

The Adoption of ICT to drive HR practices: A comparative systematic review of the private and public sector.

By

Mangala Kalahe Weerasinghe Hettiarachchige

University of Wales Trinity Saint David

In fulfilment of requirement for the Master of Business Administration

2021927

Declaration

I Kalahe Weerasinghe Hetti Arachchige Mangala declare that this dissertation has been composed by myself, that the work contained herein is entirely my own except where explicitly stated otherwise in the text, and that work has not been submitted for any other degree or qualification, in whole or in part, except as specified.

Signature... *Mangala*,.....

Date:.....12/05/2024.....

Dedication

"I dedicate this thesis to my beloved parents, whose unwavering love, encouragement, and sacrifices have been the guiding light throughout my academic journey. Your endless support has fueled my passion for knowledge and inspired me to pursue excellence in all endeavors. This accomplishment is as much yours as it is mine, and I am forever grateful for your endless belief in me."

I am also grateful to my supervisor Professor Dennis Pepple for his amazing contribution to my research. His expertise, patience, and encouragement have not only helped me navigate the complexities of my research but have also challenged me to grow academically and personally. His insightful feedback, constructive criticism, and willingness to engage in meaningful discussions have played a pivotal role in shaping the direction and quality of my work.

Table of Contents

Chapter1: Introduction	1
1.1. Background of the study	1
1.2. Research Aim , Objectives and Questions	3
1.2.1. Research Aim	3
1.2.2. Research objectives	3
1.2.3. Research Questions.....	3
1.3. Research Method and Analysis.....	3
1.4. Significance of study	4
Chapter 2: Literature Review	6
2.1. Introduction	6
2.2. The Essential Role of HRM	6
2.2.1. Human Resource Planning	6
2.2.2. Recruitment and Selection.....	6
2.2.3. Performance Management.....	7
2.2.4. Learning and Development.....	7
2.2.5. Career Planning.....	7
2.2.6. Industrial Relations	8
2.3. Transformation of HRM (Traditional versus contemporary approach to HRM).....	8
2.4. HR functions across different sectors	10
2.4.1. HRM in the Private sector	10
2.4.2. HRM in Public sector	11
2.5. Technology adoption in HRM	13
2.6. Factors driving technology adoption in HRM	16
2.7. Factors limiting IT adoption in HRM.	17
2.8. Technology adoption in HR across different sectors: Public Private differences	18
2.9. Theoretical Perspectives	20
2.10. How does sector determine the effectiveness of HR using ICT?	21
2.11. Conceptual Framework.....	22
2.12. Gaps in the literature	23
2.13. Summery	24

3.	Chapter 3: Research Methodology	26
3.1.	Introduction	26
3.2.	Research Philosophy	27
3.3.	Research Type	29
3.4.	Research design.	31
3.5.	Systematic Literature Review(Data collection, data analysis and interpretations).....	31
3.5.1.	The main difference between narrative and systematic literature review	33
3.5.2.	Inclusion criteria.....	34
3.5.3.	Ethical consideration.....	35
3.6.	Summery	35
4.	Chapter 4: Systematic Review.....	36
4.1.	Study design.....	36
4.2.	Sources of data and search strategy	36
4.3.	Selection of Studies.....	37
4.4.	PRISMA model.....	38
4.5.	Systematic Review	39
4.6.	Discussion and findings	51
4.6.1.	Level of ICT adoption in public and Private sector: High, low or similar	51
4.6.2.	Focus of ICT usage.....	53
4.6.3.	Challenges	54
4.7.	Summery	57
5.	Chapter 5: Conclusion and Recommendations.....	58
5.1.	Introduction	58
5.2.	Contribution to the theory and Practice	59
5.2.1.	Private Sector	59
5.2.2.	Public Sector.....	60
5.3.	Recommendations on how to use technology to drive HR practices in both sectors.	61
5.4.	Limitations of the research	63
5.4.1.	Publication Bias	63
5.4.2.	Language Bias.....	63
5.4.3.	Direction for future research	64
6.	Referencess.....	65

List of Tables

TABLE 1:TRADITIONAL VERSUS CONTEMPORARY HRM	9
TABLE 2:AGENCY THEORY OVERVIEW	22
TABLE 3:THE DIFFERENCE BETWEEN NARRATIVE AND SYSTEMATIC REVIEW	33
TABLE 4: ARTICLE SEARCH STRATEGY	37
TABLE 5:ARTICLES INCLUDED IN THE SYSTEMATIC REVIEW	39
TABLE 6: ICT FOCUS	45
TABLE 7:LEVEL OF ICT ADOPTION IN PRIVATE PUBLIC SECTORS.....	46
TABLE 8:ADOPTION CHALLENGES IN PRIVATE AND PUBLIC SECTORS	48

List of Figures

Figure 1:The difference between private and public sectors 4

Figure 2:Conceptual Framework 23

Figure 3:PRISMA Model 38

Abbreviations

Information and communication Technology ICT

Human Resource Management HRM

Artificial Intelligence AI

Electronic Human Resource Management EHRM

1. Chapter 1: Introduction

1.1. Background of the study

ICT has greatly revolutionised practices of HRM in organizations in both public and private sectors. Nevertheless, the implementation and usage of “Information and Communication Technology” (ICT) in “Human Resource Management” (HRM) can differ across various sectors as a result of disparities in organisational structures, goals, and available resources. This study conducts a comparative systematic analysis of ICT adoption in HRM between the public and private sectors, emphasising the focus of ICT adoption and challenges.

Conventional HRM was characterized by an abundance of paperwork and long administrative procedures, leading to a delayed process. This study posits that the enhancing effectiveness of HRM by adopting essential ICT functions in an organization is directly associated to its ability to economically accomplish its objectives(Oswal and Narayanappa, 2015, Bondarouk and Ruel, 2009B).

The adoption of ICT by HRM occurred throughout the transition from the late 70s to the early 1980s. Its implementation mostly focused on adopting ICT for administrative functions, such as payroll solutions. Since the early 1980s, there seems to be a shift in emphasis from individual applications to more intricate HRM platforms. A survey conducted between 2009 and 2010 found that organisations were expanding the range of their EHRM applications. This suggests that corporations are willing to invest more in E-HRM to enhance its operations economically(CedarCrestone,2010).

Currently, the field of HRM is facing growing pressure to line up with strategic goals and prioritise value-added operations. The job duties and goals for HRM specialists have been revised. Shrivastava and Shaw (2004) and Stone et al. (2006) noted that there is a notable increase in the adoption of ICT in recent years to efficiently and cost-

effectively support various HRM activities. Albers et al. (1997) predict that the increasing adoption of ICT can improve the efficiency of HRM experts and involve them in the strategic development activities of the organisation. Stone et al. (2015) identified many key areas of ICT adoption in HRM, including “E-recruiting, E-selection (which include web-based job applications, tests, and interviews), and E-learning, Online training E-PM (Reward)”. Furthermore, the inclusion of AI and automation should be taken into account.

However, the adoption of ICT might vary depending on the characteristics of organisations and the particular difficulties they face. Public and Private sector organisations function under separate structures and strive towards specific objectives and challenges. This is further supported by the increasing amount of literature that contributes to the ongoing discussion between the organizations in private and public sector in the subject of HRM. HRM exhibits notable disparities between the organizations in public and private sectors, but said disparities may have been diminished over the years (Boyne, Poole and Jenkins, 1999).

The public segment of organizations is frequently described as lagging behind the business sector in adopting ICT. One possible reason for this phenomenon could be the extended process of making decisions(bureaucracy and red tapes) and the absence of competitive forces in the public sector. Nevertheless, the public sector also assimilates knowledge from the private sector's experiences and endeavours to avoid repeating comparable errors (Schuppan, 2009).

Consequently, several scholars contend that the adoption of E-HRM methods varies to a certain degree among various public and private sector organisations. It has also been observed that there are similarities in the ways in which these approaches are implemented (Patel and Dhal, 2017; Sinha and Mishra, 2014). This study examines the disparities in the adoption of ICT among various industries and the particular challenges encountered by each sector.

1.2. Research Aim , Objectives and Questions

1.2.1. Research Aim

To analyse how the sector (Private and Public) determine the use of ICT to drive the HRM practices.

Hypothesis is that the adoption level of ICT to support HRM practices varies across public and private organisations, with the private sector performing better than the public sector.

1.2.2. Research objectives

1. To assess whether the private sector utilises ICT to a greater extent than the public sector. This involves identifying the similarities and differences in the adoption level of ICT between the two sectors.
2. To evaluate the unique challenges faced by each sector.
3. To offer recommendations on utilising ICT to enhance HRM practices in both sectors.

1.2.3. Research Questions

1. Does the private sector utilise information and communication technology (ICT) to a greater extent than the public sector?. This involves identifying the “similarities and differences in the usage of ICT” between the two sectors.
2. What are the unique challenges faced by each sector in adapting ICT in HRM?
3. How to utilize ICT to enhance HR practices in both sectors?

