-HRM:

"What this process has done is brought in bureaucratic management information, it's not about putting the employee first, about being able to speak with them and address them. It's gone the wrong way around, that should be the number one priority, how you record that information has to be priority in the process and it's not." [Police 1, Line Manager, 41].

Another manager in the same organisation was less subtle about his opinion on e-HRM, seeing the introduction of a new online performance management system as completely unworkable and placing a barrier between himself and his staff. As he explained, it had created a very complex process that was not focused on the task:

"Yes, yes, it's crap. The policies around recruitment and selection are dreadful, there's no consistency and they change. …I'm trying not to be too negative here, but they're very poor." [Police 1, Line Manager, 41]

In other organisations, the cultural impact of a shift in responsibilities had been anticipated and managers had been given time to adapt. The transition had taken place slowly to enable a gradual shift to new ways of working:

"We didn't hit them with the system, first we went out with a change in sickness absence policy so the emphasis did move from the HR service to the managers. We asked them to do this but we gave them the tools to do it as well. So there was a real shift and I think it's gone okay." [Agency 2, HR Manager, 30].

A number of managers across all organisations felt that there had been too much 'hype' about the system and that rather than improving line manager productivity, managers would simply develop their own alternative HR administration systems within their own structures [Council 1, HR Manager, 04]. Some saw e-HRM as

simply creating additional workload for them, with little benefit for their own productivity. One line manager explained that despite the corporate view of e-HRM, their preference was to continue to use existing systems and simply keep information on e-HRM up to date so that he was seen to comply. In effect, e-HRM would simply mirror the existing system. Inevitably, this line manager rejected the idea that technology would actually improve matters:

"I remember leaving the training session and thinking well that's another load of extra work for me, for no perceived benefits. I don't mind putting extra effort in if I'm going to get something tangible at the end of it, and I just thought well here we go there's a great deal more to do." [Agency 2, Line manager, 39].

These managers were unable to relate to either the 'nature of technology' or 'technology in use' domains. Some doubted that the planned changes could ever be implemented:

"It depends what we want, I think it's been very ambitious, whether we will actually get to the stage where managers do everything from their side will be surprising. I personally don't think it was necessary." [Council 1, HR Manager, 04].

One HR Manager attributed the lack of enthusiasm for e-HRM to poor ease of use of the system or even to the look and feel of the system:

"I'd say most of the resistance has not been about HR dumping workload, they either just don't like the look of the technology or they don't like the way it actually works, they feel there's not enough checks and balances in there" [Agency 2, HR Manager, 34].

In some cases there was outright rejection of the system:

"To be honest I don't use it really, I use it as little as they can. It doesn't help me, it doesn't make my life any easier it doesn't add anything to my job, it's an irritant. It takes me a lot of time to do it and I can't be bothered to use it so I just use a Word document. At the end of the year I just cut-and-paste across. So it adds no value to what I do." [Police 1, Line Manager, 40].

Nevertheless, HR managers claimed that managers were beginning to respond to the new technologies:

"The whole system coming has completely changed their perceptions, they are now beginning to see the value of it, to take away the tedious systems and they'll see it pay back for all the work they've put in, I see the self service as a starting point." [Agency 1, HR Manager, 06].

For these reasons, *Technology in Use* was rated as having only medium congruence between the two groups, based on a concern that HR would simply push additional workload onto the line. There were also differences at the level of *Technology Strategy* around P1. Some line management groups felt that technology offered them little, suggesting that HR groups must be very careful to maintain both the momentum of e-HRM as well as make it clear to managers what to expect. As a result *Technology Strategy* was rated as only medium congruence.

9.7.2 Change of HR focus (P2)

This was an area of high interest for HR teams, who saw e-HRM as a way of reducing its administrative workload, leading to a change in the content and structure of their own roles, allowing them to 'become strategic', often a major driver of HR transformation projects. Indeed, many HR initiatives such as shared services and outsourcing are based on the premise that administration is the barrier to HR having a professional role, a topic that has been amply dealt with in previous chapters. This concept is similar to the Manager's toolkit theme (P2), in that its emphasis is on creating time to be more productive in other activities; in the manager's case, the time saved can be used to enable a greater focus on people management whereas in the case of the HR function, the time can be used to provide a better service to line managers and support greater organisational productivity. For the HR function, e-HRM represents a real as well as a symbolic shift away from traditional administrative activity and provides an opportunity to work in different ways [36].

Considerable time in interviews was devoted to the topic of a strategic HR function and whether technology could enable the HR function to refocus and support a transition to this new state. Although it is recognised that strategically focused organisations devote a bigger proportion of HR time to strategic activity such as planning, organisational design and development, career planning and management development (Lawler & Mohrman, 2003) it does not necessarily follow that creating more time for the HR function means that the time will be used in a strategic way. There is clearly a difference between operating in a strategic manner, providing support for strategic goals and creating a strategic capability. After some deliberation, a decision was made to include Change in HR Role and Focu as an aspect of the overall People Management and Productivity Value Outcome rather than as a Strategic Capability Outcome.

Nevertheless, a refocused HR function will have more time to dedicate to people management activities and e-HRM was seen as central to this shift so *Nature of Technology* was rated as high for HR teams and line managers, all of whom understood the potential offered to separate professional HR from administrative support, for example through the restructuring of HR into shared services centres or similar entities.

However, a refocused HR function highlighted a major area of disagreement between the two groups – managers were highly cynical about the capability of the HR function to actually make this shift on a day-to-day basis or to convert it to real value. While the assumption of many HR managers was that the organisation expected HR to perform a more professional role, this was not always understood or even expected by managers. As Hussain et al (2007, p.85) point out, line managers do not always see e-HRM/HRIS as improving the professional standing of HR or substantially benefiting the company. Frustratingly for some HR functions, the successful introduction of e-HRM raised questions about the continued role of HR now that most of their workload had apparently been transferred to the line:

[36] See Tansley, Newell & Williams (2001), who use the concept of an 'e-greenfield' site to denote the symbolic effect of e-HRM, representing a break with existing employee relations practices, or a philosophical break with the past.

"Our main aim was to try to automate day-to-day process and free up the admin to provide a more advisory and consultancy service to the manager. It wasn't just about paper work, we're here to help and support them. Initially, that wasn't conveyed to the rest of the organisation - I think a lot of people started asking what are Personnel doing, what are we paying them for what are they doing here?" [Council 4, HR Manager, 21]

This theme arose in several organisations, suggesting that where HR is perceived to have a mostly administrative role, the removal of that work can leave the function lacking in direction; HR simply cannot assume that e-HRM opens a door to a more professional role. One HR Manager in an NHS Trust confirmed that the reduction in workload brought about by e-HRM had also raised questions about the role of the HR function [NHS 1, HR Manager, 32]. An HR Manager in COUNCIL 6 reflected that having made the leap to a greater use of technology, HR was left with a lack of clarity about its role, creating uncertainty among line managers now that administration had been removed:

"I think they would say "what's Personnel doing if I'm doing all this for them!" …(relates a mix up with a recruitment process)… I had to explain what really happened and he asked me what was Personnel doing? I think a lot of them will say "this is too complex for me", why do I need to do it, isn't it easier for one of you to manage ten inputs rather than one of us each to manage ten inputs." [Council 6, HR Manager, 26].

Others were also finding challenges to their role:

"I often go downstairs to [the bar] and sometimes you get "what do you guys do up there". Because there is so much information pushed out to managers we get a lot of "what are you doing then if you're sitting up there". I say if you want to come up and see you can witness, there is plenty going on here. That's the way they felt because basically a lot of their roles have changed." [Council 4, HR Manager, 16]. Once again, cynics had a different view about freeing up HR time, claiming that HR professionals were already overstretched and had no capacity to meet the higher expectations that e-HRM would bring:

"The value would be that it should free up HR resources, but what resources? It won't free up professional resources, you either use the money to reinvest in more HR professionals or you don't have that team and groups can go out there and buy their own" [Council 1, HR Manager, 04].

Clearly, this opens up questions about the perceived role of the HR function and suggests a need to position the introduction of e-HRM carefully around substantive changes to their role in the organisation. HR functions in these organisations will need to make substantial efforts to demonstrate that their value lies beyond administration; e-HRM may even be counter-productive if it exposes the HR function to these questions when it is not prepared to define the nature of its changed role. Interviews also suggest that some HR teams find it difficult at the individual level to break away from their traditional roles:

"That's my experience of it, that they are still involved in day-to-day issues that they shouldn't really be involved in. And that may be a combination of managers pressing them to do that or maybe they're too willing in some cases" [Agency 2, HR Manager, 34].

Some HR professionals openly admitted that despite e-HRM, they wished to retain old relationships that had been established through administrative work:

"I don't know, I really sit on the fence with technology I really do. In a way I think it will be great because things will be more efficient and online everything in hard copy and so on but at the same time I really like interacting with people and I think that's quite important you know sitting there every day with the computer would drive me bananas really. It's great we are moving forward in terms of the work that it is the face-to-face communications with people." [Council 4, HR manager, 16].

As a result, *Technology in Use* showed only moderate levels of congruence, because managers simply could not relate to how e-HRM would re-focus the HR function. Indeed, many HR people were cynical about how well their organisation had thought through the nature of the changes that e-HRM would bring about.

The refocusing of the HR function is therefore a complex topic that raises many issues about the role that HR will play following the introduction of e-HRM. One finding of concern was that HR Business Partners (those staff directly supporting line managers in an internal consultancy role) tended to avoided involvement in e-HRM projects, seeing little or no relevance to technology beyond administration. I have observed that invitations to Business Partners to attend planning workshops were often cancelled at short notice as more pressing matters arose. It may be that this subset of HR managers underestimates or misunderstands the potential transformational impact of technology, although its significance was recognised in AGENCY 2:

"Business partners are also using the information out of SAP to provide much better management information to management boards. Better information on staffing numbers sickness all of those things which they didn't have in the past because we can basically slice and dice the data better than we've ever been able to do before. So I would say it's not the tool, it's a support tool that is helping all these other initiatives." [Agency 2, HR Manager, 18].

There was also recognition that e-HRM needed careful management and that HR needs to get the basics right and build on them:

"*I think too many public sector bodies have tried to be all singing and all dancing and have gone for a Rolls-Royce implementation thinking they'll get the strategic benefits from having the system to run HR and other back-office transactions and actually they haven't understood the basics, they need to have a system functional in the first place. They have gone for the high-level benefits but have none of the basics in place to achieve that."* [Council 8, HR Manager, 42].

In terms of *Technology Strategy*, congruence levels were low because managers did not have a clear view of what the new role of HR would be once their administrative workload changed and even HR functions were not certain of the impact. As Keebler & Rhodes (2002, p.58) point out, "*In their enthusiasm to implement their new HR processes, employers commonly focus more on day-to-day transaction activities and lose sight of the overall strategic objectives that began the process in the first place* ".

Lack of a strategy for converting Value Potential into Value Outcomes was an important consideration - some respondents agreed that the project plan lacked consideration of some key components, as illustrated through the following comments:

"I think there should be a plan about how we propose to achieve the various things within self-service or what self-service can do." [Council 1, HR Manager, 07].

"I don't think we've thought it through. We know we're going to save some costs, but beyond that we don't really know what to expect." [Council 1, HR Manager, 12].

"*If you asked "where is your masterplan?" it's probably spread across a whole range of documents and probably in several people's heads."* [Agency 2, HR Manager, 18].

These comments highlight the often poorly thought through approach to the introduction of e-HRM and consideration of its wider implications.

9.7.3 Information for Operational Decisions (P3)

This theme provided the strongest congruence across all themes. HR managers were very keen to provide greater levels of management information, particularly in relation to issues such as managing sickness, an area that depends for its success on good data (CIPD, 2009). Most were confident that e-HRM technology was capable of providing this data at the *Nature of Technology* level, not surprising given that many HR functions state improved information as a key outcome of their investment in an HR system. HR Managers were highly vocal about the poor state of information prior to investment in technology, which had resulted in either weak support for decision making or in some cases, a lack of HR credibility. Some saw that improved management information would have a direct impact on the operations of the HR function, removing its intermediary role as a supplier of information, with possible implications for the size of the HR function. Line managers were also clear that they expected greater levels of management information as a result of e-HRM, although some were highly critical of the HR function's previous inability to provide them with the data they needed.

At the *Technology in Use* level, where good management information had become available, there is evidence that line managers were highly appreciative and were making good use of data, giving them greater insight into the people they manage. However, as might be expected, there were concerns – one agency expressed concerns about the amount of time taken up by the system to maintain data:

"The other issue is if we spend a long time actually putting data in, through a screen and you're a manager and you have to put your skill in some detail, then we can actually quantify it. But if you just stick in "I manage x", we're not going to be able to match properly, we'll have all sorts of data that you can't get to the bottom of as a business." [Agency 2, HR Manager, 27].

When asked whether improvements to management information had changed the way she worked, one line manager challenged the idea that better data would lead to better management:

"So, why should the data that is made available make you a better manager?" [Agency 2, Line Manager, 36].

Of course, this may reveal something about how managers tend to use (or fail to use) data in fulfilling their roles and HR functions planning a management information strategy must be aware of making assumptions about the use of data. During the course of the interviews, I was involved in a small management information project at COUNCIL 1 which revealed that HR and line managers sometimes view the use of operational data quite differently. The project was a pilot design for a management dashboard, which would give managers access to a series of performance indicators in the form of charts and graphics through a web portal. The HR team at the Council believed that managers would welcome a wide range of information, but in the course of running workshops with groups of managers it became clear that managers needed only 2 or 3 simple metrics such as absence levels and employee turnover. My diary entries for these sessions indicated that managers felt quite passive with regard to management information and that their interest was limited to only those items that they were personally measured on, where they could influence the measure itself. Other interviews confirmed this concern about managers' ability or desire to access information:

"We try to provide managers with standard reports and there are developments coming which if they are technically proficient, they can drill down below those general numbers, but I doubt whether many of them will." [Council 4, HR Manager, 14].

Many organisations I met with were in the process of developing plans to extend the availability of information, for example through portals that would make key metrics available directly to managers, so *Technology Strategy* was also high. It is important to make a distinction between information for day-to-day operational decisions and strategic information (S1). Despite some cynicism, across the three domains, *Technology in Use, Nature of Technology and Technology Strategy* all rated highly in terms of frame congruence against P3.

9.7.4 Impact on Managerial Accountability (P4)

As defined in the e-HRM Value Model, the impact on managerial accountability theme is an important aspect of e-HRM Value Creation. One topic to emerge from the interviews was that in many organisations, managerial accountability is unclear and line managers are often disengaged from people management. Many of the interviews involved discussions about the role of line managers and their reliance on the HR function to deal with people issues, to the frustration of HR teams who saw it as a barrier to organisational development. For some organisations, the introduction of e-HRM represented an opportunity not only to enable the devolution of HR work to line managers, making them self-sufficient and less reliant on the HR function, but to define and reinforce managerial accountabilities and ensure better compliance with processes.

However, at the *Nature of Technology* level, expectations of e-HRM were high and it became clear that some HR managers had unrealistic expectations of e-HRM as a form of 'expert system', not just for managing transactions but as a tool for guiding managers through processes at great levels of detail, reinforcing accountabilities

through on-line alerts, e-mails and notifications throughout the process that would prompt actions. Perhaps optimistically, one HR manager in COUNCIL 1 felt that:

"It would be the manager's friend - basically the manager would relate completely to that system and it would help him or her actually manage their staff. It gives them all the information they need, members might say we need to know the turnover in your area. In future, no matter what the personnel question is that comes up - I want the manager to feel confident they can interrogate the system easily and out it comes in a report." [Council 1, HR Manager, 12].

A colleague of this interviewee agreed with the basic principle:

"They won't have to worry whether they've made an entry or got it wrong, the processes are designed to help them manage, it gives them that." [Council 1, HR Manager, 07].

Others were more realistic in their expectations:

"I want enough of it to remove the administrative burden, it prompts people, it supports people but it doesn't replace people making judgements, it helps people to make decisions but doesn't remove it, it will help you make better decisions, to make them quicker administratively and in terms of providing information." [Council 1, HR Manager, 01].

Others were also cautious not to expect too much from e-HRM and highlighted the dangers of creating an 'expert system' that would:

"Tell you 'now blow your nose' that's not practical or realistic, I want enough of it to remove the administrative burden, it prompts people, it supports people but it doesn't replace people making judgements, it helps people to make decisions but doesn't remove it, it will help you make better decisions, to make them quicker administratively and in terms of providing information." [Council 1, HR Manager, 01].

My involvement in the planning workshops for e-HRM at COUNCIL 1 raised several concerns about expectations in this area. An entry in my personal diary during the early part of the project observed that:

"*The centre has a clear agenda – to make as much as possible electronic so that managers are given guidance every step of the way. It's almost like they're trying to create an expert system which will be all knowing and stop anything going wrong. However, there's a schizophrenia to this in that Personnel want to devolve everything yet keep control. There is a definite mistrust of managers."* [Personal Diary Entry].

However, while some HR managers appeared to want an 'expert system' that would guide managers through every step of a process, this was only encountered at COUNCIL 1 and did not arise at other organisations. Elsewhere, most organisations were content that technology would simply make managers more self-sufficient. Congruence at the *Nature of Technology* level was therefore high in terms of the overall sample, because of the shared belief that technology would provide a more structured approach to HR management.

However, the changes brought about by e-HRM presented some difficult practical challenges. For example, line managers were not always ready to make the transition:

"It took quite a long time to get that message through. Some managers felt they wanted to continue to have their hands held." [Agency 2, HR Manager, 18].

Even some members of the HR team in COUNCIL 4 appeared to be more comfortable in maintaining old ways of working and passively rejected the notion that managers should be fully self-sufficient:

"I probably have a different view from other people in HR, that if a manager rings me sometimes I will be lenient and although it's on the Internet, usually I'm trying to guide them so they learn how to do it. But I know some other people in the office will be telling them to look it up. Whereas I'll say 'it's on the Internet' I am in a way kind of spoon feeding them still, that's just me." [Council 4, HR Manager, 16].

This resistance to change within HR was also noted in AGENCY 2:

"Some people in the HR function valued the policeman role and have found it quite hard to let go. Throughout the process from HR people have asked what if they had to unpick it. I think we still haven't got that challenge down." [Agency 2, HR Manager, 28].

Some managers, however, were concerned that in practical terms, e-HRM might be used to monitor processes and increase levels of control over management activity. Some described this as a 'policing' role, making managers uncomfortable and raising doubts that HR would identify and perhaps even 'weed out' weaker managers:

"With SAP now, we can do compliance reports on who has done appraisals, who hasn't, who has recorded absence and who hasn't, and they are regular kind of reports….it goes to the Directors, it goes to members, they go to the chief executive." [Council 6, HR Manager, 26].

Although many respondents were pragmatic about the 'policing' role of e-HRM:

"I don't think that technology is seen as the tool for policing us. Managers can get a breakdown of absence and there are lots of reports available for monitoring so in that sense they are getting something out of the system. Staff may not have cottoned on to that yet but I personally think it's great that we've got the information there and we can do something about it." [Council 4, Line Manager, 23].

Some HR managers commented that good line managers would be happy to have their accountabilities reinforced whereas poor ones would push back. As one HR manager explained:

"Again I think we are different sorts of managers here, we have managers who are people focused, they have regular one-to-one regular team meetings and they're the ones who will use the system to advantage. And then we have other ones who just can't be bothered and they probably will never look at it so you can't make them." [Police 1, HR Manager, 38].

Technology in Use was therefore rated as only medium given the differences in understanding revealed. Likewise, *Technology Strategy* has also been rated as medium congruence because managers are still undecided as to its value in this area. Perhaps more significantly, there is questionable frame congruence even within groups - some HR managers seemed to be unhappy with devolving too much managerial accountability, potentially threatening their own roles.