1.3. Research Method and Analysis

A comprehensive evaluation was undertaken, incorporating a qualitative analysis of the findings derived from peer-reviewed literature sourced from important databases such as Google scholar and Scopus. The publications were identified using the keywords 'EHRM' ISHRM, Challenges, ICT focus and either 'define', 'definition', or

'defining'. Coding techniques were employed for qualitative research in order to discover recurring patterns in the discussion of ICT use and sectoral differences.

1.4. Significance of study

This study provides significant contribution for both theoretical understanding and practical application. The study objective is to methodically examine whether there are differences in the level of adoption of ICT between the two sectors(public and private sectors). While several studies have examined various aspects of HRM practices in private and public sector organisations, such as those conducted by Stavrou, Charalambous, and Spiliotis (2007) and Vanhala and Stavrou (2013), there has not yet been a systematic comparison of the adoption of ICT to drive HRM practices across said sectors.

Budhwar and Boyne (2014) argue that a little disparity exists between HRM strategies in the private and public sectors. Furthermore, several sectors within HRM, such as learning and development(L&D), have seen private-sector organisations adopting a more logical approach compared to their public-sector counterparts (Budhwar and Boyne, 2004). HRM is more sophisticated in private enterprises compared to public sector organisations (refer to Figure 1). This demonstrates the lack of consistency in the scientific evidence(Vanhala and Stavrou, 2013).



Figure 1: The difference between private and public sectors

This systematic review broadens our understanding of the debate between the private and public sectors. It thoroughly examines how ICT is employed to facilitate HRM functions in both private and public contexts. By focusing on countries such as India, the study sheds light on similarities and disparities in ICT adoption within HRM systems across public and private entities. Importantly, it identifies a research gap in the UK regarding comparative studies on ICT's role in enhancing HR practices across these sectors.

From a theoretical perspective. The result of this study contributes to the examination of the “private vs public sector” argument in the HRM domain, specifically on the extent of ICT adoption in driving HR performance. For HR experts, the study offers significant insights into effectively leveraging ICT for HR practices. This will improve comprehension of the fundamental principles that impact organisational growth and HRM strategies in different organisational environments. The results of this research can be utilised to guide the creation of best practices and strategies to improve HRM practices and promote organisational expansion in different organisational settings.

Insights from comparative studies can inform the development of policies and regulations to promote ICT adoption and innovation across both sectors. This can include “incentives for investment, regulatory frameworks, and capacity-building initiatives”. Understanding differences in ICT adoption can also shed light on variations in cybersecurity practices and risk management approaches between the private and public sectors. This knowledge is vital for enhancing cybersecurity preparedness and resilience in the face of evolving cyber threats.

In essence, researching ICT adoption comparisons between the private and public sectors offers valuable insights that can drive strategic decision-making, improve efficiency and productivity, foster innovation, promote inclusivity, and enhance governance and service delivery.

2. Chapter 2: Literature Review

2.1. Introduction

The adoption of ICT within HRM has become progressively widespread across the private and public components of organizations. This literature review examines the utilization of ICT in HRM within the context of both private versus public sectors, highlighting key trends/focuses, challenges, and implications.

2.2. The Essential Role of HRM

HRM plays a pivotal part in organizations, establishing the effective management of people and contributing to overall success. Creating HRM function may temporarily alleviate the workload of busy managers. Even at optimal levels, a HRM function predicated on clerical responsibilities dismissed by management will have limited impact on the organisation. Importantly, as the organisation grows, the HRM department cannot keep pace (Ahammad, 2017). Next section will examine some important functions of HR and explore how they drive organizational growth.

2.2.1. Human Resource Planning

HR planning involves anticipating the future needs of the organization. By understanding the required skill sets, headcount, and roles, HR ensures that the required people are in the required positions at the required time. This strategic approach and the organization's goals are aligned, and it shall help maintain a competitive edge (Blobe, 2022).

2.2.2. Recruitment and Selection

Attracting and selecting top talent is crucial. A strong employer brand, effective sourcing strategies, and a well-structured selection process are essential. Unsatisfactory hires can significantly impact productivity; thus, HR professionals focus on identifying the best-qualified candidates.

The recruiting, selecting, and assessing of employees has always been a significant and crucial subject of study and application in the fields of work/organizational psychology (Ryan & Ployhart, 2014) and HRM (Markoulli et al., 2017). Typically, the method of attracting, assessing, choosing, and onboarding people in a company has always been a crucial and costly operation (Nikolaou, 2021).

2.2.3. Performance Management

Effective performance management ensures that employees remain productive and engaged. Clear goal setting, regular feedback, and leadership support contribute to a high-performing workforce. As performance management evolves, natural conversations are replacing traditional annual reviews (Awan et al, 2020). New software such as 360 performance review are replacing traditional paper bases review.

2.2.4. Learning and Development

Investing in employee growth enhances capability. HR designs learning and development activities to empower employees. Continuous learning fosters adaptability and keeps the organization competitive (Alshammari, 2020).

2.2.5. Career Planning

HR assists employees in mapping out their career paths. By identifying growth opportunities, HR encourages professional development and retention. Career planning aligns individual aspirations with organizational needs (Alshammari, 2020).

2.2.6. Industrial Relations

Maintaining positive relationships with unions, employee representatives, and labour bodies is critical. HR mediates disputes, negotiates agreements, and ensures compliance with labour laws (Arthour, 2004).

In conclusion, HR functions are multifaceted and interconnected. Their effective execution contributes to organizational resilience, employee satisfaction, and overall success.

2.3. Transformation of HRM (Traditional versus contemporary approach to HRM)

Since the 1980s, HR has progressed from an administrative role to a key business function that enhances organisational success. The combination of environmental and organisational forces led to significant changes in HR views and roles. Multiple causes, such as globalisation, foreign competition, deregulation, employment regulations, decreased unionisation, demographic shifts, and the transition away from manufacturing, all played a role in the shift towards a knowledge and service-based economy (Beardwell and Claydon, 2007). The literature discusses three waves of HRM development (Bright and Cortes, 2019). The first wave of HRM transformation is known as the administrative wave due to the administrative legacy of PM. HRM continues to perform administrative duties, provide services, and ensure regulatory compliance in this phase. In this wave, HRM is viewed as a core business function, integrated and proactive, with responsibilities pushed down to line management and administrative efficiency.

The second wave entails the creation of innovative HR strategies spanning over several categories including the following examples: “recruitment, training, career development, compensation, communication, and organizational structure (policies, design, work procedures)”. HR professionals devise and execute novel techniques during this phase. For instance, they might employ tailored recruitment approaches for different roles and labour markets to fulfil workforce planning goals. This wave

necessitates HR personnels to evolve into proficient professionals rather than mere administrative staff, adapting HRM practices to align with organizational needs (Bright and Cortes,2019).

The third wave is the human resource strategy wave. HR strategy refers to how HR practices are linked with company strategy. HR practices are guided by strategy, which acts as a mirror. The HR strategy wave emphasises strategic HR approaches to drive business success. HR is now responsible for solving business challenges and establishing strategies to achieve objectives and generate value, in addition to administrative tasks and practice design(Bright and Cortes, 2019).

Traditional HRM and contemporary HRM represent two different approaches to managing human resources within organizations. a comparison of both is provided here in table 1 Prepared by author based on Dyer and Kochan(1994), Kambur and Yildirim(2023),

Table 1:Traditional versus contemporary HRM

Area of comparison	Traditional HRM	Contemporary HRM
Focus	administrative tasks such as payroll, benefits administration, and compliance with employment laws and regulations.	Shifts focus towards strategic management of human capital, emphasizing employee engagement, talent development, and organizational culture.
Role of HR practitioners	HR professionals in this model are seen more as administrative experts, handling paperwork, managing employee records, and ensuring legal compliance.	HR professionals in this model are seen more as administrative experts, handling paperwork, managing employee records, and ensuring legal compliance.
Communication and Collaboration	Communication tends to be more hierarchical, with HR departments acting as intermediaries between management and employees	Emphasises open communication and collaboration, encouraging HR professionals to engage directly with employees and managers to address concerns, provide support, and foster a positive work environment.
Use of IT	Relies on manual processes and paperwork for tasks such as recruitment, performance management, and employee evaluations.	Leverages technology for streamlining HR processes, implementing HRIS (Human Resource Information Systems), ATS (Applicant Tracking Systems), and other software solutions for efficient data management, analytics, and automation of routine tasks.
Performance Management	Focuses on annual performance reviews and evaluations, often with a top-down approach.	Embraces continuous feedback mechanisms, frequent check-ins, and development-focused performance conversations to support employee growth and goal attainment.
Employee Engagement and Well-being:	May have limited involvement in initiatives related to employee engagement and well-being, with the primary focus on compliance and administration.	Takes an active role in promoting employee engagement, well-being, and work-life balance through initiatives such as wellness programs, flexible work arrangements, and recognition schemes.

The evolution of HRM introduces novel elements to management strategies and assumes a significant role in facilitating prompt and informed decision-making by business managers. Nevertheless, it is imperative to continuously monitor and regularly update the innovations in the process of transformation, aligning them with the strategies of HRM. This is because the transformation of HRM presents novel

prospects. As HRM evolves rapidly, the technology employed are also undergoing modification. The successful identification of these technologies offers various benefits and prospects, including the ability to bring about transformation, generate revenue, create value, and sustain competitive advantages for the firm. To capitalise on these opportunities and effectively address possible issues, the HR department must enhance its expertise and allocate its resources. This enhances collaboration, excellence, and achievement (Fenech, Baguant and Ivanov, 2019).

2.4. HR functions across different sectors

The aim this study attempts for is to contribute to the discussion regarding the potential influence of contextual variations on the integration of ICT in HRM in the private and public sectors. The study aims to offer recommendations for improving the strategic use of technology by HRM experts in the public sector, particularly those seeking inspiration from the private sector. Human Resources (HR) functions vary across different sectors due to the unique needs, challenges, and priorities of each industry. While the fundamental purpose of HR remains consistent—to manage and support an organization's workforce—how HR achieves this can differ significantly based on the sector.

2.4.1. HRM in the Private sector

2.4.1.1. What defines the private sector?

The organizations in the private sector encompasses the segment of the economy that is owned, controlled, and run by individuals or companies with the intention of generating profits. It includes a diverse array of firms, corporations, and organisations that are not under the ownership or control of the government or public sector (Investopedia.com).

Business leaders in private sector aim to balance product quality, service, marketing, and sales methodologies. To achieve balance, firms must rely on their most asset: human resources (Tien and Diem, 2020). A business gains a competitive edge by having a stronger human factor than its competitors. Strengths include innovative

leadership, talented and devoted staff, and adaptable policies. Understand the company's capabilities and reasons, given that, many organisations' competitive edge comes from HR. According to a survey of 35 directors and managers from seven wholesale apportion firms of sustenance and non-food products in Kosovo, human resources do not provide a competitive advantage (Berisha, Qehaja and Kutllovci, 2015). Hence, they lack a uniform approach to human resource development. Furthermore, it was assumed that the majority of these companies maintain human resource departments, yet in reality, these departments primarily handle administrative tasks. Moreover, they posited that human resource practices are largely alike across firms, whether they have dedicated HRM departments or not. The findings of their research often contrasts with the hypotheses outlined in this study considering that private sector HRM handles more strategic tasks while public sector handles more administrative tasks (Berisha, Qehaja and Kutllovci, 2015). This links back to the previous section (Bright and Cortes, 2019), and can be concluded as HRM in private sector represents third wave of HRM development (strategic) whereas the HRM in public sector is still in first wave which is administrative.

2.4.2. HRM in Public sector

2.4.2.1. What is the public sector?

Sopta, Mikic, and Boticki (2017:104). "The term "public" is frequently used to mark the concept of companies and institutions that are under the majority of state ownership". This can be mostly owing to the truth that, additionally to the other goals of a commercial organisation, they achieve a select few public-interest desires, implying that the state intervenes in their operations. In other words, they achieve goals that are beneficial to the community. The single most important characteristic distinguishing these two sectors is ownership. Individuals and businesses make a profit in the non-state-controlled private sector. Thus, it encompasses all non-governmental for-profit businesses.

Traditionally, public human resource management (HRM) has mostly concentrated on improving employee welfare, known as 'soft' HRM, rather than on organisational performance, known as "hard" HRM. Consistent with this viewpoint, Harel and Tzafrir (2002) revealed that the prevalence of labour unions in the public sector leads

management to give greater importance to HRM areas such as recruitment methods and grievance procedures.

On the other hand, private sector management places a higher emphasis on employee growth and rewarding performance. Furthermore, Knies et al. (2022) have corroborated this perspective. Public sector organisations have historically employed a greater number of HRM practices focused on providing equal opportunities, employee wellbeing, development, and career progress, while using fewer HRM practices centred around appraisal, performance, compensation, and benefits compared to private sector organisations, as per their claims. This confirms the idea that the visibility and concentration of HR specialists in the private sector are greater compared to the public sector.

Nevertheless, the authors also suggested that the public sector is increasingly adopting the private sector model through the implementation of "high performance work practices" to address public demand and navigate the volatile business landscape. Nevertheless, a recent analysis performed by Poor et al. (2021) shows that the conventional attributes of private ownership, such as a focus on profit, competition, and efficiency, differ from those of the public sector. The public sector is distinguished by a bureaucratic system characterised by stringent regulations and inflexible hierarchical organisational frameworks. Its primary objective is to deliver equitable and standardised public and community services to populations that depend on local or national budgets. The obsolescence of public sector HRM can be attributed to its inflexibility, bureaucratic nature, and limited capacity to respond to evolving competitive dynamics.

The disparities are evident in the HRM among the private and public sectors. The results of Poor's study (2021), which align with the findings of Harel and Tzafrir's study conducted two decades ago, indicate that, even after two decades, the typical attributes of the organisations in the public and private sectors continue to remain mostly unchanged.

The present inquiry pertains to the continued relevance of the conventional dichotomy between public and private sector HRM, given assertions that the HRM methodologies employed by public and private enterprises are increasingly similar. According to Knies

et al. (2022), while public sector enterprises have also adopted assessment systems, the private sector continues to exhibit a higher prevalence of compensation and benefits-linked HRM practices including appraisal and management of performance. This section entails a wide-ranging analysis of the progression of public-private differentiations in the implementation of HRM strategies. The study revealed evidence in favour of both continuous and changing processes. According to existing research, there are notable disparities between HRM activities in the two sectors (public and private). It is worth noting that certain inconsistencies observed in the late 1990s have lessened, while others have continued to persist.

2.5. Technology adoption in HRM

This study examines the scope and relative influence of ICT use on HRM tasks in organisations across several sectors, including both the private and public sectors. Although there is a growing body of literature available on the integration of ICT, the majority of research has focused on the examination of ICT use in a broad sense. Unfortunately, actual research and theory on use of ICT in HRM are still lacking (Wang, 1997).

ICT play an important role in HRM, revolutionizing how organizations handle their workforce. HRM has become more strategic in organisations, with the alignment of HRM with strategies of the business being extensively recognised. Efficient HRM is always crucial for meeting market needs with skilled staff. ICT and HRM are interconnected, requiring HR professionals to adopt reengineering technologies, support institutional and work-design changes, and foster a managerial environment for innovation and institutions driven by knowledge (Piabuo et al., 2017). Technology advancements are driven by HR professionals' aspirations for faster, more effective, and cost-effective solutions. Snell, Stueber, and Lepak (2002) suggest that HRMSs can improve strategic, adaptable, cost-effective, and customer-focused capabilities by using ICT. Experts foresee that the PC may later be the primary instrument used by HR workers. Growing ICT sophistication and external structural possibilities have led to the emergence of virtual HRM. ICT, which is enabling organisations to provide cutting-edge HR services, and lower costs allow enterprises of all sizes to acquire HR solutions (Mishra and Akman, 2010).

Over the past few years, HRM has changed significantly. Information and communication technology's progress in this knowledge area has helped shift the focus from administrative management to strategic partnership of the organization's entire plan. Information systems (IS) bear a major impact on HRM management today. It changes how organisations collect, store, use, and exchange information through HRM processes and practices. This service level improvement improved HRM processes and increased HRM involvement in business planning. HRM and its specialists are transformed by this new business strategy role. This article discusses the impacts of information systems (IS) on HRM, reviewing the existing information and describing their pros and downsides. They also discuss HRM functional area and the technological applications in organisations (Silva and Lima, 2018)

ICT creates an ICT-based workplace, emphasising planned competence management as a major concern for managers. ICT advancements can address HRM difficulties include employee retention, strategic HRM functions, and managing the human feature of technical transformation. HRM can promote technological innovation's high performance and permit HRM to keep attention on value-added activities to maximise technology and organisational strategy potential.

The primary advantage of utilising ICT in HRM for organisations is the liberation of HRM personnel from intermediary responsibilities, so allowing them to focus on Strategic Human resource Management(SHRM). Caudron (2003) has also found that ICT has the capability to mechanise certain repetitive duties, including handling payroll, benefits management, and transactional tasks. This allows HR practitioners to allocate their time and attention towards further strategic concerns, including enhancing efficiency. To summarise, the adoption of ICT, into HRM" has revolutionised the operations of HRM departments, providing improved efficiency, precision, and valuable strategic insights. There are many ICT tools widely used in HRM. Some of them are as follows:

ATS (Applicant Tracking Systems) is now widely used in recruitment and selection. These systems automate the staffing process by handling job positions, screening resumes, scheduling interviews, and following candidates communications. HR leverages platforms like LinkedIn, indeed, and company career websites for

advertising job openings and sourcing candidates in the zone of Online Job Portals and Social Media Platforms (Pinho et al.,2019).