9.8 Analysis: Strategic Capability Benefits

9.8.1 Information for Strategic Planning (S1)

There is a high level of agreement between HR managers and line managers on the capabilities of the e-HRM technology to deliver strategic information (*Nature of Technology*). In this sense, the ability of e-HRM to provide management information was well understood, although HR functions have typically held operational information in its systems but have been unable to produce meaningful management information. However, many HR managers had trouble differentiating between operational information and long-term strategic information, believing that managers wanted access to large volumes of what was seen as 'strategic' data. Perhaps this comes from a general confusion about the definition of 'strategic' in HR terminology, already explored in previous chapters. As one HR manager stated, somewhat confusingly:

"The system won't make us strategic, because we have to believe we are strategic, but it will help us to provide the information and give us the wherewithal to be strategic." [Council 1, HR Manager, 01].

However, line managers were clear that in practice, not everyone would need strategic data and indeed that it might clutter up their thinking if given too much data. Congruence at the *Technology in Use* level was therefore rated as medium, with implications for the HR function in terms of understanding what managers need and how they will access and use information. Likewise, in terms of value, some managers questioned whether simply producing the information without insight and interpretation would meet their needs, rating *Technology Strategy* as medium.

9.8.2 Culture Change (S2)

The role of HR in supporting culture change was recognised in COUNCIL 1, with one line manager commenting:

"It's about instilling a different attitude, and that's where HR could play a role, they could walk the floor, dare I say it, of the services they are equally responsible for, they could get out there and help to change the culture" [Council 1, Line Manager, 02].

However, the role that e-HRM was not well understood by most organisations, with only one (AGENCY 2) having a clear plan for how e-HRM might relate to culture change. Indeed, culture change was very much central to its overall strategy, making AGENCY 2 unique within the sample. Across all three domains, this theme

was rated as low congruence, representing the lack of e-HRM maturity and lack of understanding of its cultural significance.

9.8.3 Employer Branding (S3)

This theme, which refers to issues of organisational reputation and internal and external positioning the organisation as an employment 'brand', was also quite difficult for participants to comment on, again perhaps because of the low levels of immaturity in use of e-HRM. Web recruitment tools are likely to be the main mechanism for promoting the organisation externally and most organisations saw this as a longer term development. However, there was good recognition from HR managers and line managers that if tools were easy to use, it would reflect positively on the organisation as part of a general move to 'modernise' the organisation.

This theme is therefore a function of the more advanced use of e-HRM, potentially including tools such as social networking and collaboration, which are clearly in advance of the organisations in the sample. For this reason, frame congruence is currently rated as low, simply because there was an inadequate level of opinion for it to be divided. It is possible that once organisations have moved through the e-HRM maturity curve and established a base level of technology infrastructure, they might start thinking about more advanced applications for technology and the potential to use it for branding purposes.

Nevertheless, it was recognised that effective HR processes would enhance the reputation of the organisation (or potentially, poor processes would damage it) and that e-HRM had a role to play in managing relationships and improving satisfaction levels.

9.9 Summary

Tables 8-10 set out a summary analysis of the level of congruence across the three domains (Nature of Technology, Technology in Use, Technology Strategy) based on the themes within the e-HRM Value Model, interpreted from the template analysis and literature review. The column headed 'C' indicates the level of congruence between HR managers and line managers (either High [H], Medium [M] or Low [L]). These have also been colour coded using 'traffic light' colours to indicate the degree of congruence, where Green shows high congruence, Yellow indicates medium congruence and Red is low congruence.

		NATURE OF TECHNOLOGY (Capabilities & Functionality)	C	TECHNOLOGY IN USE (How it will be used day-to-day)	C	TECHNOLOGY STRATEGY (Outcomes and value)	C
HR COST REDUCTION							
01:HR Headcount Reduction	HR	HR managers see that e-HRM has high potential for reducing HR headcount through process improvement	High	HR managers are confident that they can translate potential into outcomes	Medium	HR managers see that HR costs have been reduced or can be reduced and can provide evidence of cost reduction	Low
	Manager	Line managers also see potential for reducing headcount and are enthusiastic that HR is containing its costs		Line managers believe that value can only be created by passing workload back to managers		Line managers remain cynical that HR has actually reduced overall cost, it is simply felt to have been absorbed by line managers.	
02: Indirect HR costs	HR	HR managers: Some are aware that there is potential to reduce costs but this has not been given much focus	Medium	HR managers have not given much thought to the linkages between e-HRM and indirect operational costs	Medium	HR managers recognise that other costs beyond headcount exist but have little understanding of them	Medium
	Manager	Indirect costs are transparent to managers so there is little interest		Line Managers again have little interest in this are		Line managers have no practical visibility of HR indirect costs	

Table 9: Technological frames (HR Cost Reduction)

		NATURE OF TECHNOLOGY (Capabilities & Functionality)	C	TECHNOLOGY IN USE (How it will be used day-to-day)	C	TECHNOLOGY STRATEGY (Outcomes and value)	C
PEOPLE MANAGEMENT AND PRODUCTIVITY							
P1:Manager's Productivity Toolkit	HR	HR believes that managers will value the simplification of administration and sees it as a way to enhance the overall service	High	HR believes managers are adopting technology well	Medium	HR believes that services have been improved and its credibility has been enhanced	Medium
	Manager	Line managers are enthusiastic and welcome simplified processes		Line managers are moderately enthusiastic but still concerned that HR has pushed additional workload onto them		Line managers who saw HR as providing an administrative service question what HR does now that workload has been devolved, leaving HR with a credibility gap	
P2:Change of HR focus	HR	HR believes that e-HRM will take out administrative work from the function leaving it to focus on higher level activities	Medium	HR keen to minimise administrative role and raise professional level	Medium	HR struggling to make the transition to refocus itself	Low
	Manager	Managers want HR to provide better levels of support but also want HR to provide good quality services. Reasonable levels of congruence on the potential of technology		Technology is only part of the solution – HR needs to start acting in a more professional manner and not hide behind a lack of time		For line managers, it raises questions about the role of HR if they are no longer seen to be providing administrative services. May take away from HR credibility	

Table 10 (a): Technological Frames (People Management & Productivity)

		NATURE OF TECHNOLOGY (Capabilities & Functionality)	C	TECHNOLOGY IN USE (How it will be used day-to-day)	C	TECHNOLOGY STRATEGY (Outcomes and value)	C
P3: Information for Operational Decisions	HR	HR sees e-HRM seen as creating a great opportunity to provide better levels of management information	High	HR see that management information needs processes to be aligned to date, potential changes to the role of HR BUT that management information is central to transformation and business control	High	HR managers see an opportunity to capture information to be more proactive, although it can be confused with being 'strategic'	High
	Manager	Managers enthusiastic and keen to get better data, although some are frustrated that it has taken to long		Managers see the immediate value in terms of absence control and recognise that e-HRM is a big improvement		Line managers expect access to management information, but only want relevant data	
P4:Impact on line management accountability	HR	HR believes that e-HRM can be used to reinforce accountabilities and refocus managers on managing people.	High	Not all HR managers support this idea and some may be threatened by their changing role	Medium	Where implemented, HR believes that managers are more engaged in HR processes	Medium
	Manager	Line managers are aware that e-HRM can involve them in processes but are concerned of its policing role. Needs more than technology to make this happen		Good line managers are more supportive of accountability than poor ones, difficult to argue that e-HRM has changed management culture		In practice, line managers seem to value the ease of use and can see a trade off between using e-HRM and independence of action	

Table 10 (b): Technological Frames (People Management & Productivity)

		NATURE OF TECHNOLOGY (Capabilities & Functionality)	C	TECHNOLOGY IN USE (How it will be used day-to-day)	C	TECHNOLOGY STRATEGY (Outcomes and value)	C
STRATEGIC CAPABILITY							
S1: Information for strategy planning	HR	HR understands that e-HRM can manage data and provide substantial management reporting	High	HR believes that line managers want large volumes of management information	Medium	HR recognises that strategic data won't make the function strategic. Some HR professionals confuse operational support for being strategic	Medium
	Manager	Line managers also recognise that e-HRM and associated tools have sophisticated functionality to support strategic planning		In practice, most line managers want only the information needed to do their jobs, few require truly strategic planning information		Line managers also agree that HR as a function needs to do more than simply provide long term planning data	
S2: Culture change	HR	Some enlightened HR managers recognise the impact that e-HRM can have on organisational culture either in actual or symbolic terms but this is not universal	Medium	Lack of insight into what practically would need to be done to use e-HRM in this way	Low	Some limited but subtle changes have occurred but as an outcome of a wider change project, not just e-HRM	Low
	Manager	A few line managers expressed the idea that e-HRM could go beyond processes and automation but this was limited		Better insight than HR into the impact on the organisation		Uncertainty as to linkages	
S3: External branding and Employee Satisfaction	HR	HR agrees that e-HRM has the potential to shape the image of the organisation as an employer	Low	See that long-term, tools such as web recruitment could be used to shape employer brand, but not ready to pursue	Low	Uncertainty as to how to develop e-HRM tools	Low
	Manager	Managers see importance of branding and reputation but not aware of the role of e-HRM in this		Managers recognise that for example, poor recruitment processes reflect negatively on the organisation		Uncertainty as to how e-HRM plays a role	

Table 11: Technological Frames (Strategic Capability)

The above can also be summarised in terms of the original e-HRM Value Model in *Figure 11: eHRM Value Model showing Technological Frame Congruence*

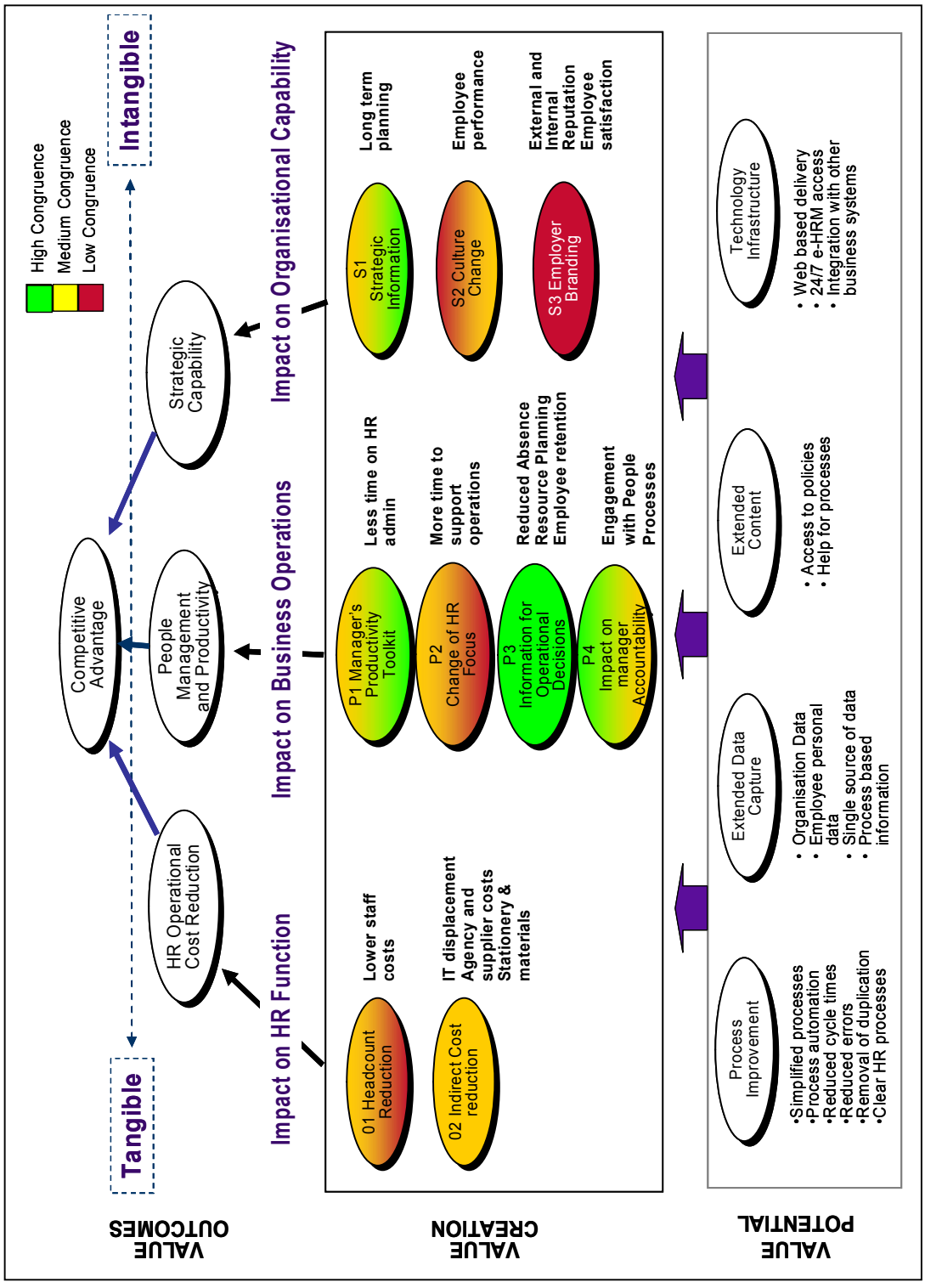

Figure 11: e-HRM Value Model showing Technological Frame Congruence

9.10 Developing further domains

The above analysis represents differences in frame congruence across the *Nature of Technology, Technology in Use* and *Technology Strategy* against the key themes in the e-HRM Value Model. The significance of these differences may explain why e-HRM development tends to be in areas where there is reasonable frame congruence (for example, targeted at administrative, cost based savings) as well as in certain areas of productivity such as providing managers with operational data, and why there has been slow progress in areas of strategic HRM tools where Value Outcomes are less well defined.

However, interviews also revealed important gaps in another area that has tended to be overlooked in literature. This analysis suggests that as well as the three core domains of the Nature of Technology, Technology in Use and Technology Strategy, the relationship between the two key stakeholder groups (line managers and HR managers) may also represent a powerful constraint on an organisation's ability to develop e-HRM technology. These themes are so strong that they represent additional domains that have a powerful impact on e-HRM:

9.10.1 Theme 1: Lack of HR Function Credibility

Interviews revealed large gaps in mutual perceptions on the role of the HR function. For example, the HR functions studied were typically working under great pressure, with sub-optimal resources, often failing to deliver a good service. HR managers typically saw their role as providing support for line managers in managing people:

"Personnel's main purpose has got to be to help and equip managers to deliver the services we offer." [Council 1, Line Manager, 02].

However, it was perhaps no surprise to find that interviews with line managers supported the stereotype concept of a Public Sector HR function, struggling to establish a credible reputation. COUNCIL 1 demonstrated this gap on several occasions:

"*They don't give a s**t*" [Council1, Line Manager,2]

And:

"*We get a c**p service"* [Council1, Line Manager,2]

All too often, interviews portrayed the HR function as highly rule-bound and bureaucratic, with line managers frequently expressing concerns that the function was defensive, risk averse and often uninterested in people development issues:

"*We're probably a bit more slaves to the rules of the processes here. I think probably we made things a bit difficult for ourselves in areas - we do tend to tie ourselves up in knots and I do think it sets us back, a different way with more freedom would be good."* [Council 1, Line Manager, 05].

Line managers often felt that HR worked against them rather than with them as partners:

"For example if we want to move a member of staff from one operational area to another, for development reasons, etc we have to go through a million hoops." [Council 1, Line Manager, 02]

Even HR Managers confessed a tendency to:

"*Play it safe, rather than make a decision which needs to be made*. W*e're less bold in making decisions, we're good at administrative decisions but less bold on big decisions.*" [Council 1, HR Manager, 01].

Interviewees often focused on the role of the HR function, in particular whether there was an expectation that HR should be 'strategic'. A frequent comment was the general lack of clarity about the role of the HR function; for some line managers, it seems that HR is only there for the bad things in life, typically operational in nature:

"HR is much more like a sort of emergency plumber service, there to give us help when things go wrong, such as where we have a long-term sickness issue or for sorting out the back-office processes like salaries and sickness." [Council 4, Line Manager, 23].

During a senior management workshop in COUNCIL 1, the lack of strategic focus or direction was a source of great frustration:

"*I'm not sure we've all got a shared understanding of what the hell they're supposed to be doing. I think that's the problem. For me, it's a people business; we should have a very strategic view of what the role of our HR support is. It's about getting people in the organisation, keeping them in the organisation, making sure they're trained and supported to do a better and better job. That needs workforce planning, a strategic approach and the support of Personnel."* [Council 1, Line Manager, 02].

During the same workshop, another manager observed that his dealings with HR were mostly about highly operational disciplinary and grievance topics, sometimes on matters of pay and conditions, but that this did not meet his needs and HR should be contributing to longer term planning:

"What they do on a day-to-day basis, well, they don't sit and write strategies. It's not what they think they ought to be doing, it's what a £400 million pound organisation OUGHT to have. The first thing that's obvious is that our Personnel do not operate at a strategic level. That is a huge gap, you can see that around things like recruitment where there's no succession planning – thinking about next year and the year after, how we will recruit the workforce we need I just can't see it. Nobody's thinking about it." [Council 1, Line manager, 02].

Another manager disagreed with the idea that HR needed to become more strategic and highlighted the need for a stronger operational role for HR:

"What is the purpose of the HR function? It is to deliver. Better customer service and I want it done cheaper. So if someone comes and says they have a problem, they should immediately say what will it cost us to get rid of the problem? What's the risk of losing an Employment Tribunal? What's the cost of keeping someone on, it's a massive cost, performance, risk to customers." [Council 1, Line Manager, 02].

At the same time, HR managers in COUNCIL 1 expressed a desire to become more involved in the business (i.e. strategic) but felt that the actions of the business (for example, a gradual reduction in the size of the HR function) indicated a lack of interest in the function beyond a basic service:

"From what I can gather, and I don't have day-to-day contact with the politicians, it seems that what the politicians want us to be just a support service - they want to cut the cost as much as they can and put any money that may be available into front-line services." [Council 1, HR Manager, 12].

One HR manager expressed a concern about the level to which HR could operate strategically:

"I worry about HR being strategic. It needs to be practical and it is reactive, HR needs to do for the business what the business wants, unless you know what the business wants you can't have a strategy, and the legislation defines what we do, I would question the strategic piece. For me it's much more about the day-to-day. It's not just strategic." [Agency 1, HR Manager, 06]

An HR manager in COUNCIL 5 agreed with this idea and was adamant that HR could not act in a strategic manner because of time pressures in her own organisation:

"I think HR is rarely strategic. HR is 99% operational, I try to decrease that percentage but it's difficult." [Council 5, HR Manager, 17].

Later, she was critical of the HR profession about their ability to act in a strategic manner:

"I think there are some people in our profession that find it difficult to work strategically because they don't really understand the business that their organisation is in. I think it's true in a lot of support functions like IT and finance and to be strategic you actually need to understand the consequences of the decision that you're actually taking or what you're actually moving forwards." [Council 5, HR Manager, 17].

Although the term 'strategic' was often used, it is not clear whether these managers mean 'strategic' in the classic sense or in the way implied by the IES study, that is, in support of the strategic objectives of the business. Overall, these interviews portrayed the HR function as lacking in status and credibility, where their role was not understood. In terms of e-HRM, the main impact of these perceptions is a lack of credibility and belief that the HR function would be able to use technology in a meaningful way.