Human Resource Information Systems (HRIS) centralizes employee data, including “personal information, employment history, performance evaluations, and training records”, in a digital format. This allows for easier access to information, improved data accuracy, and streamlined reporting for HR professionals (Nagendra and Deshpande, 2014).

Performance Management Software assists goal setting, performance reviews, and feedback processes, enabling constant performance monitoring and development planning. One of the best example is that 360-degree Feedback Systems which allows for the implementation of multi-rater feedback systems, providing comprehensive insights into employee performance and behaviours(Diaconescu,Mos and Murphy, 2004).

Learning Management Systems (LMS) platforms supply virtual educating courses, track employee growth, and review learning effects. A learning management system is a software-based computer programme. LMS offers the necessary architecture, foundation, and tools to support and enhance online learning (Nath and Naidy,2016). Virtual Training and Webinars enables the delivery of remote training sessions, reducing training costs and accommodating geographically dispersed employees. Learning and development tasks is much more easier than ever before.

In the area of employee engagement and communication, Employee Self-Service Portals allow employees to retrieve and update their data, view pay sheets, book holidays off, and enrol in benefits. There are many Communication Platforms like Slack, Microsoft Teams, and internal social networks facilitate real-time interaction among the workforce and teams. A main challenge of HRM was analysing big data. HR Analytics enables HR professionals to analyse workforce data to identify trends, forecast staffing needs, and make data-driven decisions(Nathan and Naidu,2016).

In addition, HRIS and other software solutions offer customizable reporting features, allowing HR to generate reports on various HR metrics and KPIs tailored to organizational needs. After Covid 19, remote Work Enablement through Virtual Collaboration Tools become much more prominent. With the rise of remote work, ICT

plays a vital role in enabling virtual collaboration through “video conferencing, project management software, and cloud-based document sharing platforms”.

2.6. Factors driving technology adoption in HRM

The adoption of ICT in HRM is driven by various factors, reflecting the changing landscape of work, advancements in technology, and the evolving needs of organizations.

Organisations endeavour to optimise human resources (HR) procedures and alleviate administrative burdens by implementing automation. ICT facilitates the mechanisation of mundane duties like “payroll processing, benefits administration, and data input”, so allowing HR professionals to dedicate their efforts to strategic endeavours. Alam et. al. (2016:18) research on critical factors influencing ICT adoption in HRM using the 383 respondents indicate that the most critical factors are in descending order: consecutively, “IT infrastructure, top management support, IT capabilities of staff, perceived cost, competitive pressure, perceived compatibility, centralisation, perceived complexity, formalisation, innovativeness of senior executives, technology vendor support, relative advantage, and government regulations and support”. They identified four dimensions as technology, organizational, human, and environmental. Among these four different scope, the technological scope has been identified as the scope of greatest significance.

According to Ahmer (2013), businesses have integrated e-HRM with HRIS to address the HR needs of stakeholders. Although De Alwis (2010) and Amladi (2017) found e-HRM acceptance to be a sign of firm technology awareness, Masum and Kadar (2015) categorised adoption variables into three stages: “individual, organisational, and technological”. In contrast, Richter et al. (2019) recognized “users' perception, attitude, motivation, and goals” as factors of e-HRM adoption. According to Hassan, Iqbal, and Habibah (2020), the Technology Acceptance Model (TAM) impacts e-HRM adoption through factors like “ease of use, attitude, and user perception”.

2.7. Factors limiting IT adoption in HRM.

While E-HRM technology offers benefits to organisations, certain corporations have faced obstacles. Research indicates that some employees lack the necessary knowledge and abilities to use technology effectively. Some employees in other organisations may reject using E-HRM solutions due to a lack of awareness of their use and functionality (Poisat & Mey, 2017). Organisations with limited E-HRM knowledge require sufficient resources to teach staff and HRMs in its use. Providing technical skills enables employees and HR personnel to leverage advanced ICT for micro-difficulties, such as data recording, editing, and retrieval online (Bondarouk et al., 2016).

In some organisations, organisational culture impacts the adoption of HRIS. According to Poisat & Mey (2017), organisations that prioritise personal relationships may discover it challenging to adopt E-HRM practices due to the perceived lack of personalisation inside the technology. HR managers reported ineffectiveness non deploying and using E-HRMs, leading to the use of offline solutions. To minimise delays or failures in using E-HRM technology, HRMs and other organisation members should adjust their beliefs and mindset regarding its worth (Poisat & Mey, 2017). Skill enhancement through training is crucial for the deployment and use of E-HRM practices. Challenges to adopting and using E-HRMs include limited resources, accessibility, alignment with company needs, security issues, inadequate policy drafting, and training costs for end users (Agahi, and Gulthawatvichai, 2021).).

Research conducted on adoption of HR analytics by HR departments (Fernandez and Gallardo-Gallard, 2021) indicate the persistent uncertainty around HR Analytics conceptualization. There appears to be a growing agreement on what HR Analytics entails. The fourteen barriers to HR Analytics adoption fall into four groups: “data and models, software and technology, people, and management”. Their proposal outlines fourteen essential variables for successful HR Analytics adoption in enterprises.

Therefore, attribute of the data is a major reason to thrive in the adoption of HR Analytics (Harris et al., 2011). This has been confirmed by Minbaeva (2018) by putting it in different way: “one of the most crucial barriers to the development of credible organizational HCA [human capital analytics] is the low quality of data” (p. 702).

Another study Maphosa(2021) explores the implementation of E-HRM by a Zimbabwean telecoms company. The study used a quantitative case design, surveying 130 managers and supervisors. The study achieved its purpose through factor analysis. The study found that the three constructs directly influenced the adoption of E-HRM. Participants agreed that E-HRM increases productivity by automating employee records administration and improving communication between managers and employees. Benefits of the findings include reduced administrative costs, improved HRM services, more time for strategic goal setting, increased HRM efficiency, and easier global talent searching. Respondents reported challenges/barriers in integrating e-HRM processes with HRM, including resistance to change, confidentiality, and security concerns around personal data hacking. The report provides benchmarking information for Zimbabwean firms implementing E-HRM. The findings add to the limited literature on e-HRM uptake in poor nations. Research identifies potential obstacles to adoption of E-HRM enrolment and selection methods in Thailand's corporate sector.

2.8. Technology adoption in HR across different sectors: Public Private differences

Despite the Kenya government initiatives, private sector in Kenya has put some efforts to help in using ICT in universities that are public, inadequate amounts are identified on how this public-private mixing has improved institutional management services. This study examined how ICT integration affects HRM in Kenyan public universities. The study conducted a survey. All Kenyan public university academics and officials were used as respondents. The study found that academics believed that ICT integration immensely improved HRM, it had a greater impact on HR administrative operations like “personnel record management and payment administration”. However, it was negligible on important strategic functions of the sector such as “recruitment and selection, training and development, and performance management” (Karanja, Sang and Ndirangu, 2018).

One of the biggest advantages of using ICT in HRM is the enhancement of overall HR operations and strategic management. In this regard, long term benefits of ICT in

public sector in Kenyan public universities is uncertain. The research from Karanja, Sang and Ndirangu(2018) in the context of Kenyan public sector proves that HR professionals in public sector are utilising ICT to a certain extent, but the question of whether public sector use ICT in strategic HRM/strategic purpose of HRM remains unanswered. Understanding how HR can integrate IT into their strategy is crucial for attracting and retaining individuals who provide competitive advantage and support company processes.

In a study of the prevalence and comparing impact of ICT adoption on HRM functions in different sectors, authors discovered that IT use for recruiting is inconsistent. IT utilisation for recruitment duties is consistent across sectors. However, private sector organisations (73%) use IT more than government sector (52%) (Mishra and Akman,2010).

Further, the private organisations mostly use IT for performance appraisal, staff turnover, and absence analysis. According to Elliott & Tevavichulada(1999), 74% of private and 59% of government organisations utilise IT for employee performance review duties. Application software (46%), among accessible options, is the most used.

The study conducted by Islam (2016) seeks to assess any disparities, if present, between the current and envisioned amounts of electronic HRM practices in two separate classifications of organisations in Bangladesh: the public sector and the private sector. Information was collected from different levels such as employee and managers using a survey questionnaire. The data was analysed using techniques such as mean score, t-test, and Spearman's rank correlation method. The t-test results indicate a substantial difference between the two organisations in terms of their current degree of e-HRM practices. It is also an endeavour to illustrate the impacts and significance of utilising electronic systems in key aspects of HRM, specifically in "Human Resources planning & budgeting, Recruitment and Selection, Training and Development, Performance management, compensation & benefit Management, Employee file & Database" in organizations representing public and private sectors.

Conversely, The findings of Blom(2020) imply that both public and private sector employees are similarly impacted by methods that enhance their abilities, motivation, or opportunities. The disparities between sectors may not be as significant as anticipated, aligning with discussions on the "convergence of sectors". This was like

what Rainey and Chun (2007) discussed. Furthermore, while this does not necessarily mean that certain HRM approaches cannot exhibit distinct impacts, it is plausible that contextual features other than sector, such as industry, organisational size, or culture, may be comparatively more significant.

2.9. Theoretical Perspectives

The implementation of ICT in HRM practicess is a crucial strategic necessity for organisations seeking to enhance the efficiency of HRM in a time characterised by swift technological progress. Several models have been developed to understand and direct the process of adopting HR technology, offering organisations frameworks to traverse the intricacies of implementation. These models encompass the several complex factors that impact decision-making, guaranteeing a comprehensive understanding of the adoption landscape.

Technology Adoption Model: Based on the principles of psychology and information systems, the Technology Acceptance Model suggests that a person's inclination to utilise ICT is shaped by their view of its ease of use and usefulness. The Technology Acceptance Model (TAM) places significant emphasis on user-centric design and functionality when applied to HR technology. Organisations that utilise the Technology Acceptance Model (TAM) prioritise user experience as a crucial element in achieving effective technology adoption. They acknowledge that employees are more inclined to accept products that are easy to use and provide concrete benefits to their work (Davis,1989, Marangunić, and Granić, 2015).

The “Unified Theory of Acceptance and Use of Technology” (UTAUT): The UTAUT model expands upon the established principles of the “Technology Acceptance Model” (TAM) by integrating supplementary components, including social influence, enabling conditions, and performance expectancy. Within the realm of HR technology adoption, the “Unified Theory of Acceptance and Use of Technology” (UTAUT) acknowledges the significance of peer pressure, organisational support, and the perceived impact. Organisations that choose to use the Unified Theory of adoption and Use of Technology (UTAUT) model place significant emphasis on the creation of a favourable social and organisational environment to encourage the adoption of technology among employees (Oye, Iahad and Rahim,2014).

Organisations can utilise these models to guide their strategies when navigating the challenges of HR technology adoption. These models provide useful insights into the complex decision-making processes that contribute to successful technology integration in human resource management, by acknowledging the interaction between individual perceptions, organisational dynamics, and social influences.

2.10. How does sector determine the effectiveness of HR using ICT?

Agency theory specifically analyses the ubiquitous agency relationship, where one-person (the principal) delegates tasks to another (the agent), who is accountable for their execution. The concept of a contract is frequently employed in agency theory to elucidate the essence of this association. The fundamental goal of agency theory is to resolve these two challenges that can occur within an agency relationship.

The agency dilemma arises when there is a contradiction between the objectives of the principal and the agent, and the principal faces difficulties or high costs in monitoring the conduct of the agent. The principal is unable to confirm currently if the agent has conducted themselves appropriately. The issue at hand is that the principal and the agent may opt for different actions because their preferences diverge from one other (Eisenhardt, 1989).

Agency theory can provide valuable insights into the adoption of Information and Communication Technology (ICT) in the public sector, particularly in understanding the dynamics between principals (government entities) and agents (public officials or agencies responsible for implementing ICT initiatives). In the context of ICT adoption, the government (principal) delegates authority to public officials or agencies (agents) to implement ICT initiatives on behalf of the citizens. However, there may be a misalignment of interests between the principal and agent. The government seeks efficient and effective ICT deployment to improve public service delivery, while the agents may pursue goals such as budget maximization, job security, or bureaucratic inertia.

Agency theory highlights the information asymmetry between principals and agents, where the government may lack comprehensive information about the complexities of

ICT implementation or the actual progress and outcomes of ICT projects. This information gap can lead to issues such as budget overruns, project delays, or suboptimal ICT solutions. To mitigate agency problems, the government employs monitoring and control mechanisms to ensure that ICT initiatives align with public interests and organizational objectives. This may involve establishing performance metrics, conducting audits, or implementing oversight mechanisms to track ICT project progress, expenditures, and outcomes.

In contrast, Agency theory provides a lens through which to analyze the dynamics of Information and Communication Technology (ICT) adoption within the private sector. In the context of private firms, agency theory focuses on the relationships between principals (shareholders or owners) and agents (managers or executives) and the mechanisms used to align their interests(Jensen and Meckling,1976).

Agency Theory overview (adopted from Eisenhardt, 1989:59).

Table 2:Agency Theory overview

Key Idea	Relationships between principals and agents should be able to accurately reflect the effective organisation of information and the costs of bearing risks.
Unit of analysis	Contract between two parties(principal and the agent)
Human Assumptions	“Self-interest, Bounded rationality. Risk aversion”(p.59).
Organizational Assumptions	The agent and the principal may have goal conflict. There can be an information asymmetry between the two parties.
Information assumptions	Information considers as purchasable commodity.

2.11. Conceptual Framework

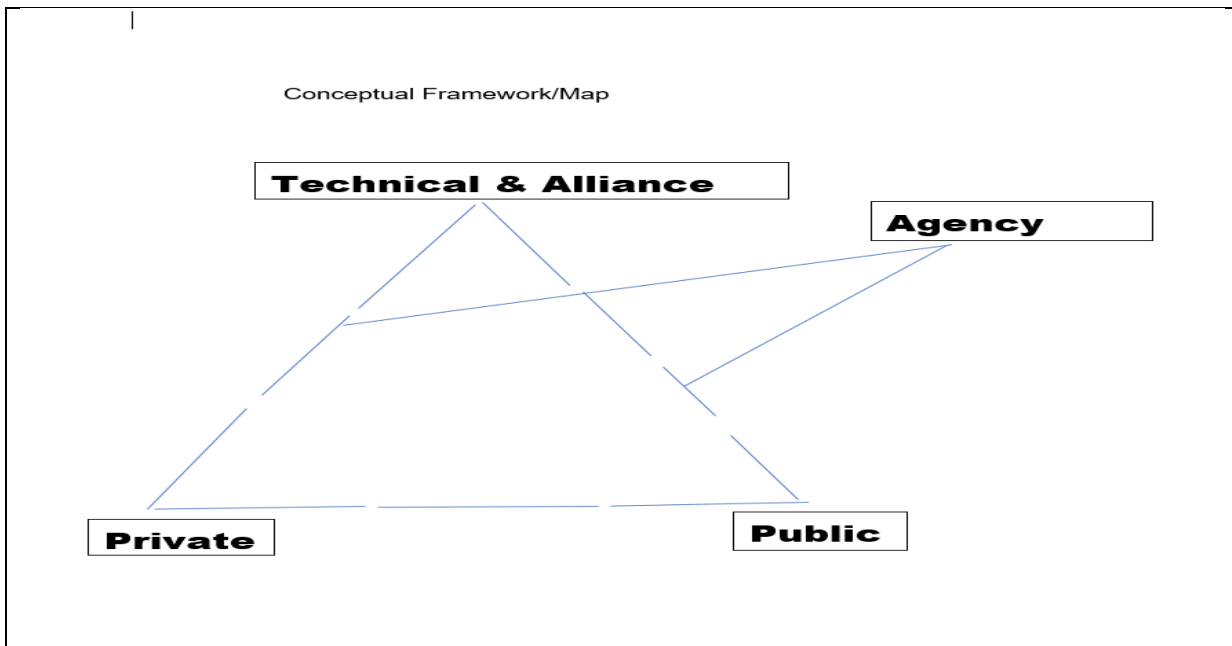


Figure 2: Conceptual Framework

2.12. Gaps in the literature

The literature overlooks the significance of ICT adoption/ HRIS in organisations and pays little attention to its adoption within organisations. There is a general consensus that the adoption of HRIS has not been extensively studied (Henriksen and Mahnke, 2005). Implementing HRIS can provide difficulties due to its high cost and the extended time required for the anticipated benefits to materialise once the HRIS is completely integrated (Ashbaugh and Miranda, 2002). The implementation of HRIS in the public sector may present greater difficulties in comparison to the private sector due to many factors. This can be explained using agency theory.

Public sector is different to the private sector organisations considering their fundamental purposes. Public sector organisations often have several intangible goals, such as health and education, whereas private sector organisations are primarily steered by economic feasibility concerns. According to Kamal (2006) in contrast to private sector organisations, which typically embrace innovations in a proactive manner, public sector organisations tend to implement innovations in a reactive manner, mostly due to the presence of a bureaucratic culture. In other words, they patiently await the emergence of evidence to substantiate their adoption choices.