9.9.2 Theme 2: Line Managers lacking people management capability

A second major theme was a series of strong concerns about the capability of line managers in their people management role. This theme is especially relevant where the HR function has aspirations to develop e-HRM beyond cost reduction, especially in relation to P4 (Impact on Managerial Accountability). Gaining people management and productivity benefits requires the clear support of line managers, yet many HR managers expressed a deep frustration with the quality of line management and the apparent need by managers for 'hand-holding' whenever people management issues arose. HR teams were typically cynical about the ability of line managers to cope with managing people

and were even critical of their ability to perform basic tasks such as attendance interviews, grievance discussions, or running performance management processes:

"[They] won't face up to their responsibilities, disciplinary processes can take forever because the managers don't like disciplining, grasping the nettle and dealing with it." [Council 4, HR Manager, 08].

When asked to define the capability of managers in the organisation, one HR Manager in AGENCY 1 replied:

"How can I be polite? I think they are some years behind in terms of they've been looked after rather than being enabled to do what they should do. So we are in that enabling mode at the moment, there is some reluctance to take that ownership over at the moment because they often claims "this isn't my job, it's HR's job". There's a whole culture shift about what their role is and what is HR's role. But they have been spoon-fed." [Agency 2, HR Manager, 30].

Another commented that there seemed to be a core of managers who fundamentally did not want to acknowledge their people management responsibilities*:*

"There are some managers we don't hear two peeps from, they just get on with it and they only come to us when they want advice on the rules we have. There are other managers who pester us on a daily basis about things they should know, things they should be able to get on with." [Council 1, HR Manager, 12].

The implication of this for HR functions was that poor management capability drove HR workload:

"Oh totally yes, silver spoon service. We work in the same sector so we find the same thing that line managers and staff in general to be honest have an expectation that the centre will provide them with a high level of service and will almost do a lot of the jobs for them. And I think in some cases as well because of the specialisms they tend to think of themselves not as line managers but as specialists. The transformation of HR which is to move things towards line management responsibility is quite a change in some places. [Agency 2, Line Manager, 36].

When asked whether the organisation value people management, an HR Managers at COUNCIL 10 replied (albeit somewhat tongue in cheek and expressing some dismay):

"We value people management as long as it doesn't cost too much" [Council 10, HR Manager, 45].

Despite this, the Public Sector People Managers Association, argued that "*We are excellent at managing people in the public sector*" (Personnel Today, 2008, 29th April, p.2).

A number of explanations were suggested by participants as to why this poor line management capability existed. One reason given was a general lack of role clarity about the accountabilities involved in being a line manager, and that often line managers tended to see people management as a secondary activity to the 'real' management duties of managing a budget and providing an operational service. Brandl et al (2009)

showed that HR duties are often low on the list of managerial priorities and that it varies according to their placement in the managerial hierarchy. One HR manager in COUNCIL 1 told me a story about a senior manager who had found herself in a complex disciplinary situation that led to an Employment Tribunal, where she didn't have the skills to manage the situation and had never thought that this would be an aspect of being a manager. However, the HR manager was also quite defensive of the manager, explaining:

"In this business there are some managers for whom it's impossible, they're managing huge numbers of people, there is legislation which requires them to work within boundaries, they don't have the luxury to be good people managers." [Council 1, HR Manager, 04].

This was indeed a strange comment, given that being a good people manager is not generally regarded as a 'luxury'. An HR manager in POLICE 1 acknowledged that there was room for improvement in terms of management capability, in part because traditionally, police officers are primarily concerned with being a police officer, then as being team leaders and finally as business managers. This HR manager believed that for many managers in the organisation, people management was seen as "*a necessary evil"* [Police 1, HR Manager, 09].

One HR manager explained that if managers were asked to draw a map of their responsibilities, it would mostly be about the things their unit delivered rather than about the people issues that would make them happen and that this was "*just the mind map of a lot modern managers*" [Agency 1, HR Manager, 08]. It was argued that this was not because line managers were lazy, but because they're working very hard already. This managers stressed that anything that line managers do in the organisation has to be perceived as helping them rather than hindering them and they would always ask someone else to do the work if possible [Agency 1, HR Manager, 08]. Another HR manager believed that managers understood their roles but preferred to avoid making themselves vulnerable on complex people management issues:

"I think managers do kind of want it both ways. Not all of them, I think there are a lot of them that are very able, they say "I know the system I know the process I know what to do". The other half are saying 'I'd rather put it in an envelope and send it to you'. The organisation is saying one thing and allowing another. We have to follow it through, let's say it much firmly, much more clearly." [Council 6, HR Manager, 26].

Another explanation for the lack of lack of managerial capability is poor **preparation** managers have for their line roles. According to Nehles et al (2006) lack of training, lack of interest, work overload conflicting behaviours and self-serving behaviour partly explain the neglect of HR duties, a view shared by the HR manager at AGENCY 1 believed that the only way to enable line managers to manage people better was by training them better [Police 1, HR Manager, 09]. The desire for change was therefore high on the priority list of many organisations:

"Most of our services are delivered through people it managers aren't managing their people and not do what are employed to do. And they can't deliver the service without effectively managing the people so my simplistic view would be that it's absolutely the job of line managers but the job of HR therefore has to be making sure managers are appropriately skilled at supporting, coach and challenged to take those responsibilities so HR creates a framework helps make sure managers are appropriately skilled and my

God HR does not manage every member of staff in an organisation." [Council 8, HR Manager, 42].

Table 12: HR Function Capability v Line Manager Capability summarises these additional reference frames, setting out how HR managers and line managers sees the capability and role of the other. These responses demonstrate that there considerable frame incongruence also exists outside technology.

DOMAIN	HR Manager View	Line Manager View
HR function capability	▪ Under valued ▪ Lack resources ▪ No clear opportunity to be strategic	▪ HR is bureaucratic and policy driven ▪ Poor HR service ▪ HR doesn't take responsibility for issues ▪ Value individual HR people but not the function as a whole ▪ Have no clear idea of the role and strategy of HR
Line Management capability	▪ Managers need a lot of hand holding ▪ Managers don't understand their people management responsibilities ▪ May be unable to make the shift to fully competent people managers	▪ People management sometimes seen as a 'necessary evil' secondary to operations ▪ Colleagues won't face up to their people management responsibilities

Table 12: HR Function Capability v Line Manager Capability

9.11 Implications for e-HRM

The above analysis highlights that there are also clear contextual issues to be considered when managing and developing e-HRM. Klein & Kleinman (2002) argue that power relations play a key role in the social shaping of technology and while space does not allow a full analysis of this issue, these relationships clearly have an important impact on the environment and context in which individuals make sense of e-HRM. The analysis shows that HR functions often see themselves as under-valued, lacking in resources and with few opportunities to be strategic and that e-HRM is a major opportunity to break away from an administrative role. For many organisations, this is a key driver in the e-HRM strategy, providing an opportunity to change its role. At the same time, line managers are cynical about the HR function, unclear as to its role and generally doubtful that technology will bring about the changes expected. In some cases, these views are so polarised that optimism seems to transcend the reality. For these organisations, the biggest barrier to e-HRM development is the relationship between HR and line managers. Nevertheless, there is some evidence that it is possible to overcome these relationship challenges:

"I think a year ago some managers would have thought "I don't know what HR does" but they are now trying to use HR technology to link into their systems, their processes which in turn makes it better for everybody, you'll always find pockets, some who love HR, some who don't understand what we do, but they are more in the minority not the majority." [Council 4, HR Manager, 21].

Indeed, in AGENCY 2, the barriers inherent in the relationship had to be overcome to achieve success since the organisation had based much of its business case on changing the managerial culture and was using the introduction of e-HRM to support the transition:

"What some managers wanted was us to hold their hands and through this programme we've been trying to change the culture. It was quite difficult, because we actually wanted to explain they didn't want the handholding, they want someone who can give you advice and support, but ultimately you want to make the business decision, you don't want to pass that back to the centre. It took quite a long time to get that message through." [Agency 2, HR Manager, 18].

Line managers had similarly cynical views of the HR function and did not have a clear understanding of the impact of e-HRM on the role and strategy of HR:

"Without a clear vision of where the authority needs to be, we're struggling to fit with HR initiatives, it's still an authority with glib statements about what it wants to do. If it embeds properly, the information [from e-HRM] will be invaluable in helping to develop a strategic approach, but without the information and good quality information, no, it will struggle to be any more than something that enhances processes" [Council 1, Line Manager, 10].

There is an irony here – while the HR function regards technology as an enabler of transformation and a tool to enhance its strategic impact, if line managers doubt the general strategic capability of HR, they will not trust it to introduce a strategic HR system? In several interviews with line managers, it was suggested that HR might fail to fully exploit e-HRM, based on a poor track record of implementing other HR initiatives, leading to a generalisation that technology will also be poorly implemented. This is consistent with the findings of Hussain et al (2007) who found that while HRIS enhances the perceived standing of HR professionals within their organisations, senior non-HR executives do not necessarily share this view. Technological frame analysis potentially provides a way of assessing the gap between line managers and HR managers; as Johnson & Duberley (2006, p.127) point out, organisations are often assumed to be unified 'wholes' with management goals representing everyone within an organisation. In practice, organisations are highly political in nature and it may not be possible to get a common, shared view within a defined management group. Multiple subgroups can be identified that have specific requirements with regard to technology, with conflicting interpretations and frames of reference within them. The implications for change management around e-HRM are therefore significant, in particular, being able to articulate the benefits of e-HRM to senior management:

"Another lesson we've learned over the last 12 months is that if you haven't got the backing of the senior managers that it doesn't work because it filters down. We've been going out doing these refreshers and sitting down with people and try to get the more up to speed on this and as soon as you sit down with somebody after 15 seconds you know

what their senior manager's view of the system is. People who work for somebody who is enthusiastic, you get into the real added value benefits of the system and somebody who works for a manager who doesn't use it is quite negative. It's like pulling teeth." [Agency 2, HR Manager, 37].

It is therefore important to understand the context in which e-HRM is introduced. E-HRM sits within a complex universe that demands not only that stakeholders make sense of the potential of technology, but that the relationships between stakeholders also need to be aligned with regards to perceptions and expectations. When viewed in conjunction with the three technological domains, this analysis offers an additional insight into the context of e-HRM implementation.

10. Discussion and Implications

10.1 Overview and key findings

The central research question posed by this dissertation concerns why the organisational use of e-HRM is relatively immature, often being limited to administrative activities, despite evidence that more sophisticated use can lead to strategic level outcomes. By its nature, answering this question has involved an exploration of the broader context of HR, including issues such as the role of the HR function, perceptions of the function and the influence of initiatives such as HR transformation on expectations of e-HRM. In particular, there has been a focus on how value is created by technology, both in terms of general Information Technology and the specific contribution of e-HRM, leading to the development of the e-HRM Value Model that synthesizes the results of research interviews and an extensive literature review. One key area of discussion has concerned how e-HRM outcomes might link to organisational competitive advantage, a concept that potentially shifts the focus of e-HRM away from transactional and cost reduction activity to a more strategic focus, although in practice these outcomes are more likely to be an aspiration for many organisations.

Research interviews confirmed that many HR functions are under pressure to reduce costs and to be seen to add more value to people management processes; e-HRM was seen as a key enabler in bringing about these organisational changes and expectations are high. Despite this, HR appears to have an 'uncomfortable relationship' with technology, with few truly having an insight into the possibilities offered. For many HR professionals, e-HRM is seen as merely an administrative tool and its role in the development of HR practice is often disregarded; there is an underlying sense that somehow 'people' people do not need to understand or use technology. My own experience confirms that it is exceptionally difficult to involve HR professionals in discussions about e-HRM requirements, system design and management reporting, combined with a readiness to dismiss e-HRM as somehow separate from the core activities of the HR function.

At the same time, the conflict between line managers and HR managers about the role of HR is critical to understanding the role of e-HRM. Line managers perceive the HR function as failing to provide the required level of support, while HR sees line managers as needing high levels of assistance to perform even the most basic of people management tasks, which many in HR see as a barrier to a more strategic HR function. While HR managers saw technology as a route to reinforce managerial accountabilities and bringing about a shift in line roles, line managers were often cynical about attempts to introduce technology, which was seen as either a means of passing work to line managers or a method of 'policing' line activities. Perhaps the 'uncomfortable relationship' also extends to a three-way relationship that includes line managers, since many in this group appear to lack awareness of the possibilities of e-HRM, leading to little demand for its introduction. Clearly, an uninformed group of HR professionals and an unaware group of line managers is not a recipe for spectacular technological development. The evidence presented here strongly suggests that the potential of e-HRM is untapped in many organisations, although if used appropriately, it is capable of

delivering organisational benefits that extend into providing true competitive advantage. HR functions can be characterised as having mixed success in meeting both their technological and strategic objectives.

Before assessing and discussing the thesis, a summary is presented below in the form of a storyline, an underlying narrative, that I believe captures the key research question, objectives and summary of the research project:

"*Despite being under great pressure to transform itself into a strategic function, Human Resources Departments have generally failed to adopt sophisticated forms of e-HRM, tending instead to focus on technology that delivers administrative efficiency and reduced operating costs. The dissertation sought explanations for this tendency, which may lead to missed opportunities for creating organisational value through a focus on people management and the development of strategic capabilities that would not otherwise be possible. Although a strategic approach to HR is not always required, under certain competitive strategies, organisations need to have in place an e-HRM infrastructure that meets these needs. In these cases, the HR function must be able to justify and secure investment in strategic technologies that create value for the business, as well as implement the technologies successfully, otherwise it will continue to be seen as an administrative function. One key barrier to the development of e-HRM is a lack of shared perceptions and expectations between HR managers and line managers about the nature, use and strategy of e-HRM, resulting not only in mutual cynicism, but also prevents the natural evolution of technology. "*

This final chapter assesses how well the research objectives have been met and proposes answers to the research question.

10.2 Assessment of the e-HRM Value Model

The objectives of the research, as set out on page seven, were:

a. To identify the key themes relating to e-HRM value creation in organisations, in particular examining linkages with competitive advantage
b. To develop a framework for conceptualising e-HRM value creation, combining a review of relevant literature and an analysis of the content of research interviews
c. To explore the extent to which differences in shared perceptions between HR professionals and line managers might have a detrimental impact on e-HRM development

The dissertation meets objectives (a) and (b) through the e-HRM Value Model and (c) through the exploration of sense-making processes. The e-HRM Value Model states that value is created in the form of three outcomes, which can be categorised as: HR operational cost reduction, people management/productivity and strategic capability. Although these outcomes are by no means new concepts, the unique contribution of this work is to synthesize a large body of research spanning both general IT and e-HRM literature and combining them into a single model that includes the transition through Value Potential, Value Conversion and Value Outcomes, linking each stage to competitive advantage. Outcomes are not mutually exclusive and value may be created in more than one area. The e-HRM Value Model was the result of iterative development

and continuous reflection following research interviews exploring perceptions of e-HRM among line manager and HR manager groups, generating rich data across fifteen organisations from forty-six interviewees. An approach based on template analysis enabled the identification of a series of recurring themes that were later developed and enhanced through an extensive review and analysis of literature. Crucially, a focus on the outcomes of e-HRM, rather than inputs such as functionality differentiates it from much previous research, which has tended to focus on the potential offered by e-HRM or an examination of specific aspects of its impact on HR effectiveness.

A key strength of the e-HRM Value Model is its simplicity; it can be presented graphically on a single slide, allowing easy comprehension of the linkages and structure of the model. While initially appearing visually complex, it quickly becomes clear how the three Value Outcome areas relate to each other and how the Value Creation themes contribute to these outcomes. It can be used as a model for business case planning and a means of explaining the nature of the benefits to project teams, supporting the development business cases and prompting debate around the Value Outcomes. As part of developing the framework and validating the model, several conversations were held with senior HR practitioners, to share the ideas underpinning its development and seek their comments on its practical value. To support these discussions, a short presentation was developed to explain the research and summarise its key findings in non-academic, practitioner terms *(Appendix J: Testing the Model – Research Overview Presentation*). Although these discussions were not recorded, but it was reassuring to find the basic principles of the model resonated with their own positions and had enough meaning that they could make use of the model themselves. As one private sector HR Director shared with me about the findings:

"*The background to this is understanding value, so I think it definitely resonates and getting other than HR people to understand it. That goes back to what HR is there for. One of your assumptions is that HR is there to help the business to get the most out of people, so yes it resonates and it's important to get the same language (about technology) about what HR is about."* [HR Director, Large manufacturing/Retail organisation].

The e-HRM Value Model has also been included in several conference presentations and it is already proving itself to be useful in my own professional practice, as a simple yet effective tool for explaining where value might be created through the use of e-HRM.

Objective (c) is addressed in Chapter Nine, relating to e-HRM sense-making processes, exploring the differences in shared perceptions between HR managers and line managers. It became clear that line managers and HR managers have different perceptions of e-HRM and that high levels of frame incongruence exist regarding certain aspects of e-HRM, for example, there are high levels of congruence regarding P3: Information for operational decisions but mixed levels of congruity on P2: Change of HR Focus. In particular, the relationship between HR managers and line managers is seen to have a major impact on the way that e-HRM projects are implemented and the findings from this study clearly offer an opportunity to plan change management and business transition programmes, ensuring that common expectations, assumptions and aspirations are taken into account. Alignment across value creation themes and technological frames is critical to the successful development of e-HRM, suggesting that differing technological frames are potential barriers to e-HRM development and that the future development of e-HRM will require a great deal of work on developing a shared

language and perception of Value Outcomes. The e-HRM Value Model provides a common framework that defines the relationship between the potential for value and its conversion to meaningful Value Outcomes and may be means of discovering common ground.

10.3 Potential explanations for limited e-HRM usage

The e-HRM Value Model and the subsequent analysis of technological frames suggest the following explanations for the lack of extended use of HR technology:

10.3.1 Problems with basic technology

One fundamental explanation for a failure to extend technology is simply that the organisation is still struggling to deliver the first phase of administrative e-HRM. Almost every organisation visited, across all technologies used, told how it had been difficult to build and develop the basic level of technology. This was especially true in COUNCIL 1, COUNCIL 5 and POLICE 1. Several explained that their initial expectations as to what the system would do had not been met, to the point where some had changed their strategy on the introduction of self-service or other functionality. Some of these problems were purely technology based (slow system response or connectivity) whereas others involved problems with the complexity of the system or design. Clearly, setting appropriate expectations with regard to processes and functionality are important, as is ensuring that requirements are realistic and practical. However, without the basic infrastructure layer in place, the further development of e-HRM will be highly constrained.

10.3.2 Lack of a comprehensive business case

As explained in Chapter Four, making any kind of technology investment requires a robust business case, an area that was explored extensively both in terms of general IT and e-HRM literature. Experience suggests that this demands not only a clear understanding of business requirements, but also the ability to quantify the benefits of technology and the wider impact on the organisation outside the HR function. These are skills that HR professionals may have difficulty with. Most e-HRM business cases inevitably focus on operational HR cost reduction, since they are the easiest outcome to define; interviews made it clear that cost reduction was highly important for almost all e-HRM business cases and that without a sound financial business case, there would be no investment in technology. However, many organisations felt that they were not yet able to explore the use of more strategic tools and felt uncomfortable in developing a business case based on strategic outcomes. Even in the case of AGENCY 2, which had stated its primary project objectives in terms of improving managerial capability, the business case ultimately had to be defined in terms of operational savings. Only one organisation, NHS1, had successfully gained approval for the self-service aspect of e-HRM based on savings of managerial time (P1: Manager's Productivity Toolkit).