Furthermore, public sector organisations may have limitations in their budgeting cycles as a result of budget timing limitations. These constraints might be affected by political influences (Themistocleous et al., 2004). According to McKinnon (2010), the field of public sector HRM is presently experiencing significant transformations, such as “workforce retirement/aging, downsizing, talent management, and culture guardianship”. There is empirical data indicating that innovations inside the not-for-profit sector, particularly the public sector, frequently encounter significant challenges in terms of diffusion (McGrath & Zell, 2001:388). This issue necessitates further investigation and examination in future scholarly investigations. These factors indicate that the application of adoption models designed for the private sector to public sector organisations is not a straightforward process. All the previously mentioned features of E-HRM and ICT use in HRM are attractive to any organisation either public or private. Nevertheless, previous e-HRM research has not definitively demonstrated whether these advancements in HRM have only yielded beneficial outcomes. It is still uncertain that electronic systems might lead to unfavourable attitudes among employees due to the absence of personal connection and human interaction.

While a limited amount of studies have examined the impacts of particular HRM strategies on private and public sector organisations (Stavrou, Charalambous, and Spiliotis, 2007; Vanhala and Stavrou, 2013), No comprehensive cross-sector analysis of the impacts of HRM procedures has been conducted thus far. A systematic analysis is a robust method that combines diverse results from prior studies to determine an overall effect.

2.13. Summery

The adoption of ICT has become imperative for both private and public sectors to enhance productivity, efficiency, and service delivery. This literature review aimed to analyze and compare ICT adoption trends, drivers, challenges, and outcomes between the private and public sectors.

Literature search indicates that both sectors have been increasingly investing in ICT over the years, albeit at different rates and with distinct priorities. Private sector organizations often prioritize ICT for competitive advantage and profit maximization,

while public sector agencies focus on improving service delivery and citizen engagement.

Common drivers of ICT adoption across sectors include technological advancements, cost reduction, regulatory requirements, and pressure for organizational change. However, the specific motivations and incentives for adoption vary between private and public entities. For instance, private firms may adopt ICT to gain market share, while public agencies may prioritize citizen-centric services and transparency.

Despite the benefits, ICT adoption poses several challenges for both sectors. These challenges include issues related to funding constraints, organizational culture, interoperability, cybersecurity risks, and resistance to change. Public sector organizations often face additional hurdles such as bureaucratic inertia and regulatory constraints, which can slow down the adoption process.

Outcomes and Impact: Studies exploring the outcomes of ICT adoption suggest that both sectors experience improvements in efficiency, productivity, and service quality. However, the impact may vary based on factors such as organizational size, sector-specific regulations, and the maturity of ICT infrastructure. Public sector ICT initiatives often aim to enhance citizen engagement, promote e-governance, and bridge the digital divide, whereas private sector adoption primarily focuses on enhancing competitiveness and innovation.

while both private and public sectors recognize the importance of ICT adoption, differences in priorities, drivers, and challenges necessitate tailored strategies for each sector. Understanding these differences is essential for policymakers, organizational leaders, and researchers to develop effective ICT adoption strategies that maximize benefits and address sector-specific needs and challenge

3. Chapter 3: Research Methodology

3.1. Introduction

This chapter provides a comprehensive guide, providing an overview of various research methodologies, their applications, strengths, and limitations. It underscores the significance of choosing an appropriate methodology tailored to the research objectives, ensuring the legitimacy and integrity of the study's outcomes. Through a critical examination of research paradigms, strategies, and techniques, this chapter equips researchers with the tools necessary to get on with the investigative journey with confidence and rigor.

From quantitative to qualitative approaches, from experimental designs to case studies, each methodology offers distinct avenues for inquiry, enriching our understanding of diverse phenomena. This research have explored the nuances of data collection methods, including surveys, interviews, observations, and archival research, elucidating their respective merits and challenges. Furthermore, The researcher also addressed issues of sampling, measurement, and data analysis, elucidating the processes essential for transforming raw data into actionable insights. After a thorough investigation, researcher decided to use secondary research over primary research.

Moreover, this chapter underscores the ethical considerations inherent in research methodology, emphasizing the paramount importance of integrity, transparency and validity of the research findings. . It highlights the ethical dilemmas researchers may encounter and provides guidelines for navigating these complex ethical landscapes with sensitivity and prudence.

3.2. Research Philosophy

In the realm of academia and scholarly inquiry, research philosophy forms the cornerstone upon which systematic literature reviews are built. It serves as the guiding principle that shapes the scope, methodology, and interpretation of the review process. In this section, this research examines into the essential aspects of research philosophy as it pertains to conducting a systematic literature review, elucidating its significance for the research endeavour.

At its core, research philosophy encompasses the fundamental assumptions, beliefs, and principles that underpin the researcher's approach to knowledge creation and understanding. It informs the researcher's perspective on ontology, epistemology, and methodology (Crossan,2003).

For a systematic literature review, the choice of research philosophy influences every stage of the review process, from defining research questions to synthesizing findings. It dictates the criteria for selecting and evaluating literature, the methods for analyzing and synthesizing data, and the interpretation of results.

Ontologically, researchers must consider their view of reality and the nature of the phenomena under investigation. The chosen ontological stance informs decisions regarding the selection and interpretation of literature, as well as the understanding of phenomena explored within the review(Goertz and Mahoney, 2012, Al-Ababneh,2020).

Epistemologically, researchers grapple with questions concerning the nature of knowledge and the ways in which it is acquired. Are they proponents of positivism, advocating for empirical observation and objective measurement as the primary means of knowledge acquisition? Or do they align with interpretivism, recognizing the significance of subjective experience and interpretation in generating knowledge? The chosen epistemological perspective guides the synthesis of literature, influencing the criteria for evaluating the quality and relevance of studies, as well as the interpretation of findings(Goertz and Mahoney, 2012, Al-Ababneh, 2020).

Methodologically, researchers must navigate the diverse array of approaches and techniques available for conducting systematic literature reviews. From the formulation of research questions and search strategies to the extraction and

synthesis of data, methodological choices are inherently intertwined with research philosophy. Whether adopting a quantitative, qualitative, or mixed-methods approach, researchers must align their methodology with their ontological and epistemological assumptions, ensuring coherence and rigor throughout the review process(William,2024).

In essence, research philosophy serves as the compass that steers researchers through the complex terrain of systematic literature reviews, guiding their decisions and shaping their understanding of the scholarly landscape. By elucidating the ontological, epistemological, and methodological foundations of their research, researchers can navigate the intricacies of the review process with clarity, coherence, and purpose.

Ontology, within the perspective of qualitative secondary research, pertains to the researcher's assumptions and beliefs about the characteristics of reality, particularly as it relates to the phenomena being studied through existing secondary sources. While primary research often involves direct interaction with subjects and the creation of new data, qualitative secondary research includes the analysis and interpretation of pre-existing data composed by others. Understanding the ontological underpinnings is crucial as it influences how researchers conceptualize and interpret the data retrieved from secondary sources (Chia, 2002).

In qualitative secondary research, researchers may embrace various ontological perspectives depending on their philosophical orientation and the nature of the research question. Here are a few ontological considerations relevant to this research:

Constructivism: Constructivist ontology posits that reality is socially constructed through human interpretation and interaction. In the context of qualitative secondary research, researchers adopting a constructivist stance acknowledge that the data collected by others are influenced by the perspectives, values, and biases of those who originally collected it. They recognize that meaning is not inherent in the data but is actively constructed through the interpretation process. Thus, researchers approach secondary data with an awareness of its contextual and subjective nature, viewing it as representations of multiple realities rather than objective truths (Schwandt,1994, William,2024).

Interpretivism: Interpretivist ontology emphasizes the subjective nature of reality and the importance of understanding the meanings attributed to phenomena by individuals. In qualitative secondary research, researchers adopting an interpretivist perspective focus on understanding the perspectives, intentions, and interpretations embedded within the secondary data. They recognize that individuals and communities construct their own understandings of reality, and their interpretations shape the data collected and reported by others. Researchers employing an interpretivist ontology seek to uncover these subjective meanings and interpretations, often through in-depth analysis and interpretation of qualitative data sources such as texts, interviews, or observations (Schwandt,1994, William,2024)).

Critical Realism: Critical realism accepts that while reality exists independently of human perception, our understanding of reality is mediated through social structures, power dynamics, and discourses. In qualitative secondary research, researchers adopting a critical realist ontology recognize the existence of underlying structures and mechanisms that shape the data collected and reported by others. They seek to uncover both the surface-level representations of reality present in secondary sources and the deeper underlying structures and processes that influence those representations. By critically analyzing secondary data sources, researchers aim to elucidate the social, political, and cultural dynamics that shape knowledge production and dissemination(Lawani,2021).