By failing to define the outcomes of e-HRM in terms of the wider business and organisational value created, the opportunities for e-HRM development will inevitably be limited to cost reduction. The e-HRM Value Model provides a structure with which to develop an outcome-based approach to building the business case, linking potential to outcomes such as productivity, performance and strategic capability as well as HR operational cost reduction. Moreover, the Value Model provides a framework for debate

that will help HR and line managers to align their thinking around the key topics. Literature review and research evidence suggests that these categories are valid and could be used to develop a more holistic business case, providing a structure for defining less tangible outcomes. This has clear parallels with the wider debate on HR value creation – unless the HR function is able to place a meaningful value on the outcomes created, it will continue to struggle to earn credibility, not just in the implementation of technology, but as an organisational function. By focusing on wider competitive advantage, rather than HR operational cost reduction, e-HRM can be repositioned as an organisational enabler rather than an administrative tool restricted to the HR function.

10.3.3 Confusion of potential and outcomes

The analysis of e-HRM literature, combined with interview content, reveals that confusion exists between Value Outcomes at the competitive advantage level and inputs at the Value Potential level. Terms such as 'integrated system', 'reduced errors', 'removal of duplication, 'business process improvement' and 'improved 'HR service delivery quality', are often cited by respondents as benefits of technology, yet in practice these are simply enabling mechanisms, providing the organisation with the potential to deliver benefits. As the Benefits Dependency Network illustrates, these factors have no meaningful value in themselves and must be converted to value outcomes. Technology has no inherent value and requires actions by management to develop the benefits, including a strategy for converting Value Potential into Value Outcomes. The e-HRM Value Model makes this distinction between potential and outcomes clear.

10.3.4 Difficulties in isolating the e-HRM contribution

While it is relatively easy to see the connection between improvements in business processes and headcount reduction, it is far more complex to show that outcomes such as improved management information are linked to improved people management or that e-HRM enforces management accountability. General IT systems research makes it clear that it may take several years to add value to a firm and the benefits are therefore more likely to be reflected in long-term future profit streams. This long-term perspective on outcomes is shared with the HR function and there are strong parallels with early research into HR practices. Clearly, given the range of variables, it is difficult to isolate the contribution of e-HRM to competitive advantage. The people management/ productivity and strategic aspects of e-HRM may therefore be likened to Research & Development in organisations until such time as clear causality can be identified, although this may never be possible. Although the e-HRM Value Model recognises that there is not simplistic linkage between e-HRM and competitive advantage, its construction sheds light on the linkages between Value Potential, through Value Conversion and ultimately to Value Outcomes, to provide organisations with a framework for investment decisions.

10.3.5 Lack of e-HRM Planning

The planning process is an important stage in the lifecycle of a project, during which decisions are made about the e-HRM strategy, assumptions are made about outcomes and the project is scoped. Many organisations are inclined to wait to see what their

competitors do before they commit to investment, rather than acts as pioneers. Interviews often revealed a lack of imagination and adventure on the part of HR managers in the use of more strategic tools, a desire to take small steps and work quietly in the background rather than take risks. The reluctance to show technological leadership may also be a peculiar aspect of British culture, compared with other countries such as the USA where e-HRM is held in higher regard by HR professionals and there is active experimentation and development. It may also be that HR does not often have a clear understanding of 'the art of the possible' with regard to e-HRM, which itself limits development. The intense focus on implementing the first layer of HR technology (usually core HR and Payroll) may mean that wider strategic potential is ignored and investment in subsequent phases then becomes more difficult once the tangible cost reduction component of the business case is fulfilled. In terms of technological frames analysis, this can be expressed as an organisational tendency to enter into technology implementation with a reasonable understanding of the *Nature of Technology*, that is, at the level of its functionality, but with poor knowledge of the *Use of Technology* or *Technology Strategy.* This may explain why organisations often complete the first phase of the project but then fail to develop the full capability of technology [37].

10.4.6 Lack of alignment to HR Role and objectives

Clearly, organisational competitive strategy will have a major impact on e-HRM strategy, although little research has been conducted into this area (with exceptions such as Broderick & Boudreau, 1992). It seems logical that if the business is focused on low cost, then not only must HR strategy be aligned to competitive strategy, but e-HRM strategy must also mirror this strategy. Aspiring to a strategic HR role is likely to result in disappointment if the business regards HR as primarily administrative and compliance based. The thesis makes a fundamental assumption that organisations consistently strive towards maximising the value of their people and that those taking a Human Capital Management perspective are likely to invest in e-HRM. However, in reality, some organisations simply want low cost HR and discussions about the people management and strategic capability aspects of the e-HRM Value Model will be, literally, academic. The Value Model will be of limited use to low-cost organisations, since they may never need to access the full range of outcomes, although it nevertheless highlights the clear linkage between value potential and the need to convert it to tangible outcomes at the HR operational cost reduction level. There is an opportunity for future research to explore e-HRM penetration rates against competitive strategy.

Another factor specific to this research was the Public Sector context of the research interviews. Several respondents commented on the unique funding of the sector, which is invariably under close public scrutiny, as well as being subject to political changes. For example, politicians change over a four to five year cycle and their personal interest is likely to lie in re-election; given that strategic e-HRM investments may involve a longer time frame than this, poor alignment with political requirements represent an additional constraint on e-HRM funding. The research did not take these ideas into account - before assessing technology congruence, it may be important to assess whether HR managers and line managers share a common reference frame at the level of business strategy and the role of HR.

[37] I would suggest that this cycle is experienced in most technology projects

10.4.7 Misaligned Technological Frames

Perhaps one of the most surprising aspects of the research was the sheer wall of resistance and cynicism faced by HR functions whenever changes were planned. It seems that in some cases, HR simply cannot win. For example, when trying to use e-HRM to refocus the function by automating business processes, managers began to question the residual role of HR; when attempts are made to devolve processes to managers, managers argue that workload is being unfairly dumped on them; when e-HRM tools are used to track and monitor business processes, line managers feel they are being policed. One might ask whether these questions reveal more about the relationships between HR and line managers than they do about perceptions of e-HRM.

While attitudes towards e-HRM technology are important, technological frames analysis suggests that attitudes are strongly influenced by the relationships between groups of stakeholders. Perhaps one of the biggest discoveries during the research was the wide gap between HR and line managers regarding e-HRM. At its most extreme, this can be characterised by a mutual lack of respect between the two groups – HR often believes that line managers lack the interest or capability to manage people well, while line managers see the HR function as lacking in strategic contribution and creating little value. This will inevitably have an impact on expectations about what e-HRM can achieve, with profound implications for the way that technology is developed and its ability to create organisational value. Of course, the research was not able to identify whether these views are peculiar to the Public Sector, although research literature suggests that management practice in the Public Sector may be less mature than in other sectors, with a generally lower level of interest in people management. Public sector line managers consider team building, handling conflict and coaching are the least important HR duties (Brandl et al., 2009). Nevertheless, if there is a lack of common ground about the role of HR and its value, one can surmise that there will be a similar lack of common ground on matters requiring investment and change such as e-HRM.

10.4 Limitations and Future Development

Although the e-HRM Value Model appears to have good validity as a tool both for defining e-HRM value and as an analysis tool for exploring technological frames, there are nevertheless limits to its application. As identified, no analysis was conducted into the relationship with the overall business strategy of the organisation and whether the objectives of the organisation involved a cost reduction or innovation strategy. The business context within which HR operates is clearly a key driver of e-HRM strategy and the role and maturity of the HR function so one might expect that the strategy of a failing local council would be very different from a Police Constabulary facing a merger with another force and different again to that of a successful health authority. Clearly, uncovering these aspects would have required a different approach to the interviews which would have required greater analysis.

The nature of competitive advantage has been an important theme for this research and one might question whether this concept is a suitable framework for the UK Public Sector, which on initial analysis does not operate in the same competitive environment as commercial organisations. Clearly, in many cases, there is no formal competition as such (for example, local councils effectively have a monopoly when it comes to delivering services). However, in testing the model, several participants felt that the Public Sector

experienced many of the same features as any competitive market. Some research has adopted competitive terminology; for example, Line (1994) notes that even public library services are finding themselves competing with one another as private sector information resources increase. Likewise, the Public Sector must compete for funding from central government, as well as compete in the labour market for suitable applicants and to retain high calibre people. The Public Sector is increasingly using marketing and public relations techniques learned from the private sector to 'brand' its operations, such as the use of newsletters and a web presence and Public Sector organisations are also increasingly acting like private sector organisations. One of the organisations in the research programme [COUNCIL 10] was recently successful in becoming one of the first unitary authorities in the UK and took over running of another council, tantamount to an acquisition in the private sector. In some sectors, for example, higher education, organisations must operate as virtual private sector organisations and face high levels of competition in a similar way to any private sector organisation. There is general speculation that as the economy enters a recovery phase following the 2008/2009 recession, the Public Sector is likely to be hit by significant reductions in expenditure, heightening the need to compete for resources [38]. An approach based on competitive advantage therefore seems to be viable in the UK Public Sector. Likewise, consideration should also be given to whether these models can be generalised to the private sector. Given the validation process to date, some of which has included representatives from the Private Sector, I feel more confident that e-HRM Value Model can represent the interests of both private and public sectors.

Perhaps the themes that are least well developed are in the Strategic Capability Value Outcome - even literature is vague about these concepts and because they are normally associated with advanced implementations, it may be that the precise content of this outcome will mature as the e-HRM Value Model develops. With the continued development of web 2.0 social networking and collaboration tools (Aberdeen Group, 2008), the nature of Strategic Capability is likely to change and innovative organisations will find new ways to exploit the technology.

Further research is planned to develop the e-HRM Value Model further. For example, it would benefit from greater input by line managers, to understand better their relative technological frames and explore the perceptions of this group in greater detail. Of particular interest would be to identify the conditions that lead to increased or decreased congruence, so that e-HRM Value Creation themes could be more precisely stated and realised. Frame analysis may also prove to be a useful tool in tracking changes in the meanings ascribed to technology over time. It is hoped that this work will make an important contribution to real-world usage of e-HRM and the development of tools to support change management initiatives.

Another potential area for future research is to use the e-HRM Value Model to create an evaluation / diagnostic tool that allows organisations to benchmark themselves against other organisations. I am aware of only one previous attempt to do this, the Havering Human Resources e-Service Delivery Standards model (Havering, 2006) which had

[38] Institute for Fiscal Studies, October 2009

some initial interest from organisation but now seems to have disappeared [39]; this approach was originally developed for the Public Sector and represented a means of categorising and benchmarking the level of sophistication of e-HRM systems. I believe that organisations would welcome such a tool, both to compare themselves to other organisations as well as identify future development opportunities.

10.5 Summary and Implications

E-HRM research is still an immature field and research is now developing beyond exploratory definitions of e-HRM functionality, examining areas such as factors affecting adoption and the impact on HR effectiveness. Research into e-HRM is in itself a sense-making process and the concept of technological frames is potentially a valuable tool for analysing and categorising stakeholder attitudes. It is hoped that with the publication of academic papers based on this thesis, the e-HRM Value Model and technological frames analysis approach will prove useful to fellow researchers in the field.

Perhaps the strongest implication for HR management of this research is to highlight the need for HR management to gain a better understanding of the nature and possibilities of e-HRM technology and to look beyond simple internal cost reduction arguments. An investment in e-HRM represents a major commitment of time and resource and the most powerful benefits almost certainly lie in wider organisational outcomes such as improved people management and developing strategic capability. Simply framing e-HRM as a way of reducing HR costs seems to ignore the real potential of technology and represents a lost opportunity. I would suggest that a basic lack of understanding as to the 'art of the possible' is a bigger barrier to development than the availability of technical functionality and unless senior management understands how technology can contribute to organisational capability, turn it into a bold vision and make it happen, e-HRM will remain a primarily administrative tool. This implies that HR is caught in a double bind – it has no credibility to justify an investment in strategic technology, yet it needs to implement technology successfully in order to earn credibility. HR will need to find a way to break out of this particularly vicious circle.

Ultimately, the development of e-HRM will mirror the development of people management in an organisation. If no value is placed on good people management, then little value will be placed on e-HRM. To this extent, the issue of e-HRM is not actually about technology – the technology has existed for some time and continues to develop, but the organisational capability to exploit it is still immature. If the future of HR lies in supporting organisations in gaining competitive advantage, it seems logical to exploit e-HRM as an enabler of that future. Whether the HR function will remain the owner of the next generation of e-HRM is an important question - web 2.0 tools are already developing outside traditional organisational boundaries and unless HR gains a good understanding of technology and shapes its development, it may lose further credibility and restrict its own capability. A better understanding of the true benefits and value created by e-HRM may perhaps lead the profession to finally get the Ferrari out of the garage.

[39] The Havering model was based on recording how much of each type of functionality was implemented, following a trend in literature that suggested that more functionality amounted to a better system, rather than outcomes

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Appendix A: Personal Biography

I've always had an interest in the use of computers as a way of organising the world. My initial exposure to technology in the HR field was through my first job as a Junior Personnel Administrator at the National Coal Board (NCB) in 1978. At that time, computer technology was very primitive (pre-desktop PC), very much based on 'green screen' technology. This was a time even before the computer mouse - users moved around the desktop by dragging a light pen across the screen. The NCB provided my first exposure to computers and I immediately saw its huge potential as a way of managing people information and quickly learned to write rudimentary reports. However, I got a strong sense from the Personnel traditionalists around me that they found these 'new-fangled' computers were something of a gimmick and that everyone would all be much better off sticking to the paper filing system they treasured. I sometimes get the feeling when talking to HR managers that little has changed in 30 years.

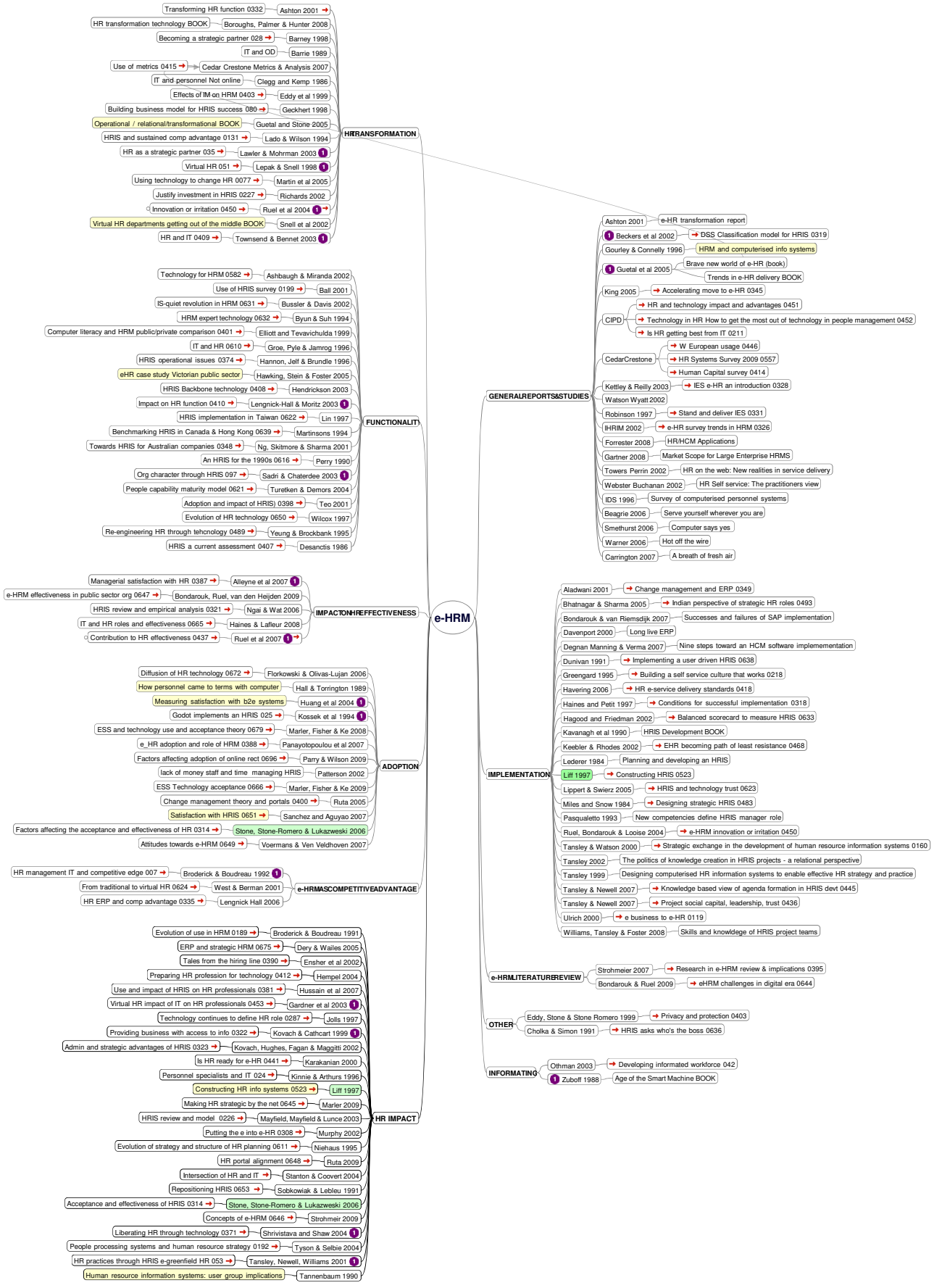
After gaining a CIPD qualification and a first degree in Psychology (also an influence on the psychological themes of the thesis), my next experience of technology in HR was as a Human Resources Manager for Mobil Oil Corporation in the mid-1980s. Mobil's Employee Relations Information System (ERIS) was a large, cumbersome mainframe system that was little more than expanded payroll application. Data could only be entered by filling in forms and sending them to a distant data centre. The Payroll Department owned the system and very little data beyond pay information was held – in its early years, not even employee first names were held. It was very difficult to extract data from these systems without knowledge of programming languages and I spent a lot of time as a keen young graduate fighting the inadequacies of these systems.

Even in 1986, Mobil didn't use computers in its day-to-HR day operations, although the idea of a 'PC on every desk' was the ambition of the IT function. A key turning point was a new role as HR Adviser at Mobil's European Data Centre, which gave me access to the people who actually developed and maintained the HR system. It was here that I was able to learn more about the structure of ERIS and explore different ways to extract data from the system that would make it more useful. I also experimented with various PC packages to create my own mini-applications, such as a training records system and a compensation planning tool, which was administrative in nature but also enabled management information and support for decision making. These 'home-grown' systems were well received by my colleagues, who found they allowed them to perform their jobs better. As the most computer literate of my colleagues, it was a logical choice that I should become project manager of a large HR systems project in the mid-1990s. The project became global in nature, was extended to include the outsourcing of payroll and pensions and eventually formed part of a major HR review project that led to $150m of HR operational cost savings.

Since that time, I have been in various consultancy roles, working with the main HR systems available on the market - SAP, PeopleSoft and Oracle as well as PS Enterprise, PWA/Empower and ResourceLink, an HR/Payroll software product produced by NorthgateArinso.

Appendix B: Example of Mind Map for Literature Review

(Partially Exploded)


e-HRM
HR TRANSFORMATION
Transforming HR function 0332
Ashton 2001
HR transformation technology BOOK
Boroughs, Palmer & Hunter 2008
Becoming a strategic partner 028
Barney 1998
IT and OD
Barrie 1989
Use of metrics 0415
Cedar Crestone Metrics & Analysis 2007
IT and personnel Not online
Clegg and Kemp 1986
Effects of IM on HRM 0403
Eddy et al 1999
Building business model for HRIS success 080
Geckhert 1998
Operational / relational/transformational BOOK
Guetal and Stone 2005
HRIS and sustained comp advantage 0131
Lado & Wilson 1994
HR as a strategic partner 035
Lawler & Mohrman 2003
Virtual HR 051
Lepak & Snell 1998
Using technology to change HR 0077
Martin et al 2005
Justify investment in HRIS 0227
Richards 2002
Innovation or irritation 0450
Ruel et al 2004
Virtual HR departments getting out of the middle BOOK
Snell et al 2002
HR and IT 0409
Townsend & Bennet 2003
FUNCTIONALITY
Technology for HRM 0582
Ashbaugh & Miranda 2002
Use of HRIS survey 0199
Ball 2001
IS-quiet revolution in HRM 0631
Bussler & Davis 2002
HRM expert technology 0632
Byun & Suh 1994
Computer literacy and HRM public/private comparison 0401
Elliott and Tevavichulda 1999
IT and HR 0610
Groe, Pyle & Jamrog 1996
HRIS operational issues 0374
Hannon, Jelf & Brundle 1996
eHR case study Victorian public sector
Hawking, Stein & Foster 2005
HRIS Backbone technology 0408
Hendrickson 2003
Impact on HR function 0410
Lengnick-Hall & Moritz 2003
HRIS implementation in Taiwan 0622
Lin 1997
Benchmarking HRIS in Canada & Hong Kong 0639
Martinsons 1994
Towards HRIS for Australian companies 0348
Ng, Skitmore & Sharma 2001
An HRIS for the 1990s 0616
Perry 1990
Org character through HRIS 097
Sadri & Chaterdee 2003
People capability maturity model 0621
Turetken & Demors 2004
Adoption and impact of HRIS) 0398
Teo 2001
Evolution of HR technology 0650
Wilcox 1997
Re-engineering HR through tehcnology 0489
Yeung & Brockbank 1995
HRIS a current assessment 0407
Desanctis 1986
IMPACT ON HR EFFECTIVENESS
Managerial satisfaction with HR 0387
Alleyne et al 2007
e-HRM effectiveness in public sector org 0647
Bondarouk, Ruel, van den Heijden 2009
HRIS review and empirical analysis 0321
Ngai & Wat 2006
IT and HR roles and effectiveness 0665
Haines & Lafleur 2008
Contribution to HR effectiveness 0437
Ruel et al 2007
ADOPTION
Diffusion of HR technology 0672
Florkowski & Olivas-Lujan 2006
How personnel came to terms with computer
Hall & Torrington 1989
Measuring satisfaction with b2e systems
Huang et al 2004
Godot implements an HRIS 025
Kossek et al 1994
ESS and technology use and acceptance theory 0679
Marler, Fisher & Ke 2008
e_HR adoption and role of HRM 0388
Panayotopoulou et al 2007
Factors affecting adoption of online rect 0696
Parry & Wilson 2009
lack of money staff and time managing HRIS
Patterson 2002
ESS Technology acceptance 0666
Marler, Fisher & Ke 2009
Change management theory and portals 0400
Ruta 2005
Satisfaction with HRIS 0651
Sanchez and Aguyao 2007
Factors affecting the acceptance and effectiveness of HR 0314
Stone, Stone-Romero & Lukazweski 2006
Attitudes towards e-HRM 0649
Voermans & Ven Veldhoven 2007
e-HRM AS COMPETITIVE ADVANTAGE
HR management IT and competitive edge 007
Broderick & Boudreau 1992
From traditional to virtual HR 0624
West & Berman 2001
HR ERP and comp advantage 0335
Lengnick Hall 2006
HR IMPACT
Evolution of use in HRM 0189
Broderick & Boudreau 1991
ERP and strategic HRM 0675
Dery & Wailes 2005
Tales from the hiring line 0390
Ensher et al 2002
Preparing HR profession for technology 0412
Hempel 2004
Use and impact of HRIS on HR professionals 0381
Hussain et al 2007
Virtual HR impact of IT on HR professionals 0453
Gardner et al 2003
Technology continues to define HR role 0287
Jolls 1997
Providing business with access to info 0322
Kovach & Cathcart 1999
Admin and strategic advantages of HRIS 0323
Kovach, Hughes, Fagan & Maggitti 2002
Is HR ready for e-HR 0441
Karakanian 2000
Personnel specialists and IT 024
Kinnie & Arthurs 1996
Constructing HR info systems 0523
Liff 1997
Making HR strategic by the net 0645
Marler 2009
HRIS review and model 0226
Mayfield, Mayfield & Lunce 2003
Putting the e into e-HR 0308
Murphy 2002
Evolution of strategy and structure of HR planning 0611
Niehaus 1995
HR portal alignment 0648
Ruta 2009
Intersection of HR and IT
Stanton & Coovert 2004
Repositioning HRIS 0653
Sobkowiak & Lebleu 1991
Acceptance and effectiveness of HRIS 0314
Stone, Stone-Romero & Lukazweski 2006
Concepts of e-HRM 0646
Strohmeir 2009
Liberating HR through technology 0371
Shrivistava and Shaw 2004
People processing systems and human resource strategy 0192
Tyson & Selbie 2004
HR practices through HRIS e-greenfield HR 053
Tansley, Newell, Williams 2001
Human resource information systems: user group implications
Tannenbaum 1990
GENERAL REPORTS & STUDIES
Ashton 2001
e-HR transformation report
Beckers et al 2002
DSS Classification model for HRIS 0319
Gourley & Connelly 1996
HRM and computerised info systems
Guetal et al 2005
Brave new world of e-HR (book)
Trends in e-HR delivery BOOK
King 2005
Accelerating move to e-HR 0345
CIPD
HR and technology impact and advantages 0451
Technology in HR How to get the most out of technology in people management 0452
Is HR getting best from IT 0211
CedarCrestone
W European usage 0446
HR Systems Survey 2009 0557
Human Capital survey 0414
Kettley & Reilly 2003
IES e-HR an introduction 0328
Watson Wyatt 2002
Robinson 1997
Stand and deliver IES 0331
IHRIM 2002
e-HR survey trends in HRM 0326
Forrester 2008
HR/HCM Applications
Gartner 2008
Market Scope for Large Enterprise HRMS
Towers Perrin 2002
HR on the web: New realities in service delivery
Webster Buchanan 2002
HR Self service: The practitioners view
IDS 1996
Survey of computerised personnel systems
Beagrie 2006
Serve yourself wherever you are
Smethurst 2006
Computer says yes
Warner 2006
Hot off the wire
Carrington 2007
A breath of fresh air
IMPLEMENTATION
Aladwani 2001
Change management and ERP 0349
Bhatnagar & Sharma 2005
Indian perspective of strategic HR roles 0493
Bondarouk & van Riemsdijk 2007
Successes and failures of SAP implementation
Davenport 2000
Long live ERP
Degnan Manning & Verma 2007
Nine steps toward an HCM software implementation
Dunivan 1991
Implementing a user driven HRIS 0638
Greengard 1995
Building a self service culture that works 0218
Havering 2006
HR e-service delivery standards 0418
Haines and Petit 1997
Conditions for successful implementation 0318
Hagood and Friedman 2002
Balanced scorecard to measure HRIS 0633
Kavanagh et al 1990
HRIS Development BOOK
Keebler & Rhodes 2002
EHR becoming path of least resistance 0468
Lederer 1984
Planning and developing an HRIS
Liff 1997
Constructing HRIS 0523
Lippert & Swierz 2005
HRIS and technology trust 0623
Miles and Snow 1984
Designing strategic HRIS 0483
Pasqualetto 1993
New competencies define HRIS manager role
Ruel, Bondarouk & Looise 2004
e-HRM innovation or irritation 0450
Tansley & Watson 2000
Strategic exchange in the development of human resource information systems 0160
Tansley 2002
The politics of knowledge creation in HRIS projects - a relational perspective
Tansley 1999
Designing computerised HR information systems to enable effective HR strategy and practice
Tansley & Newell 2007
Knowledge based view of agenda formation in HRIS devt 0445
Tansley & Newell 2007
Project social capital, leadership, trust 0436
Ulrich 2000
e business to e-HR 0119
Williams, Tansley & Foster 2008
Skills and knowledge of HRIS project teams
e-HRM LITERATURE REVIEW
Strohmeier 2007
Research in e-HRM review & implications 0395
Bondarouk & Ruel 2009
eHRM challenges in digital era 0644
OTHER
Eddy, Stone & Stone Romero 1999
Privacy and protection 0403
Cholka & Simon 1991
HRIS asks who's the boss 0636
INFORMATING
Othman 2003
Developing informated workforce 042
Zuboff 1988
Age of the Smart Machine BOOK

Appendix C: Profiles of participating organisations

AGENCY 1

Agency 1 provides training services to a major part of the public sector, and is itself part of the UK Home Office. The organisation employed 1,500 across 20 sites, although this was being gradually reduced with a target of 5 sites. The initial implementation was conducted in 2004 but following the first phase, development halted due to budgetary constraints. At the time of the interview, self service was being introduced into the organisation and early benefits were being delivered. At the time of the research, the agency was aware that its future was at risk and that a pending review might result in a merger with a similar agency performing related work. This prediction was fulfilled and the Agency as such no longer exists, having being absorbed into another government department.

AGENCY 2

Agency 2 is a large national employer. It is difficult to describe the activities of this organisation without it becoming clear who this is, so for reasons of confidentiality these are not included. The e-HR project was undertaken under the description of an HR transformation exercise, to create a more 'managerial culture', improve overall performance management and provide better management data. Cost reduction was also important, with the stated aim of reducing staff headcount from 145 to 78. Process simplification and easier access to HR services were also important. The stated benefits set out in the Benefits Realisation Plan document of May 2006 were:

Benefit No	Summary
1	To reduce HR staff overhead and increase the proportion of front-line resource.
2	To give managers improved processes, guidance, support and tools needed to lead to an improvement in the management of sick absence.
3	To improve management capability by achieving a lower, but more competent manager-to-employee ratio moving from a baseline of 1:3.
4	Enable a more strategic approach to HR.
5	Simplified, streamlined and more easily accessible HR policies, processes and procedures.
6	Provision of better quality and accessible management information.
7	Establish a more easily accessible and a more customer focused HR Service Centre.

The document stated "The whole of the organisation will need to change the way it approaches HR issues. This will require a change in culture, and in some cases updated

policies and procedures underpinned by new skills. " An extract from the plan, referring to the impact on line managers is below

Benefits Definition Statement – Objective 3

<table>
<tr><td colspan="3">Project or Programme Name: HR Service Transformation (HRST)
Description: The HRST Programme aims to transform the HR Service across XXXXX in order to realise related service improvements, staff savings and financial benefits.
Date registered: 28/04/2005</td></tr>
<tr><td>BDS Number: 003</td><td colspan="2">Project Manager: XXXXXXX</td></tr>
<tr><td colspan="3">Driver for change (e.g. Policy or business improvement):
Meets Gershon Report and Cabinet Office's Modernising People Management agenda and supports Strategy for workplace health and safety to 2010.</td></tr>
<tr><td colspan="3">Summarise the objective:
To improve XXXXX management capability by achieving a lower, but more competent manager-to-employee ratio moving from a baseline of 1:3.</td></tr>
<tr><td colspan="3">State how the objective contributes to corporate or strategic business aims:
This will better support XXXXXE through the changes brought about by the move to delivering the XXXXX Strategy through programme and project working, and reduce the size of the management cadre to be supported by the HR service.</td></tr>
<tr><td colspan="3">State the expected business benefits from the objective:
1. Fewer managers, moving from a manager-to-employee ratio of 1:3.
2. More competent and effective managers.
3. Greater job satisfaction, and hence motivation, for managers working within the HSE business.</td></tr>
<tr><td colspan="3">For each benefit shown above list:</td></tr>
<tr><td>Proposed measurement</td><td>Expected time-scale</td><td>Responsible manager</td></tr>
<tr><td>1. A lower manager-to-employee ratio, moving from 1:3.</td><td>1. October 2006</td><td>1. Director of HR; D/D Directors in HSE Business.</td></tr>
<tr><td>2. Responses to staff survey, and specific HR customer surveys.</td><td>2. Review after 6 months, then 12 months, and then on annual basis.</td><td>2. Director of HR; Performance and Development Workstream Manager.</td></tr>
<tr><td>3. Responses to staff survey, and specific HR customer surveys.</td><td>3. Review after 6 months, then 12 months, and then on annual basis.</td><td>3. Director of HR</td></tr>
<tr><td colspan="3">Dependencies (business areas, processes or other initiatives involved in or affected by the proposed change):
1 – Dependent on the cooperation and positive involvement of all line managers throughout XXXXX.
2 – Dependent on the commitment of D/Ds to a lower manager-to-employee ratio.
3 – Benefit 2 is dependent upon capable staff being in post and there being appropriate training provided for managers and on improved processes, guidance, support and tools being available to them.</td></tr>
<tr><td colspan="3">Stakeholders (internal or external):
Internal: XXXXXXXXX
External: XXXXXXXXX.</td></tr>
</table>

COUNCIL 1

Council 1 is situated close to London. Economically, the area suffers from higher levels of unemployment and deprivation than other London councils but it is also home to several large employers that employ some 187,000 people within the Borough. The Council itself employs 4,000 people across a range of services, including social services, benefits, education etc.

Generally, the Council had been underperforming against a range of standard measures and was keen to reposition itself higher against other councils. At the time of the study, it was rated as a two star council, placing it in the bottom 20% of councils nationally, but was rated as improving well. One of the key drivers behind the e-HRM project was an improvement programme designed to save £10-£15m per year across the entire Council. Technology was seen as one of the key drivers to this project, especially from a cost reduction perspective. This Council was a consultancy customer and it was possible to work quite closely with representatives on the initial business process design phase of the project and change management planning. Access was given to several HR and line managers.

The decision was made in 2004 to introduce a new HR system, replacing older technology which had been in place for some time and was not able to provide the quality of data needed not provide administration services effectively. One issue was absence management, which was unacceptably high and technology was seen as one route for monitoring and improving this. Then project initially developed slowly and was beset by several technology hardware that caused delays.

COUNCIL 2

This District Council employs 7,000 people and went live with their HRIS in December 2000. Self service was then introduced in late 2004 although was not fully implemented.

COUNCIL 3

This City Council situated in central England employs 7,000 people and implemented HRIS in June 2005. During the initial phase of the project, the interim HR manager left the organisation, leaving the project lacking in direction and in need of focus. A new HR Director in early 2005 provided this focus and the project quickly completed its first state. At the time of the interviews, minimal self-service has been introduced, in part because of the changes in the HR management structure but this has now been rectified and the first layers of self-service are now in place.

COUNCIL 4

This large London Borough employs about 3,200 people in around 2,800 jobs. In the late 1990's, a highly devolved HR function was in place, with each business group supporting its local management. The role of personnel was to "*order teas and coffees for interviews….and jump as high as managers asked, in whatever direction*". The arrival of a new HR Director, with the objective of creating an integrated function, created the drive for restructuring and cost reduction. Technology would be the critical enabler. The plan was to reduce HR costs by £250,000 over three years. Existing processes were

antiquated and expensive – for example, an application pack cost between £1.50 and £2 to produce and about 20,000 were being mailed out each year. Absence was low but not low enough. Management information was also very poor.

Outcomes

- The original business case of £250,000 cost reduction was achieved
- Employee information is more accurate. Reporting has been introduced via an alert sent to each manager.
- The number of recruitment administrators has been reduced from 3 people processing requests for application forms to 1.
- The personnel team works better because they have stopped doing paper processing and started to look at developing the system *"they realise that if they stop pushing bits of paper around, they can intervene in a more professional way so they become enablers rather than administrators".*

Managers have started to use information better and they ask Personnel to get more involved in professional issues. There is a belief that the line manager culture has changed and that managers increasingly see people management as part of their work.

COUNCIL 5

This City Council employs 8,100 people and implemented HRIS in September 2001.Self service was only introduced in early 2009, after the interviews. This long period between initial introduction and further development was mainly caused by an implementation that suffered from software problems, together with a series of changes at the contractual level that affected the focus. For example, at the time of the interview, the Council was going through a due diligence phase to outsource its entire IT operations and development of self-service had been put on hold while this was taking place.

COUNCIL 6

This is a North London borough created in 1965 by the amalgamation of three former boroughs. It shares borders with six other London boroughs. The borough is very ethnically diverse. It has extreme contrasts: areas in the West, are among the most prosperous in the country; in the east of the borough, some wards are classified as being among the most deprived 10% in the country. The Council's performance was placed by the Audit Commission in the bottom four of the country and the worst in London.

COUNCIL 7

This District Council employs 1,250 people and implemented HRIS in March 2004. Minimal self-service had been implemented during the initial stages of the project, although since 2008 there has been a renewed effort to develop the technology and this is now in place.

COUNCIL 8

This council is situated in central England. The organisation operates an Enterprise Resource Planning (ERP) system and chose to develop the HR module of this

technology. It shares technology with an adjoining Council (not in the sample) which reduces operational costs. The Council has been successful in introducing employee and manager self service and as a result has achieved many of the benefits it set out in the original business case.

COUNCIL 9

This County Council is close to London. It employs 3,000 people and operates from over 500 locations, serving a population of almost half a million people. The Council introduced an ERP system in the early part of the decade and in 2004 decided to develop the HR module to allow better integration across functions. At the same time, the existing payroll provider had decided to withdraw from the public sector, leaving the project to focus on developing its own payroll, which distracted the team creating a self-service environment. The current HR director, interviewed for the research, was inn the Council at the time of the decision but inherited the technical problems and the ongoing solution. The HR Director believes that the project was highly technology focused, to the detriment of the business outcomes.

COUNCIL 10

Council 10 was a new unitary authority that came from a merger between a District and Borough Council, the new authority employed 6,000 employees. Each organisation had different HR processes and the HR styles were very different in each – the Borough Council was sent to be more efficient and line managers had greater responsibility for HR processes. By comparison, the District Council was very 'hands on' and HR was very supportive, carrying out many people management responsibilities on behalf of line managers. The introduction of technology commenced in January 2009 and needed to be live by April 2009 to coincide with the formation of the new Unitary Authority. Payroll and core HR went live as planned and self service tools were introduced over the summer of 2009.

POLICE 1

This police Authority employs 3,500 people. The primary purpose of the Human Resources function is to support the organisation in the fulfillment of the Constabulary aim, which is to "reduce crime and disorder, and the fear of crime, by enforcing the law and working with others to secure a safe and just society, in which the rights and responsibilities of everyone are properly balanced. According to a strategy document provided by the participants, this involves a range of activities including setting a strategy for HR, implementing a structure for people management activities, delivering a high quality service. The HR function is relatively small, consisting of an HR Director, three senior HR Managers and administrative staff.

NHS1

This Scottish health authority was established in 2001 as the 'umbrella' organisation for the region, with strategic planning and leadership responsibilities. It serves a population of almost 800,000. The organisation is a major employer in the region with almost 28,000 staff, covering 30 sites and including 15,000 nursing and midwifery staff and around 2,700 medical staff. The e-HRM project started in late 2006 following an extensive market review. The region has restructured in recent years and various

products had been used, leading them to a single supplier. The business employs around 5,000 managers and a choice was made to focus on providing self service to this group rather than to employers; the business case was partly based on improving managerial productivity and using their time well.

Appendix D: Extracts from Personal Reflective Diary

20th November 2005

I've been working at [COUNCIL 1] for about two weeks now and met a variety of people. There is clearly some tension between central personnel and the local divisions which comes through clearly at the workshop sessions I've been running. In part this comes from the fact that the project has been centrally sponsored and not communicated as much as it might be to outlying areas. It's also hard to nail down exactly who does Personnel work – those in corporate are easy to identify, but work is also carried out locally in administration units that are not part of Personnel. The centre has a clear agenda – to make as much as possible electronic so that managers are given guidance every step of the way. It's almost like they're trying to create an expert system which will be all knowing and stop anything going wrong. However, there's a schizophrenia to this in that Personnel want to devolve everything yet keep control. There is a definite mistrust of managers.