These ontological perspectives provide researchers with different lenses through which to conceptualize and interpret the data retrieved from secondary sources in qualitative research. By explicitly considering their ontological assumptions, researchers can approach secondary data analysis with reflexivity, awareness, and methodological rigor, ultimately enriching our understanding of complex social phenomena and contributing to the progression of knowledge within the respective field of this research which HRM and ICT use.

3.3. Research Type

There are significant differences in approaches to concepts and measurement between quantitative and qualitative scholars. Some of these changes are expected. Qualitative scholars engage in lengthy, in-depth discussions about concept meanings.

They share similarities with political philosophers who focus on concept analysis. In contrast, quantitative scholars require data for statistical models. Thus, they emphasise the quality and character of quantitative metrics. They prioritise operationalization, aggregation, and datasets over concept development (Goertz and Mahoney, 2012).

Inductive reasoning starts with specific observations or data points and then works towards broader generalizations and theories. From an ontological standpoint, this approach aligns with constructivism, which suggests that reality is subjective and socially constructed. It implies that knowledge is developed through human interpretation and experience, and there may be multiple valid perspectives on reality. In qualitative secondary research, an inductive approach involves analyzing existing qualitative data without preconceived hypotheses or theories. Researchers plunge themselves in the data, detect trends, themes, and connections, and then develop ideas or explanations based on these emergent findings. This approach acknowledges the complexity and contextuality of the data, allowing for the exploration of multiple perspectives and interpretations.

Deductive reasoning starts with theories and then investigates them against specific data. From an ontological standpoint, this approach is often associated with realism, which suggests that objective reality does exist independent of human observation. It suggests that there are discoverable truths about the world that can be uncovered through empirical investigation. In qualitative secondary research, a deductive approach involves testing existing theories or hypotheses using qualitative data. Researchers begin with established theoretical frameworks or research questions and then analyse the data to confirm, refute, or refine these theories. While this approach provides a structured framework for analysis, it may overlook nuances and contextual factors that are central to qualitative inquiry. The main purpose of this study was to identify the disparity between the existing methods and the required degree of E-HRM integration in both public and private sector organisations in UK. This study aims to collect secondary data on the practical availability and applications of HRM systems, while also assessing their significance as a crucial catalyst for enhancing the stability and efficiency of HRM functions in the current competitive landscape. The primary aim

was taken into consideration, leading to the formulation and testing of the following hypothesis in this research. The current degree of E-HRM practices as an essential tool for HRM activities would differ significantly between public sector and private sector organisations. Based on this hypothesis, researchers begin with formulated research questions and then analyze the data to confirm, refute, or refine this hypothesis.

In summary, the choice between an inductive or deductive approach in qualitative secondary research is influenced by the researcher's ontological perspective. An inductive approach aligns with a constructivist ontology, emphasizing the subjective nature of reality and the importance of interpretation, while a deductive approach often reflects a realist ontology, focusing on the discovery of objective truths through empirical investigation.

3.4. Research design

Due to the time constraints to complete the dissertation and handing in, this research is totally based on secondary data. Secondary data can be categorised into two main types: qualitative and quantitative. The quantitative method to secondary analysis of data is the scrutiny of numerical data using mathematical analysis. The qualitative method utilises language to provide in-depth insights on data. Qualitative secondary data encompasses many sources such as diaries, newspapers, and government publications, whereas quantitative secondary data include official statistics, including data base. After the literature review, it can be assumed that the available data on the topic is mostly qualitative in nature in the form of existing literature.

3.5. Systematic Literature Review(Data collection, data analysis and interpretations)

As the name suggests, “systematic literature review (SLR) is a systematic way of collecting, critically evaluating, integrating, and presenting findings from across

multiple research studies on a research question or topic of interest” (Pati and Lorusso,2018:16). It is considered "systematic" since it employs a uniform and widely acknowledged technique. The technique should encompass considerations pertaining to quality concerns, including but not limited to bias, replicability, and credibility. According to Wright, et al., (2007: 13) systematic review can be defined as a “review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant primary research, and to extract and analyze data from the studies that are included in the review”, The second definition is much more focused on how to conduct a systematic review more than what is a systematic review. This help readers understand these reviews and feel comfortable in performing systematic reviews.

Study selection should be conducted methodically to minimise errors and reduce the possibility of bias for reviewers (online course, in their publication titled "Introduction to Systematic Review and Meta-Analysis" (Li & Dickersin, 2016), the authors provide a comprehensive overview of the topic. Study selection should entail the involvement of two impartial reviewers who employ inclusion and exclusion criteria to choose research. Any conflicts that arise throughout this procedure should be addressed through deliberation or by a third-party evaluator. The selection of specific study kinds is contingent upon the research subject at hand.

This research uses a systematic literature review as a way of “synthesising scientific evidence” to answer the research question: Does the current degree of E-HRM practices as a key tool for HRM activities differ significantly between public sector and private sector organisations? This research uses available research evidence in a way that is transparent and reproducible in the pursuit of incorporating all available published evidence pertaining to the subject matter and evaluating the calibre of said evidence.

Systematic Literature Review (SLR) offers a means to assess the calibre and extent of available evidence pertaining to a certain inquiry or subject matter. It provides a more comprehensive and precise level of comprehension compared to a conventional literature review. Consider a solitary cross-sectional study as a singular momentary representation, whereas a longitudinal study might be likened to a singular video

recording. As the quantity of photos and films pertaining to a certain subject or topic expands, it offers a more comprehensive and precise understanding of the phenomena under investigation (Pati and Lorusso,2018).

3.5.1.The main difference between narrative and systematic literature review

Table 3:The difference between narrative and systematic Review

Features	Narrative Literature Review	Systematic Literature Review
Question	Broad	Specific
Source	Not usually specified, potentially biased	Comprehensive sources, explicit search approach
Selection	Not usually specified, potentially biased	Criterion-based selection, uniformly applied
Evaluation	Variable	Rigorous critical evaluation
Synthesis	Often Qualitative	Quantitative *
Inferences	Sometimes evidence-based	Usually evidence-based
* A quantitative synthesis that includes a statistical method is a meta-analysis (Cook, 1997).		

Cook D J. et. al. Ann Intern Med 1997;126:376-380

The primary goal of systematic reviews is to thoroughly recognise all relevant research studies pertaining to a specific topic, with the aim of providing an unbiased and impartial evaluation of the existing literature. The methods used to select studies for systematic reviews have been particularly designed to identify negative studies that may be issued in small impact journals or conference proceedings. These studies are not included in bibliographic databases but have the potential to counterbalance the findings of the positive studies which can be identified more easily(Nightingale,2009).

In order to effectively conduct systematic reviews, it is important to develop search strategies that involve all existing literature relating to a specific research question. This indicates that the search strategy needs to be prioritised sensitivity above specificity. A certain search method has the ability to identify papers that are more relevant than irrelevant, however it may inadvertently overlook certain significant

publications. To avoid this bias, considering the inclusion criteria, PRISMA statement for this research is presented in systematic review chapter.

Systematic reviews may encounter many limitations throughout their preparation phase. An inadequate literature search may overlook significant studies, thereby impacting the conclusions. However, the level of conclusions drawn cannot be beyond the level of the research that were examined. In order to thoroughly evaluate the findings, it is imperative to conduct a rigorous examination for biases. It is crucial to possess a comprehension of the difficulties that are pivotal in the examination of a specific subject matter in order to ascertain the potential biases that significantly impact the outcomes of a study (Wrigit et al., 2007). Despite its shortcomings, a systematic review can help scientists fill knowledge gaps. However, systematic reviews require various stages, tools, and tactics. Accessing and using these materials can be tricky.

3.5.2. Inclusion criteria

Only studies that satisfied the following six criteria were incorporated into the systematic review.

Examining the correlation between HRM practices, utilisation of ICT, and organisational success, or investigating the effect of ICT usage on HRM practices and organisational performance, are eligible for inclusion.

Studies that focused on modern level of ICT adoption practices in public sector organizations.

Studied that focused on existing level ICT adoption practices in organizations in the private sector. Studies that focused on comparing ICT adoption levels among organizations in public sector and private sector.

Studies that evaluate the relative preference on existing level of ICT adoption to drive HRM practices.

Study that focused some problems persisting with E-HRM practices in both sectors.

3.5.3. Ethical consideration

Unlike primary studies, Systematic reviewers refrain from collecting “highly personal, sensitive, or confidential data” from individuals. Systematic reviewers depend on openly accessible records as proof and often do not require ethical approval before commencing a systematic review. Institutional Review is the assessment and authorization procedure for research projects undertaken by institutions, aimed at ensuring compliance with ethical and regulatory criteria.

Research ethics boards generally do not incorporate specific recommendations for conducting systematic reviews. Over the past four decades, systematic reviews have progressed to enhanced more thorough in their approach and have had a substantial impact on policy, practice, future research, and public opinion. Thus, the ethical considerations of the representation of the interests of several stakeholders in a study review have become of utmost importance (Hammersley, 2003).