24th November 2005

I ran a managers workshop today. The group was generally quite negative about Personnel. Although individuals were praised for their efforts, as a group they didn't do too well. Perceived weaknesses of Personnel were:

- Lack of communication and blame culture between Personnel and Payroll
- Personnel putting more administration onto Managers
- Sometimes unwilling to commit advice to paper
- Quality of temp service questioned and length of time to process
- Would like Personnel to assist more at interviews
- Sickness policy is far too complex
- Difficult to find Personnel info on Horizon (the intranet)

On a more positive note, the policy work and one to one advice were seen as key strengths, and generally they saw the new system as a great opportunity to improve staffing information, workforce planning and simplify processes.

5th December 2005

Met XX, Director of Social Services. The HR Director was meant to attend but wasn't able to. We were also joined by YY, Director of Education Youth and Leisure. The HRD had told XX that the meeting was cancelled but had not told me or YY so we chased down XX who eventually arrived. It wasn't the best scene for a discussion on HR.

Some general comments were that recruitment wasn't working via (the outsource provider). In general, Personnel had a great deal of duplication and there was some tension between Education's own personnel service team and the centre. Advice from the centre was of mixed quality. They try to be helpful but often fail. Administration is not

thought to be good. However, they do the simple things well. Hugh thought that in general, Personnel provide a 'risk averse' approach. They have a 'baffling structure' which is hard to understand how to get things done. The view was that local HR had to be employed to deal with the problems of central HR. Concern was expressed at the communications style of HR – reference to 'big stick' memos. Good ideas get bolted on rather than integrated, but not consistent. Personnel deals with too much detail and often misses the big picture. Ann noted that succession planning was often lacking. [COUNCIL 1] should be about delivering services not running the centre and the view was that the centre was to some extent self-serving. Better control was needed over staff establishment numbers. There was a lack of a vision for Personnel – while a workforce strategy exists, up to date information was needed to drive the strategy with a better mix of local and central knowledge. A small centre with localised delivery was the better approach.

Reflection December 9th 2005

I'm wondering now what it means to be strategic. Clearly [COUNCIL 1] isn't at all strategic and the HRD is operating very much as a high level administration director. So what would it take for them to become strategic? One of the things I need to think about is how I take the temperature of an organisation's strategic capability so I can track it over time. I presented at the FD futures event this week with Paul Kearns and I'm wondering whether I could use the Newbury Index as a tool for taking a snapshot of COUNCIL 1? I'm fairly sure that they would rate low but maybe this would change as the use of technology grows? I don't want to make it too complex but I do need a vehicle for making it clear what's happening in an organisation. I'm drawn to the Lawler/Mohrman model which says that use of technology is linked to strategy, maybe this is the direction I'm now going in.

December 12th 2005

Steering group meeting today for the [COUNCIL 1]. Felt uneasy as there had been some criticism of the workshops and some people were wound up by what seemed to be disappointment at what the system could do, this goes back to a growing view I have that the team is trying to build an expert system, one that will replace much of the personnel role by giving flags to managers to point them in the right direction. We may be designing an overly complex system here that is unworkable. As might be expected, they are turning some of that frustration back on me as the bringer of the difficult news. COUNCIL 1 asked me to write a report setting out the issues that need to be dealt with.

March 5th 2006

I'm beginning to feel very uncomfortable at [COUNCIL 1] – a lot of product based problems arising now. We've just found that that the system cannot handle part time holidays which are calculated in hours. I don't know what impact that will have on the plan but it will be large. Today we're going to run a workshop for management reporting to really move this along as fast as we can and make up some ground. The context for it is not at all positive though so I expect some fall out. From my change point of view, it's

hard to put a plan together when we don't even know the bigger picture and when certain functions will be available. We will probably have to scale back on what gets released.

August 21st 2006

Relationships on the face of it are good when face to face but still below the surface there is tension. We cannot seem to get the Insight project moving along and there is huge frustration from [COUNCIL 1] on this. We haven't solved the license problems and the cost of delivering looks really high. There are also delays with web pack 7, which now cannot be confirmed for full release until early September, But of a joke really. My plan would be to do further process/change work once we have a date, but everything is on hold.

November 16th 2006

Bit of a breakthrough in thinking. I wonder whether what I'm really looking at here is how organisations move from administrative expert to strategic partner through their use if technology? What is it about orgs that moves them through the maturity curve – is it a realisation that good data is important? Do HR professionals have to really get it? It s the same sort of tension that already exists. Absorptive capacity seems important here,

Appendix E: Structured Interview Questions

The following questions were developed to provide a basic structure for interviews but were not rigidly adhered to – they were simply a checklist to ensure that key topics were discussed.

QUESTIONS	INTENT / FOLLOW UP
CONTEXT	
Number of employees, business issues, role, service, links with project	General organisational background
General background to project	Explore specific challenges, assumptions, drivers to project
HR TECHNOLOGY	
What are/were the main objectives in implementing technology	Were the changes explained and how was understanding developed. What were the business drivers, expectations.
How strong was the perceived need to transform HR?	Was technology aimed at HR transformation or was it seen as targeted at administration?
What was the business case for the project	What were the defined business outcomes in the business case?
What outcomes did you expect at the outset of the project?	If the project is complete, how well did it achieve the outcomes?
What outcomes were actually achieved?	What happened after implementation (if the project is still in progress, how is it progressing?)
How well do you feel the organisation has implemented technology/how competent do you feel	Has change been well managed, and if not, what could have been done better
Do you have any performance indicators before and after introduction of technology?	How do you / the organisation measure the success of eHRM?
What other HR initiatives took place at the same time as technology implementation	Was technology introduced in isolation or were there other business changes taking place that provide important context?
What cultural barriers exist for the project and what resistance might you meet?	What might prevent the project from delivering its objectives?
CUSTOMER PERSPECTIVE	
How effective is the quality of HR administration?	How mature is the HR function in this organisation
What HR support do you get at a strategic level?	What are the relative strengths across each of the four Ulrich roles
What changes would you like to see in the HR function?	Transformational platform for change
HR VIEWS OF LINE MANAGERS	
How do you think you are perceived by line managers?	What is the relationship with line managers

QUESTIONS	INTENT / FOLLOW UP
CONTEXT	
How effective are line managers at managing people?	Transformational platform for change
How would you characterize this organisation	What is the dominant culture
What are the strengths and weaknesses of this company's culture	Are there cultural barriers to introducing technology
In what ways might technology can make a difference to people management?	Is there a connection between technology and good people management? Can you describe how this works?

Appendix F: Example Interview

Agency 1, HR Manager, 06

SF Could you paint me a picture about the big HR challenges you have here?

JG When I came in two and a half years ago when everything needed doing, we put in an HR database payroll, pay and grading lots of areas we looked at. From the point of view of this organisation and where we are now, from a line manager perspective its about them owning the management of their staff. I don't feel we've given then enough training to do that, although you might respect that people that have worked their way trough an organisation would have acquired it, it's a sort of catch 22. Were only going to resolve it fully when we have more training and guidelines. On the HR side, their level of expertise I consider to be quite low. They were very dependent before and were administrators, they are evolving into HR adviser but that has been for me, especially with just a dotted line to them, to gather information from the business and also convey it back out to them to improve what they do. I'd like to see an upscale of HR, having the tools and the database, they didn't know how it should be used what they should do with it. The whole system coming has completely changed their perceptions they are now beginning to see the value of it, to take away the tedious systems and they'll see it pay back for all the work they've put in., I see the self service as a starting point

SF What's the current size of the team?

JG operationally about 30 across 8-10 sites we have a couple of very small sites, one part of our business is closing down, so we'll end up with 5 major sites, out of those 30 people we'll lose 10, with 20 operational people, its still too many its very labour intensive

SF It sounds like the model you have is quite administrative, operational

JH Strategic work is done by the corporate team which we call workforce development, employee relations, reward and health and safety, my area is the link from those areas for policy processes back out to the teams

SF If you asked line managers whether they saw you as strategic, would that be their perception? [5m24s]

JG Me or the teams?

SF Do they lump you all together?

JG They see us as two teams, the people at the sites and us in the centre. There's a local team here so I do get people thinking I'm the day to day HR person, I debate sometimes whether I'm strategic enough, because what's been put in place, I think there is

quite a distinction. The database has been huge work, it's been done inline with the new intranet, and it's unfortunate we're going to become another organisation. The identity and ownership will be great, but were going to be pushing self service back to people to own information, line management responsibility as well, which is bigger than most people think it will be, and they;; feel everything is much less secret. In the public sector there's a lack of trust there's a sense of "what are they doing to us, that will spoil life for us"

SF I was going to ask how you characterise the culture

JG It sounds extreme but I've heard people discussing "what they're up to"

SF Where do you think that comes from?

JG The lack of trust….I don't think it's come about with this organisation I think it's always been there. Probably because government is hierarchical, secretive, a lack of communication why things have been done, its there in very company it's a matter of degree. You can be in a relationship an realise you haven't communicated for a long time, employees are very suspicious, I hope we've communicated but I don't think we've communicated enough. We've communicated to HR team well, but we have to make sure now this is reality that it's really good

SF You said about culture and the way people see themselves. How aware do you think that that kind of culture might be a problem? [9m35s]

JG I think managers are part of the problem and may perpetuate it. Not so much senior managers, but junior managers don't always question fully enough. I don't thing that many people feel there's a culture issue, but new people coming in may find that. A lot of people may not see there is a culture problem. We have to remember that people who work in the public sector tend to stay in the sector; if they leave they seek out jobs in the public sector. I think there's a jobs for life view. I was on a train and I overheard someone say they are a civil servant and I thought I didn't know that was an occupation, not like being in finance or training, it was 'I work in the civil service, therefore I can move around', it was obvious they had been transferred and felt they could move around when they want, expecting a big employer to accommodate their needs

SF Do you think there's a parallel between the culture of [AGENCY 1] and your customers?

JG I can only comment on my observations which is [trainees] coming in here, the police is even more hierarchical to me its like the army but so much, all the benefits and disadvantages of being an institution, I think the culture in the police, I think lots of really wonderful things happen in the police, the culture is about mobility and what can the mass do to accommodate my needs. The I think its seen that you do accommodate that, there are far fewer front line police that I thought, a lot belong but aren't front line. A lot of support, I can t really comment on the culture but I do perceive it as being very inclusive you either belong or you don't belong.. We had a CEO before who was not a police

officer and people said they wouldn't follow his instructions, how can you think like that. It does impact a lot, where we have people working for us with a few decnded officers and were dependent on that expertise to function.

SF Do you think people feel more job security in the Public Sector, even if people are potentially paid less? [15m25s]

JG I think it's a myth that people are low paid, maybe at low levels, they rely on a lot of administrators. The other thing is that you delegate right down, people in middle level jobs will pass work on, so administrators will be given jobs. The other thing is they hire in more people. Job security is definitely there, there is a view of a job for life, if it was 30 years ago I could understand it, but I can't understand a young police officer wanting a job for life now, even 10 years ago it would still be of that culture. So the expectation is there, there's huge job mobility, jobs are advertised internally and people don't want to go externally, so mobility ids there security id there, now moving on the pension is fantastic, the best you'll ever get and government wont be able to change it, no government is prepared to fight that. I don't believe they are lowly paid, no medical insurance, not as many cars, but people do get cars, so what does the private sector reward with? Were going to be adopting childcare vouchers, the way the work is going is towards flexible work. I don't know if it's good for business as there's less line management, how do you manage if people don't work on the same days, I think output will decline and as a result service industries will become more expensive and well lose our service base like we lost out manufacturing base.

SF Back to the strategy piece – what does HR strategy mean to you, do you think that in the public sector it's possible to have the same type of strategy?

JG I worry about HR being strategic. It needs to be practical and it is reactive, HR needs to do for the business what the business wants, unless you know what the business wants you cant have a strategy, and the legislation defines what we do, I would questions the strategic piece. For me it's much more about the day to day.

SF If you think about skills and raising profile for recruitment etc do you see that it's the same as private sector?

JG It's not just strategic. Many businesses have tried succession planning, I'm not even sure it works people will get on by planning their own careers, I've seen people invest money in graduate, very difficult to retain them, despite fast tracking, more input, access to chief execs and the board as still they walk away they are in such a hurry. Here succession and manpower planning is very limited. We're very focused, we work in silos we don't have an HR director nobody sitting there when they do the planning, so no were not very strategic. In the public sector strategy happens because it's what people want to do themselves. If it happens it's an accident. We've been doing facing stuff since I got here, very little strategy, we've brought in people from outside the public sector and a few have moved on because they don't see the future. We just know the Home Office has a bad reputation. (The Home Secretary had just resigned that morning). [25m50s]

SF When you were planning the technology investment, where did you see the business benefits?

JG The technology – we had some reporting databases which were used differently making it invalid. That was our main driver, it was a system better than what we had. We needed a database, link to payroll, self service was part of the initial brief. Self service was beyond our understanding then. The team is so out of touch with what's possible, we had no people data, nothing accurate no way of tracking so it was crucial, it was management information that pushed us to get something in place quickly, we have reporting now, a pretty up to date system it has been a struggle with the knowledge of the HR people and the value they place on the systems. They don't fully see that there is a system there, they see it as additional to their job rather than intrinsic to it. Some of it is to do with the way we rolled it out, but the message is that wherever you work they will have this type of technology, they really didn't know that this was the way that technology works everywhere else. With regard to self service, there are some very labour intensive systems around - leave sickness etc, if we were going forward as an organisation there are other things I would do, but the HR teams now are really waking up to what they will have to do. We'll use it as the phone book, also putting the responsibility back out to the business which has been a trend for 20 years in the private sector, its all around owning their teams and their own responsibility, it will have a huge impact there. The reasons for us going down this route is to take some laborious things away to allow HR staff to focus on issues guidance and advice so there will be fewer issues over time. I think some people realise there will be fewer HR people, I don't see it as a problem. [33m52s]

SF One often quoted benefit is that it will enable you to be more strategic and so on, do you see that you will find a way to reduce costs or as more value adding

JG I think there are people in these teams with the capability and there may be some training issues..they should be aware of how they should work, I see this as a much better use of their time. If some people aren't going to get there they'll be somewhere else. I feel what they do now with paper is a complete waste of their skills, or just focus more on the elements of their jobs that matter. Because were restructuring we'll see how many we end up with.

SF I've never heard you talk about this as a way of reinventing or transforming HR – do you see it as a way to redefine what HR is?

JG To a degree. It will make us more visible, its also about ownership within the business of the HR part of everybody's job, mainly around line managers, I think it will have a huge value repositioning in that way. It wasn't the aim of it but its going to be. Were overstaffed because it's so labour intensive.

SF How many people do you look after?

JG 1250 employees for 38 HR staff + corporate HR staff. It will redefined, people will also see that the employer has basic data on people and that will give a positive influence, for line managers to see their team and feel more in control

SF Do you think technology might help to may break down the culture? [39m00s]

JG Also the diversity records, we might define better what we do by diversity, whether training promotions hiring etc that will give people visibility for their own diversity. It will allow us to have it straight from people it will be a key element to have it here and identify what we have to do for improvement.

SF You talked earlier about delegation – that could be a barrier to this if managers delegate work down. Do you think they may see it like that? The risk is they will see it as a computer system and not part of their role.

JG I think that managers will be quite interested in it and want it. They don't have to do much apart from approving leave, we're not creating work for them, were asking them to do what they do now, I actually think were very computer based here, emails and so on, it will be q quicker way of doing it.

SF I've heard from other organisations that sometimes managers see what they do as managing a service and managing people is a burden. When you put people responsibilities on them they resent it.

JG I don't think were as focused on the service here, they are very focused on managing people. I don't think they do it well. Our staff survey thought heir line manger was great mainly because they say yes to everything. The system will mean they do have to approve leave, it will be more visible to us centrally, so say compassionate leave, then we can look at sickness and patterns not just long term but other patterns. They'll feel they have more control and less time consuming, we will have the visibility as a business to see if were straying within limits of the process. Sounds very controlling but if you don't monitor it you're not in control of your business. This will enable us to do that.

SF Why should managers be interested in this system?

JG I would perceive as a manager that I can what's happening, overview of what's going on and see all my staff, eventually able to view appraisals on line. They can get an overall picture of their team in one place. Although the view and control they have are important, they can do it more easily. Annual leave isn't rocket science.

SF Will that be seen as a big step forward?

JH For some yes I don't know because I haven't looked into it. For employee I can see the advantages but for managers I don't know

SF In your wildest dreams what might the world look like in terms of what the system can do?

JH Id like it to be something people access regularly, their time how they manage it. Id like to think it has a side effect which is to use the intranet as there something there of an HR nature, by having to go through that route it will open up as their front page. Also I think it will guide people to booking training I think it's a cultural shift, Id like it to move to a much more automated basis, phase1 and 2 are good but for nay organisation Id like to have as much as possible online to access, it reduced the face to face contact. I wouldn't want it to reduce managers time with people, you have to send out a message that HR is available, I see what were doing as a small step, overdue I think it will be positive to the business and for HR, but its not all the whistles and knobs we could do but Id didn't see there was a value, now we have to wait and see what happens next

SF Will it help with the next organisation?

JG It will help data cleansing, whatever we use, it will encompass all that so it's not something that won't include self service, self service will help. I was asked recently for a list of people I find it incredible that we have to produce I from HR, it ought o be there and out there and people should have confidence that it's right.

Appendix G: Project Objectives/Approval Letter

From: Steve Foster, University of Hertfordshire Business School

The research we're discussing today is being undertaken as part of a Professional Doctorate (DBA) at the University of Hertfordshire Business School. The research is looking at how organisations use e-HRM technology and in particular to what extent it enables or is linked to a more strategic approach to people management. I am studying 5-6 public sector organisations at different stages in their development of HR technology.

The research is subject to the ethical standards set out by the University of Hertfordshire, full details of which are available if required. Organisations participating will remain anonymous, as will any individuals interviewed. Interviews will be recorded and transcribed but this is simply to ensure that there is an accurate record of the interview and to make the discussion go smoothly. If you wish, a transcript of the interview can be provided for review. Recordings will not be made available to any other party.

Thank you for your help with this research

Steve Foster

I confirm my understanding and agreement with the above

Signed…… NAME ……

Appendix H: Example Self-Service Screenshots

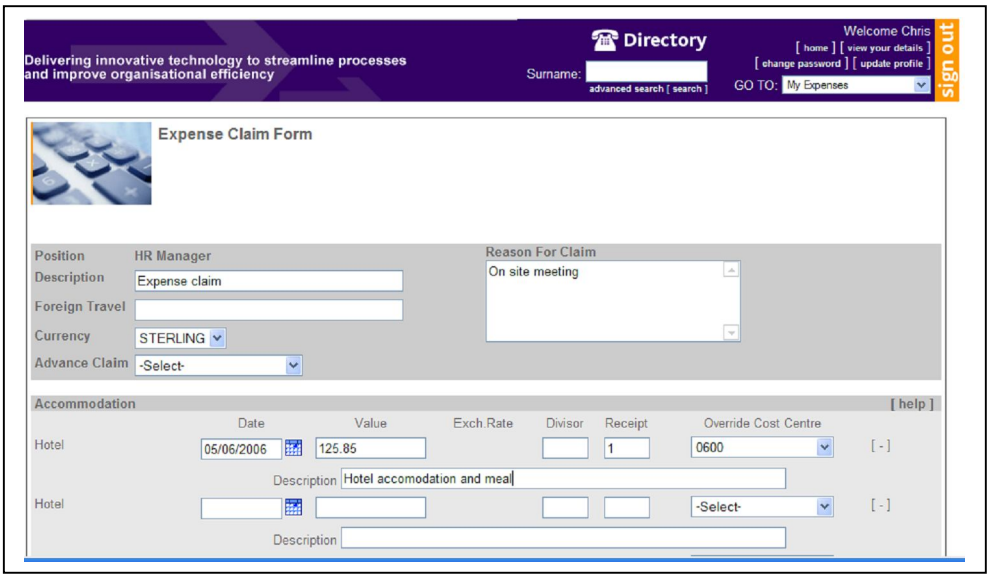


Figure 12: Example Self Service Screen (ResourceLink)

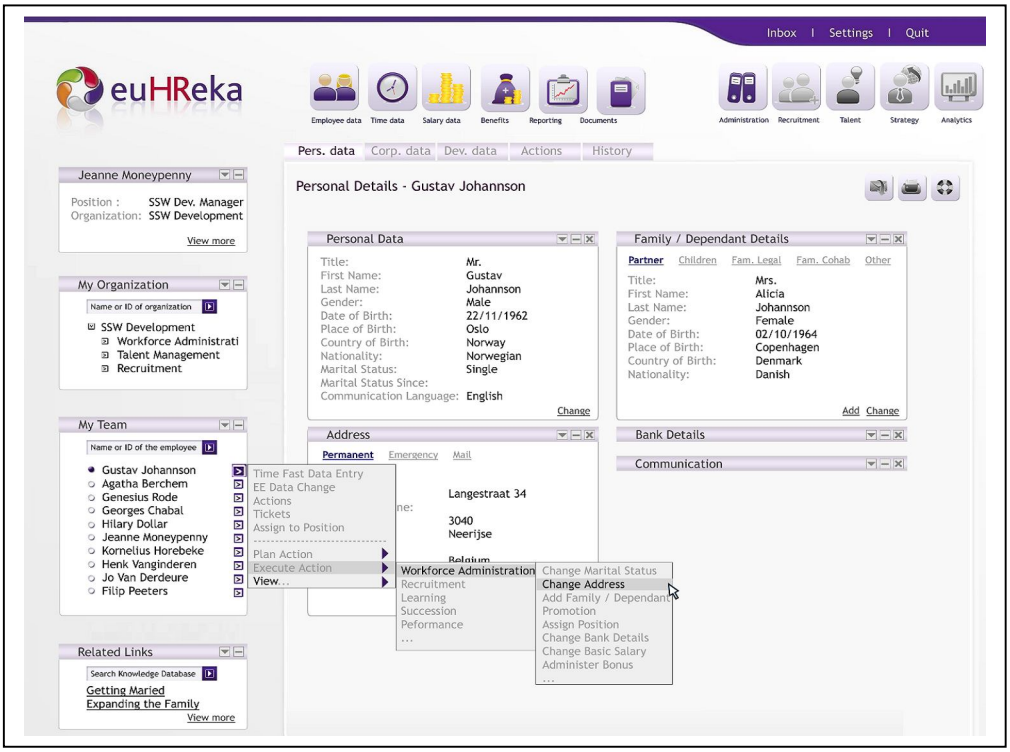


Figure 13: SAP EuHReka Self Service screen

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Appendix I: e-HRM Literature Analysis

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
ADOPTION				
1994	Kossek, E. E., Young, W., Gash, D. C. & Nichol, V.	Waiting for innovation in the Human Resources Department: Godot implements a Human Resource Information System	Human Resource Management	Develops Venkatesh Unified Theory of Acceptance model for self service, confirms that it can be applied. Performance acceptance, effort expectancy and social influence have a positive impact on behavioural intentions
1994	Martinsons, M. G.	Benchmarking human resource information systems in Canada and Hong Kong	Information & Management	Benchmarking study comparing use of HRIS functions. Canada more advanced, HR gets more involved. Significant lag in Hong Kong.
2004	Fisher, S. L. & Howell, A. W.	Beyond user acceptance: An examination of employee reactions to information technology system	Human Resource Management	Examines factors affecting satisfaction with HR intranet. Proposes new instrument for measuring b2e systems. Study based on intranet employee discount scheme. See convenience, delivery, interface, accuracy, price and security as being top factors.
2004	Huang, J.-H., Yang, C., Jin, B.-H. & Chiu, H.	Measuring satisfaction with business-to-employee systems	Computers in Human Behaviour	Factors affecting adoption and acceptance of HRIS, case study examine HRIS cultures including altered power dynamics and communications, value of HRIS takes time for HR professionals to appreciate

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2005	Ruta, C. D.	The application of change management theory to HR portal implementation in subsidiaries of multinational corporations	Human Resource Management	General review of key HRIS issues and challenges. Description of key components, overview of administrative capability, strategic application of HRIS. Focus on public sector
2006	Florkowski, G.W. and Olivas-Lujan, M.R.	The diffusion of human resource information technology innovations in non-US firms	Personnel Review	Review and definitions of technology types, attempted to determine patterns for spread (diffusion) of HRIT in US and outside the US. Found that interpersonal communications among adopters was the biggest influence.
2008	Marler, J. E., Fisher, S. L. & Ke, W.	Employee Self-Service and Uniform Technology Use and Acceptance The ory: A Comp ari son of Tradi tional and Contingent Employees	Conference Proceedings of the Second European Academic Workshop on e-HRM	Looks at factors affecting adoption, barriers, impact on HR profession. Examines six key functions of e-HR, impact on HR role. Survey organisations to look at reasons for adoption, found positive impact on HR role. Includes case studies.
2007	Panayotopoulou, L., Vakola, M. & Galanaki, E.	E-HR adoption and the role of HRM: evidence from Greece	Personnel Review	Examines components of HRIS, collection, storage, processing and interaction. Research into satisfaction levels across six variables.
2007	Sanchez, J. & Aguayo, M.	An approach to the satisfaction of Human Resource Information Systems	Human Resources Development and Management	Explore technology approaches to virtual HR function. Impact on HR work, study looks at level of use of a range of e-HRM applications, adoption of eHRM, impact of technology on HRM

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2007	Voermans, M., Van Veldhovern, M.	Attitude towards e-HRM: An empirical study at Philips	Personnel Review	Attitudes towards adoption, using TAM as basis. Maps against Ulrich HR roles, Found variables that might link to support for eHRM. Those with a strategic preference more likely to have a positive attitude to e-HRM; if employee champion role preferred, more negative. Did not find positive correlation against admin role. Multiple factors influence - including overall image of IT
2009	Marler, J.H., Fisher, S.L., Ke, W.	Employee Self-Service technology acceptance: A comparison of pre-implementation and post-implementation relationships	Personnel Psychology	Examines factors influencing self service adoption. Finds that employees more likely to use when they have positive attitudes, and when norms support usage. Perceived organisational support enhanced the effect on manager perceptions.
2009	Parry, E. & Wilson, H.	Factors influencing the adoption of online recruitment	Personnel Review	Examines factors that influence adoption of online recruitment, based on belief systems and negative factors
COMPETITIVE ADVANTAGE				
1992	Broderick, R. & Boudreau, J. W.	Human resource management, information technology and the competitive edge	The Executive	Overview of e-HRM usage - focus on e-HRM recruitment tools, reduction in cost and time, improvement in service, also performance management, training and development, career management, use of information to support organisational decisions. Part focused on administration, part on information. Reduced cost, free up HR to do strategic work,

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
				Based on 12 interviews
2001	West, J.P. And Berman, E.M.	From traditional to virtual HR: Is the transition occurring in local government?	Review of Public Personnel Administration	Present a model for testing whether HRIS provides decision support and leads to competitive advantage. Explore 5 reasons for HRIS. Information is an enabler. Is local government embracing HR technology? Studied extent of use of a range of HR technologies
2002	Beckers, A. M. & Bsat, M. Z.	A DSS Classification model for research in human resource information systems	Information Systems Management	Potential of HRIS for competitive advantage, but need framework for this. Explore how technology supports different types of competitive strategy – cost leadership, quality customer satisfaction, innovation. Important to match technology to HR competitive objectives. Contingency model – role of technology depends on competitive strategy
2006	Lengnick-Hall, C. A. & Lengnick-Hall, M. L.	HR, ERP and knowledge for competitive advantage	Human Resource Management	Proposes that organisations that are best suited for ERP implementation, have greater difficulty making use of the knowledge ERP systems generate because of their inherent rigidity, inertia, and resistance to change. Recommends an emphasis on knowledge management, human capital stewardship, and relationship building

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
FUNCTIONALITY				
1990	Perry, S.	An HRIS for the '90s	Personnel Journal	Identifies seven requirements for an HR system in the 1990s, including connectivity, environment, end user tools. Basically technical in nature
1994	Byun, D.H. & Suh, E.H.	Human Resource management expert systems technology	Expert Systems	Explores use of expert systems in supporting HR activity across planning, job analysis, performance etc.
1994	Martinsons, M. G.	Benchmarking human resource information systems in Canada and Hong Kong	Information Management	Literature review of HRIS. Includes Hong Kong based. Study on use and applications of HRIS. Mostly for automation, but opportunity for decision support. Lack of commitment from senior managers was biggest barrier.
1995	Yeung, A. & Brockbank, W.	Reengineering HR through Information Technology	Human Resource Planning	Review of what HRIS and non-HRIS applications are most used in US public sector, examined rate of satisfaction, use of internet.
1996	Groe, G. M., Pyle, W. & Jamrog, J. J.	Information technology and HR	Human Resource Planning	Summary of functions of e-HR. Case study of public sector organisation
1996	Hannon, J., Jelf, G. & Brandes, D.	Human resource information systems: operational issues and strategic considerations in a global environment	International Journal of Human Resource Management	Examines HRIS functions, by type of user (HR, managers, employees) and by type of HRIS needed according to firm size. Explores future directions and role of knowledge management as an HR function.

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
1997	Lin, C. Y-Y.	Human Resource Information Systems: Implementation in Taiwan	Research & Practice in Human Resource Management	Review of development and functions of HRIS and relevance to Australian construction sector. Detailed lost of data needed to meet 7 specific functions: project management, strategic planning, employee profile, employee performance, HR development, payroll and accounting and external information systems
1997	Wilcox, J.	The evolution of human resources technology	Management Accounting Human Resources	Review of ways that web technology can be used.
1999	Elliott, R. H. & Tevavichulada, S.	Computer literacy and human resource management: A public/private sector r comparison n	Public Personnel Management	Examined functionality of HRIS, usage, development, hardware, software, training and implementation issues Focus on global use of HRIS, cultural and cross national considerations,
2001	Ball, K.	The use of human resource information systems: a survey	Personnel Review	Overview of HRIS functionality, future potential. Suggests future scenarios for business organisation.
2001	Ng, S. T., Skitmore, R. M. & Sharma, T.	Towards a human resource information system for Australian construction companies	Engineering, Construction and Architectural Management	Examines seven requirements, including technical platform, end user tools, programming language

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2001	Teo, T. S. H., Soon, L. G. & Fedric, S. A.	Adoption and impact of human resource information systems	Research in Practice in Human Resource Management	How and to what extent do HRMS support organisations in improvement and development of people? Assessment of functionality of Oracle HRMS against people capability requirements
2002	Ashbaugh, S. & Miranda, R.	Technology for human resources management: seven questions and answers	Public Personnel Management	Set out a model for linking technology use to competitive strategy. Includes transaction systems, expert systems and decision support systems
2002	Bussler L. And Davis E.	Information systems: the quiet revolution in human resource management	Journal of Computer Information Systems	Functions of e-HR, workflow, e-recruitment, self-service, + areas of concern and future
2003	Hendrickson, A. R.	Human Resource Information Systems: Backbone Technology of Contemporary Human Resources	Journal of Labour Research	Examines various HRIS modules, level and function, examines profile of organisations using HRIS. Frequency of use and users profile.
2003	Lengnick-Hall, C. A. & Moritz, S.	The impact of e-HR on the human resource management function	Journal of Labour Research	Study examined which functions/processes HRIS used for across admin, recruitment and training . Found skew towards administrative use, Also looked at information management features. HRIS is related to company size.

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2003	Sadri, J. & Chatterdee, C. V.	Building organisational character through HRIS	International Journal of HRD Development and Management	Review of how technology influences key HR processes such as recruitment, selection, performance management, compensation Emphasis on information flows, social interaction and consequences
2004	Hawking, P., Stein, A. & Foster, S.	e-HR and employee self service: A case study of a Victorian sector organisation	Issues in Informing Science and Information Technology	Two approaches - Unsophisticated, electronic filing cabinet, simple minded automation, sophisticated use for decision support.
HR EFFECTIVENESS				
2006	Ngai, E. W. & Wat, F. K.	Human Resource Information Systems: a review and empirical analysis	Personnel Review	Impact on HR function and line managers with HR intranet, examined managerial satisfaction. Satisfaction with the intranet influences managers view of the HR function.
2007	Alleyne, C., Kakabadse, A. & Kakabadse, N.	Using the HR Intranet: An exploratory analysis of its impact on managerial satisfaction with the HR function	Personnel Review	Overview of literature; research programme looked at usefulness, quality and ease of use to test e-HRM effectiveness. Content influences perception of strategic design. Job relevance and ease of use are pre-requisites for this,

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2007	Ruel, H., Bondarouk, T. V. & Van Der Velde, M.	The contribution of e-HRM to HRM effectiveness: Results from a quantitative study in a Dutch ministry	Employee Relations	HR needs to move with speed and agility, create firm brand and equity, ensure customer interface, ensure superior talent, form alliances, ensure accountability.
2008	Haines, V.Y., and Lafleur, G.	Information technology usage and human resource roles and effectiveness	Human Resource Management	Explores link between e-HRM and HR roles and effectiveness. Found association between IT and HR effectiveness. Identified top 5 applications that influence effectiveness. IT usage strongly related to perceived strategic effectiveness.
2009	Bondarouk, T., Ruel, HJM, Heijden, B. van den	e-HRM effectiveness in a public sector organization: a multi-stakeholder perspective	The International Journal of Human Resource Management	Assessed link of e-HRM implementation of HRM effectiveness in a Dutch Ministry.
HR IMPACT				
1991	Broderick, R. & Boudreau, J. W.	The evolution of computer use in human resources management: interviews with ten leaders	Human Resource Management	Present 5 hypotheses about impact of HR technology on HR operations. Found that more extensive use of IT enables increased information responsiveness by HR professionals and to have more information autonomy. It impacts professional HR role by becoming more knowledge based, and changes expectations. Leads to profound changes in professional work, by reducing routine work, underpinning transformational

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
				impact.
1991	Sobkowiak, R.T.	Reengineering HRIS to meet future challenges	The Human Resources Professional	Focus of HRIS needs to change to enable new work, not just automate existing work. Identifies opportunities for HRIS to contribute to management information
1995	Niehaus, R.J.	Evolution of the strategy and structure of a human resource planning DSS application	Decision Support Systems	State three goals for e-HRM - cost reduction, service improvement, strategic contribution. Five case studies, looking at e-HRM goals, outcomes. E-HRM pushing HR into Line managers.
1996	Sobkowiak, R.T. & Lebleu, R.E.	Repositioning HR information systems - empowering employees through information	Information Systems Management	Examination of the impact on information on employees. Argues that HRIS must go through a metamorphosis
1997	Liff, S.	Constructing HR information systems	Human Resource Management Journal	Description of how HRIS used to model workforce under a Decision Support System. Describe how HR data was used to develop models for assessing workflow reductions in a US public naval dockyard, to develop strategies for manpower planning and a reduction in headcount of 8,000. This enabled planning for workforce strengths, projecting management actions, implementing an outplacement programme and maintaining skill levels.

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
1999	Kovach, K. & Cathcart, C.E.	Human Resource Information Systems: Providing business with rapid data access, information exchange and strategic advantage	Public Personnel Management	Efficiency and effectiveness of HR function, opportunity for HR to refocus its activities. E-HR involves publishing, information, automation and transformation. Provide case studies of 3 organisations that have implemented e-HR including impact on organisation structure, service delivery, information flow
2000	Karakanian, M.	Are human resources departments ready for e-HR	Information Systems Management	Roots are in administrative benefits through self-service, but key benefit is the information value of HRIS. Strategy can be built on decision making, information enables the transformation. Explores transition issues
2001	Tansley, C., Newell, S. & Williams, H.	Effecting HRM-style practices through an integrated human resource information system: An e-greenfield site?	Personnel Review	HR policies and processes linked to selection of e-HR. Need to understand linkages between HR processes and strategy.
2002	Kovach, K., Hughes, A., Fagan, P. & Maggitti, P.	Administrative and strategic advantages of HRIS	Employment Relations Today	Present framework for systematic analysis of HRIS. Focus on decision making, knowledge management, org learning, strategic integration, link to learning organisation. Mostly focus on Management information and knowledge outcomes, set out 7 primary components of HRIS
2002	Ensher, E. A., Nielson, T. R. & Grant-Vallone, E.	Tales from the hiring line: Effects of the internet and technology on HR processes	Organizational Dynamics	General review of key HRIS issues and challenges. Description of key components, overview of administrative capability, strategic application of HRIS. Focus on public sector

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2003	Shrivastava, S. & Shaw, J. B.	Liberating HR through technology	Human Resource Management	e-HR represents break with past to enable new ways of HRM working. E-HRM represents a philosophical break with the past. Case study of SAP implementation. Compares automate v informated strategies. IT can enable change; but requires good design - those involved had a restricted view of the potential of HR system.
2003	Gardner, S. D., Lepak, D. P. & Bartol, K. M.	Virtual HR: The impact of information technology on the human resource p ssion	Journal of Vocational Behaviour	How is HRIS used to support strategic tasks? HRIS facilitates transition to strategic partner. Examined whether HRIS has increased strategic standing of HR function. Strong evidence that HRIS is being used for strategic tasks - e.g. strategic support for industrial relations. Found little difference in usage between SME and larger organisations. HRIS seen as an enabling technology. Strong evidence that HRIS usage enhances professional standing. Non HR senior managers do not perceive HRIS as improving professional standing of HR
2003	Mayfield, M., Mayfield, J. & Lunce, S.	Human resources information systems: a review and model development	Advances in Competitiveness Research	Reduced transactional costs, new value chains and transforming HR business model. Focus on e-HR outcomes – identify transactional and transformational outcomes (including manager accountability, talent management, improved communications, improved corporate identity
2004	Hempel, P. S.	Preparing the HR profession for technology and information work	Human Resource Management	Technology is cause and driver of business strategy. E-HR is a strategy that distributes HR to the organisation, HR becomes a broker not a deliverer. Describes cost effectiveness, MI data capture, integration of functions and

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
				globalisation. Looks at trends eg managerial self-sufficiency
2004	Turetken, O. And Demors, O.	People capability maturity model and human resource management systems: Do they benefit each other?	Human Systems Management	Use of technology to support business process re-engineering, support cost reduction, culture change, line manager support. Case studies on Apple and H-P
2004	Tyson, S. & Selbie, D.	People processing systems and human resource strategy	International Journal of HRD Development and Management	HRIS can create a new view of the organisation, e.g. defining skills. Explores nature of managerial assumptions. IS should tickle curiosity! Explores sense making New view of organisation
2004	Stanton, J. M. & Coovert, M. D.	Turbulent waters: The intersection of information technology and human resources	Human Resource Management	Literature review of e-HRM
2005	Dery, K., Wailes, N.	Necessary but not sufficient: ERPs and strategic HRM	Strategic change	Assesses whether ERP systems allow organisations to access more strategic potential. suggests that the active engagement of HR in the introduction and ongoing functioning of an ERP is important in organizations realizing some of the wider benefits associated with these systems.
2006	Stone, D. L., Stone-Romero, E. & Lukazweski, K.	Factors affecting the acceptance and effectiveness of electronic human resource systems	Human Resource Management Review	Main impact is tracking employee information, more accurate people information, reduction of duplication, streamlining and automation of processes and improved HR effectiveness. Very little saw impact as wider than HR function and not related to bigger business

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2007	Hussain, Z., Wallace, J. & Cornelius, N. E.	The use and impact of human resource information systems on human resource management professionals	Information & Management	Two key outcomes – Administrative to reduce cost and time; analytical decision support. Primary focus is on the information needed to support better, faster HR decisions. Fundamental impact is on removing layers of administration
1996	Kinnie, N. & Arthurs, AJ	Personnel Specialists advanced use of information technology: Evidence and explanations	Personnel Review	How technology is used and to what extent
2009	Strohmeier, S.	Concepts of e-HRM consequences: a categorisation, review and suggestion	The International Journal of Human Resource Management	Need to conceptualise e-HRM consequences. Explores technological determinism model - re consequences causal effects of Information systems? In moderate determinism, contextual factors play a role, as will adoption. In moderate form, human actions are the key to bringing about consequences.
2009	Marler, J.H.	Making Human Resource strategic by going to the net: reality or myth?	The International Journal of Human Resource Management	Does e-HRM make HR more strategic? What are the different roles of HR in competitive advantage and how does this relate to positioning of e-HRM. Proposes that where primary role of HR is administration, e-HRM is focused on cost savings
2009	Ruta, C. D.	HR portal alignment for the creation and development of intellectual capital	The International Journal of Human Resource Management	Contingency view of HR strategy and business strategy. Role of portals in supporting strategic interventions on human, social and organisational capital. Conclude that HR portal alignment is important.
IMPLEMENTATION				

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
1991	Dunivan, L.	Implementing a user driven human resource system	Journal of Systems Management	HR needs to get more involved in development of HRIS. Project team make up is the key factor in determining success. Examines project team structure, need for project champion.
1993	Pasqualetto, J.	New competencies define the HRIS managers future role	Personnel Journal	Organisational learning lens for studying HRIS. Link learning to variables in HRIS implementation. Recommends needs analysis, user focused design.
1997	Haines, V. Y. & Petit, A.	Conditions for successful Human Resource Management Systems	Human Resource Management	Literature review + framework for systematising e-HRM related topics. Claim that research to date lacks theory. Suggests research agenda.
2000	Tansley, C. & Watson, T. J.	Strategic exchange in the development of human resource information systems	New technology	Asks how individuals involved in HRIS projects affected by organisational context. Do particular people shape and define projects, influence outcomes, role of visionary leaders
2000	Ulrich, D.	From e-business to e-HR	Human Resources Planning	Explores what makes individuals trust in HRIS, offers 11 propositions that influence implementation success

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2002	Hagood, W.O. & Friedman, L.	Using the balanced scorecard to measure the performance of your HR Information System	Public Personnel Management	Organisations are under achieving in use of e-HRM, set out 5 step plan to improve usage include communications, push tasks to web, provide usable and good quality management information. Explores use of a balanced scorecard approach to measure contribution and effectiveness of HRIS
2002	Keebler, T. J. & Rhodes, D. W.	E-HR becoming the 'path of least resistance'	Employment Relations Today	Examines gap between perceptions of e-HR and reality. Makes recommendations to avoid lack of quality data and avoiding transactions blurring quality
2004	Newell, S., Tansley, C. & Huang, J.-H.	Social capital and knowledge integration in an ERP project team: The importance of bridging and bonding	British Journal of Management	Argue for the need to create 'strong' social capital bonds within the project team so that it becomes a cohesive social unit to integrate knowledge acquired through members' bridging activity.
2005	Bhatnagar, J. & Sharma, A.	The Indian perspective of strategic HR roles and organisational learning capabi lity	International Journal of Human Resources Development and Management	Conditions for successful implementation. Variables are user age, gender, education, task, work experience, computer experience, computer understanding influence HRIS success. Organisation conditions such as size, support, system conditions, training documentation, ease of use and usefulness affects satisfaction

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2005	Lippert, S.K. & Swierz, P.	Human resource information systems (HRIS) and technology trust	Journal of Information Science	Why e-HR projects fail- looks at collaborations between users while implementing. Learning processes are important - their research study breaks learning down into different types during each project phase. Experiential learning is core.
2007	Bondarouk, T. & Van Riemsdijk, M.	Successes and failures of SAP implementation: a learning perspective	International Journal of Technology and Human Interactions	Development of a measurement scale to support improvements in HRIS
2007	Tansley, C. & Newell, S.	A Knowledge-based View of Agenda-formation in the Development of Human Resource Information Sy stems	Management Learning	Investigated political nature of projects and relationships between HR and IS teams.
2007	Tansley, C. & Newell, S.	Project social capital, leadership and trust: A study of human resource information systems development	Journal of Managerial Psychology	Role of project leader in shaping outcomes of project, creation of social capital, building trust.

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
2008	Williams, H., Tansley, C., Foster, C.	Skills and knowledge of HR IS Project Teams	Proceedings of the European Academic Workshop on Electronic Human Resource Management, 29-30th May 2008	Identification of HR IS skills and knowledge in the key roles on the global project and suggestions for development of project team members
2004b	Ruel, H. J. M., Bondarouk, T. & Looise, J. K.	E-HRM: Innovation or irritation: An explorative empirical study in five large companies on web-based e-HRM	Management Revue	HRIS is an innovation process. Review drivers for implementation, mainly based on Snell et al model. Describe phases of installation - Adoption, implementation, institutionalisation, plus consider change management issues. Technology liberates only when it informates.
LITERATURE REVIEW / RESEARCH AGENDA				
2007	Strohmeier, S.	Research in e-HRM:Review and Implications	Human Resource Management Review	Literature review of e-HRM
2009	Bondarouk, T., Ruel, HJM	Electronic Human Resource Management: challenges in the digital era	The International Journal of Human Resource Management	Explore definitions of e-HRM, conclude that no standard definition yet available, argue that content, implementation, target population and consequences are important. Set our criteria for HR research

YEAR	AUTHOR	TITLE	JOURNAL	CONTENT
OTHER				
1999	Eddy, E.R., Stone, D.L., Stone-Romero, E.F.	The effects of information management policies to human resource management systems: An integration of privacy and procedural justice perspectives	Personnel Psychology	Investigated fairness perceptions and invasion of privacy perceptions. Suggested that invasion of privacy perceptions and fairness perceptions are distinct constructs.
1991	Cholak, P.M., Simon, S.H.	HRIS asks "who's the boss"	Personnel Journal	Examines whether HRIS should report in to HR or IS function. Finds it is more effective when reports into HR

Appendix J: Testing the Model – Research Overview Presentation

Appendix J: Testing the Model – Research Overview Presentation

Making sense of e-HRM: Technological Frames, Value Creation and Competitive Advantage

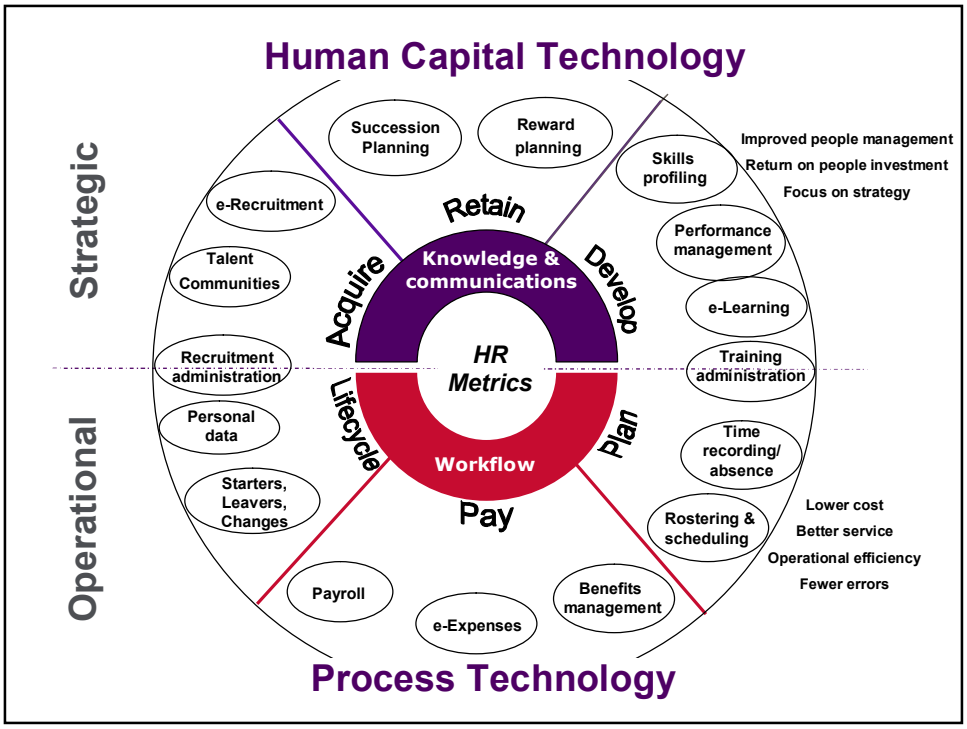
Steve Foster
Business School, University of Hertfordshire
August 2009

Assumptions

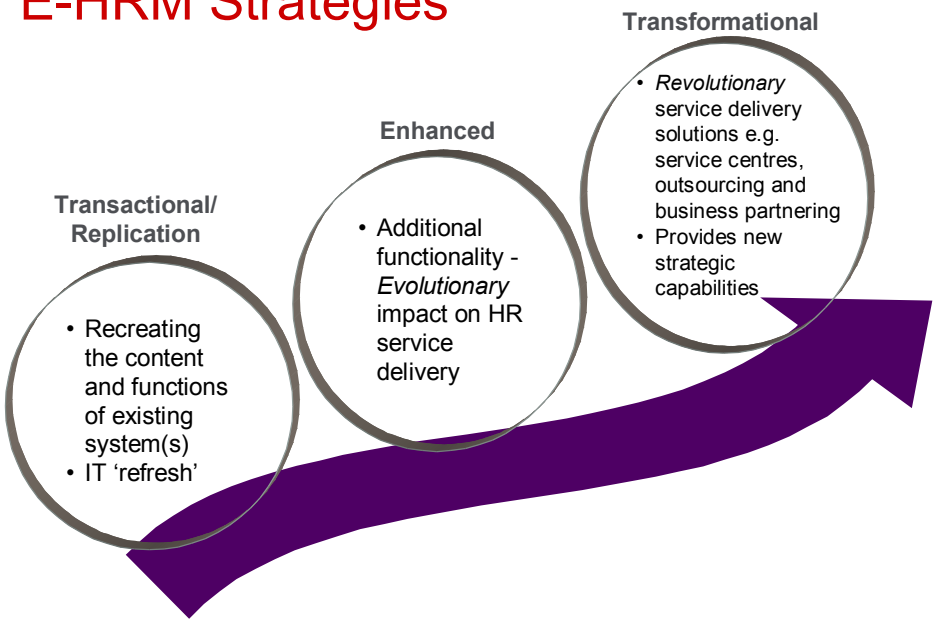
- HR tends to take an administrative approach to technology
- Technology rarely on the agenda of senior HR people
  - Too technical
  - Not aware of possibilities
  - Feel technology undermines HR role
  - Struggle to connect technology to outcomes
- Difficulties in developing the business case for HR technology

Forms of e-HRM

- Administrative Applications: The core HR, payroll and benefits record keeping systems.
- Employee and Manager Productivity Applications: The self-service transactional services that improve service delivery, reduce costs, and enable employees, HR, and managers to spend less time on administrative tasks.
- Strategic HCM Applications: The 'talent management' applications that enable an organization to plan, attract, develop, optimise, and reward key talent.
- Workforce Management: Functions for time and attendance, absence management, labour budgeting, forecasting, scheduling and task management.
- Business Intelligence Applications: Applications and tools that when combined, enable an organization to move towards metrics-based management. It includes dashboard, reporting etc.



E-HRM Strategies



Research Objectives

- How does e-HRM create value in organisations?
- Can e-HRM be linked to competitive advantage?
- Does the literature and research suggest a framework for conceptualising e-HRM value creation?
- How important are shared perceptions between HR professionals and line managers regarding e-HRM value and competitive advantage and the extended use of HR technology?

A Model for e-HRM Value

Cost reduction: HR Focus

- Staff costs/operational costs
- HR operational savings

- Reduced HR Headcount
- Reduced indirect costs

Productivity/performance: Business Focus

- Manager's toolkit
- Manager accountability/engagement
- Operational Information
- HR re-focus

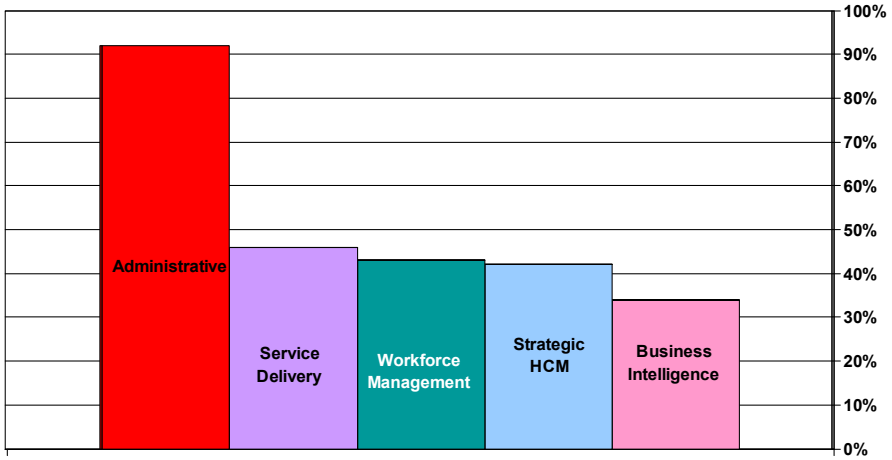
- Less time on HR admin
- Focused Line Managers
- Reduced Absence
- Decision support
- Employee retention
- More time to support operations

Strategic Capability: Organisation Focus

- Strategic information
- Culture change
- Branding & Satisfaction

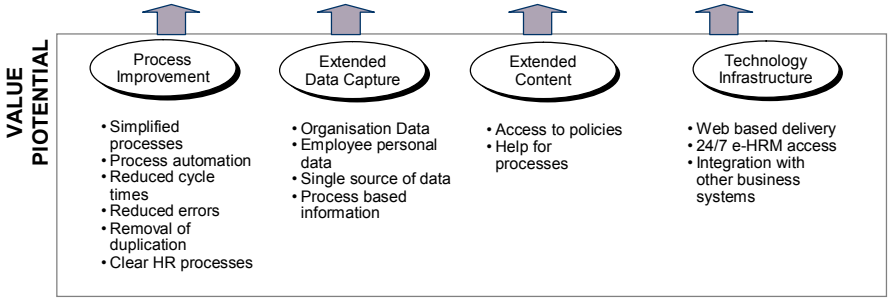
- Long term planning
- Employee Performance
- Ability to recruit
- Improved communications

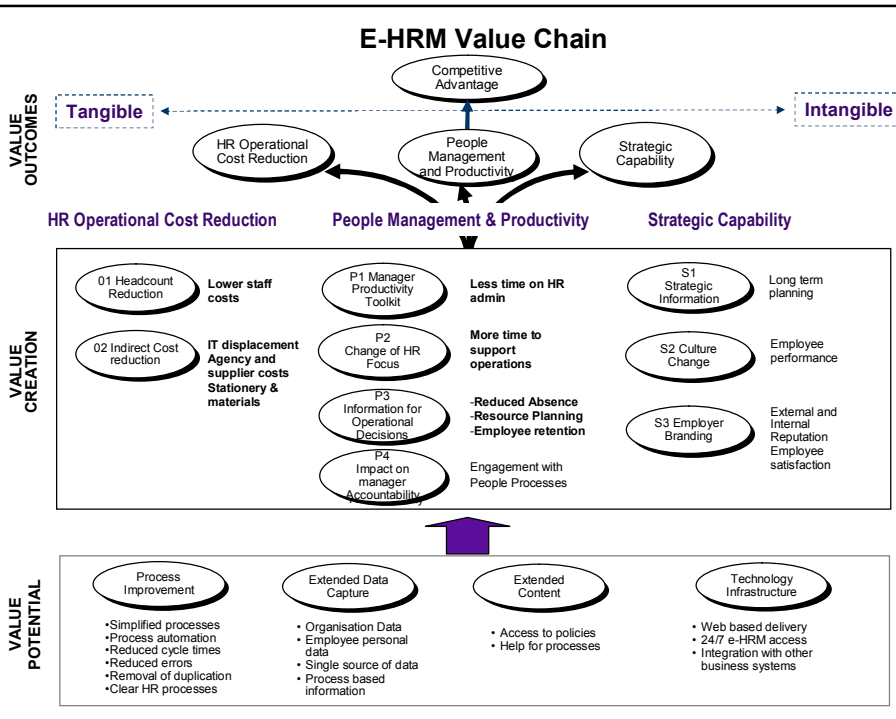
The Take-Up of Strategic HR Technology is Relatively Low….

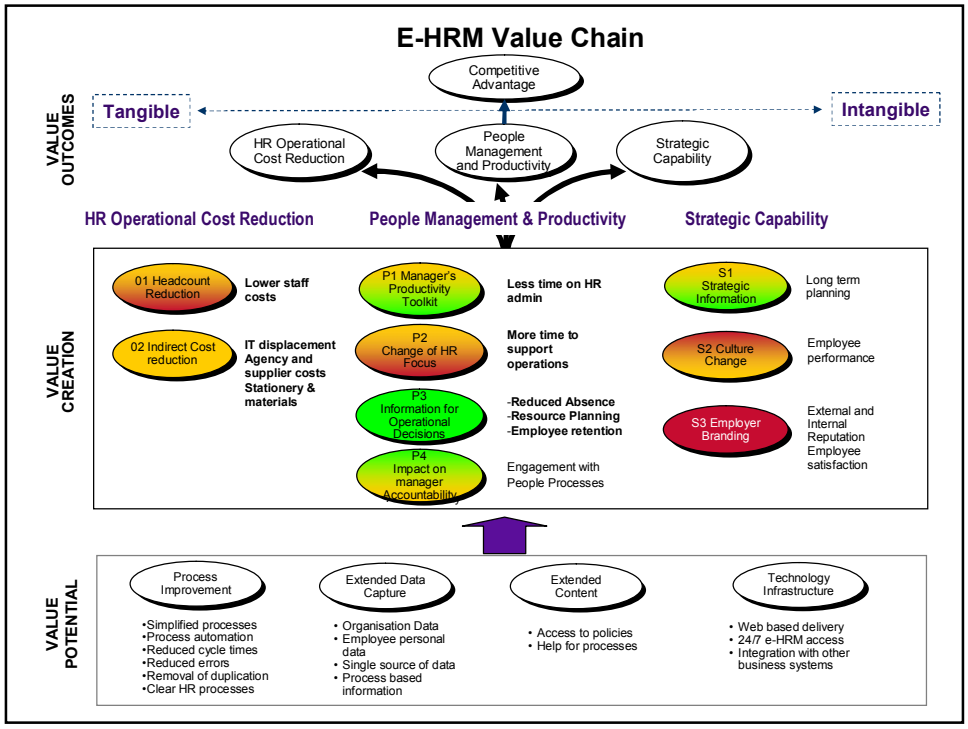


Source: CedarCrestone 2009-2010 HR Systems Survey

Potential is not the Same as a Result!







Conclusions

- 'Uncomfortable relationship' between HR, line managers and technology

- Potential of e-HRM relatively untapped despite evidence of its value HR needs a language and framework to describe e-HR value
- Reasons for poor e-HRM development
  - Struggling with technology basics
  - Business case is too narrow, too cost focused
  - Confusion of potential and outcomes
  - Difficult to isolate e-HRM contribution
  - Poor e-HRM planning
  - Lack of alignment between e-HRM and HR objectives
  - Shared 'frames of reference' critical to e-HRM development