In order to conduct systematic reviews effectively, reviewers must engage in informed subjectivity and reflexivity. To effectively conduct a review, it is important to choose an epistemological approach that is suitable for the purpose of the review and the researcher's expertise. Some such orientations include post-positivist, interpretive, participatory, and critical (Suri, 2018). This research has explained the epistemological orientation of the research as post positivism.

3.6. Summery

The systematic review methodology provides a robust framework for synthesizing existing literature on ICT adoption in private and public sectors. By adhering to rigorous and transparent procedures, the review aims to generate valuable insights, inform decision-making, and identify gaps for future research

4. Chapter 4: Systematic Review

4.1. Study design.

Many of the studies considered in this study conducted empirical investigations in the end. The majority of articles investigated included empirical investigations that utilised both quantitative and qualitative approaches. The goal of this was to guarantee that the conclusions drawn from this inquiry were based on research that had firsthand information from employees, organisations, and other pertinent stakeholders. This implies that even though no actual data was gathered for this research, the conclusions drawn from this initial investigation were founded on principles that are supported by evidence.

4.2. Sources of data and search strategy

The search approach employed for this investigation encompassed terms that were directly associated with ICT usage in private and public sectors. The terms mentioned were categorised as forms of focus of ICT use, Challenges of ICT use in HRM and comparison of public and private sector differences. The study's criteria consider the context of the HRM practices in private and public sector which was an essential factor.

PICO research question

Topic: Use of technology in HRM practices

Question: Does use of technology in public sector differ from private sector?

PICO: For HRM in public sector (Population), usage of technology(intervention) is less (outcome) compared with private sector(comparison)

P HRM department

I Adoption of technology

C Private sector /private sector differences

O degree of technology

4.3. Selection of Studies

Following the article selection criteria, the initial screening process involved evaluating the titles, which led to the deletion of several articles. Additional screening was conducted by reading the abstracts. The remaining publications after the abstract review were obtained via university online library database and Goole scholars. A total 203 articles were selected for this review after obtaining complete access to the full text of the articles. Applying the PRISMA model, finally, 50 articles were used in the systematic review. Refer to Figure 4.1 for the criteria of the article sections.

Table 4: Article Search Strategy

Key words	Purpose of ICT/EHRM/AI use in private sector, Purpose of ICT use in private sector, challenges in ICT use in public sector, challenges in ICT use in private sector, etc
Outcome	Private sector: High use Public Sector: Low use
Context	UK and international, HRM, Public and Private sector.

4.4. PRISMA model

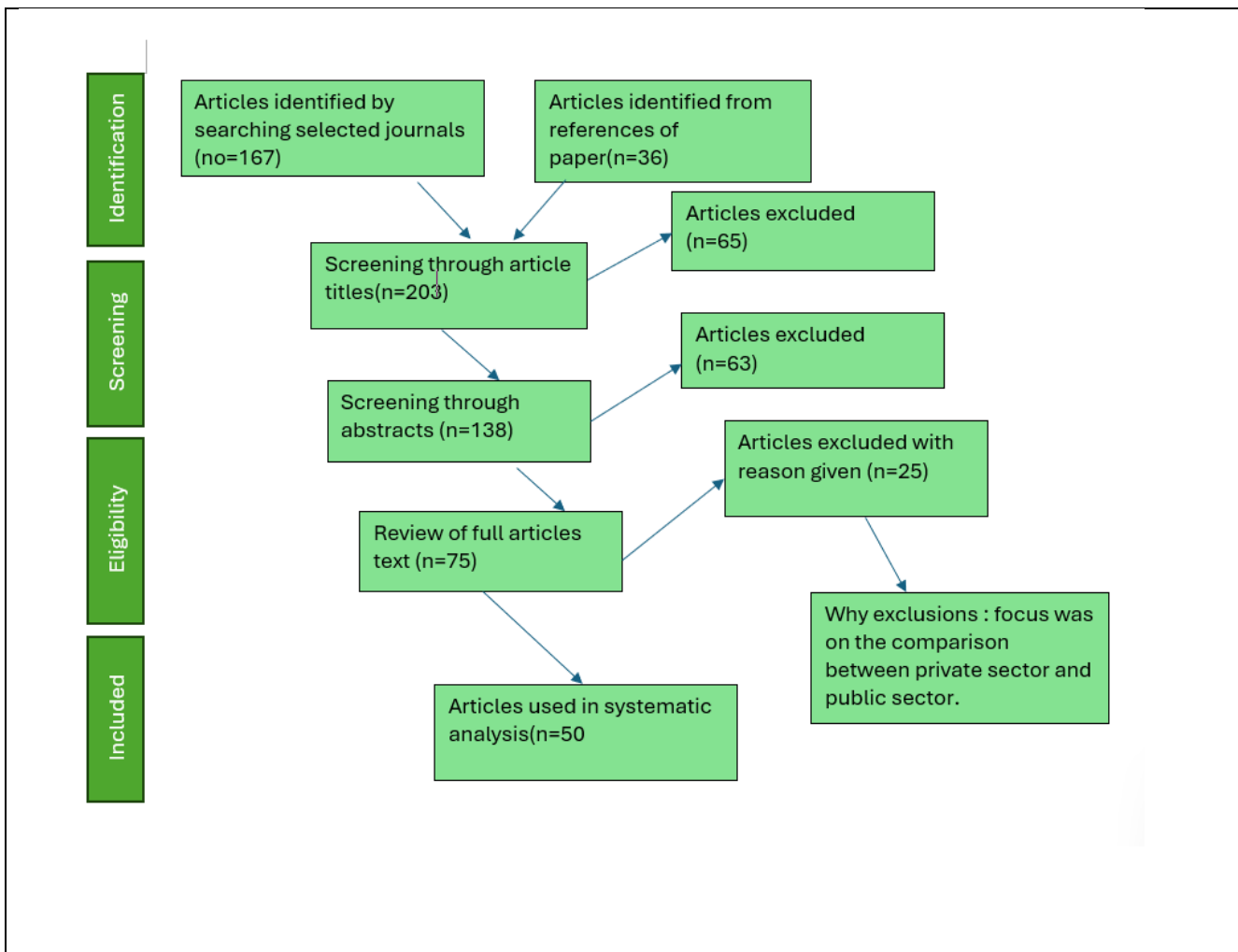


Figure 3:PRISMA Mode

4.5. Systematic Review

Table 5:Articles included in the systematic review

Index	Authours	Year	Title	Key themes or keywords
1	Islam, M.S.	2016	Evaluating the Practices of Electronic Human Resources Management (E-HRM) As a Key Tool of Technology Driven Human Resources Management Function in Organizations	Technology, e-HRM, Human Resources planning & Budgeting, recruitment and selection, training and development, performance management, compensation & benefit, employee file & database
2	Reddick, C.G.	2009	Human Resources Information Systems in Texas City Governments: Scope and Perception of its Effectiveness	human resources information systems (HRIS) human resources directors
3	Mishra, A, and Akman, I.	2010	Information technology in human resource management: An empirical assessment.	human resource management (HRM), human resource management system (HRMS), human resource (HR), information technology (IT), ANOVA test, chi-square test
4	Budhwar, P.S. and Boyne, G.	2004	Human resource management in the Indian public and private sectors: an empirical comparison	Corporate HRM, India, Public versus private sector, developing countries.
5	West, D.M. and Lu, J.	2009	Comparing technology innovation in the private and public sectors. Atlanta: Governance Studies at Brookings	Technology innovation, private sector, private sector, privacy and security.
6	Valcik, N.A. Sabharwal, M. and Benavides, T.J.	2023	Existing research on HRIS in public organizations. In Human Resources Information Systems: A guide for public administrators	HRIS, Public and non-profit organization, Recruitment and selection.
7	Naveed, S. Suhail A. and Rana, N.S.	2021	Adoption of HRIS in the public organizations: Institutional logics perspective.	Human resources; Information system; Institutional logics; NPM reforms; public organizations.

8	Gueutal, H.G., Strohmeier, S. and Kabst, R.	2009	Organizational adoption of e/HRM in Europe: An empirical exploration of major adoption factors.	HRM, ICT, Europe.
9	Hosain, M.S.	2017	The impact of e-hrm on organizational performance: Evidence from selective service sectors of Bangladesh.	E-HRM, Firms, Organizational Performance, Human Resources, Human Resource Information System, Information Technology.
10	Mashrafi, K.A.S.Ai.	2020	The influence of e-HRM practise (e-HRM importance and courts system) towards employee performance in primary courts of Sultanate of Oman.	HRM importance, courts system, employee's performance.
11	Ruel, H.J.M. and Bondarouk, T.	2012	A cross-national perspective on the intersection between information technology and HRM.	ICT, EHRM, Models of ICT adoption.
12	Beadles, Lowery and Johns	2005	The impact of human resource information systems: An exploratory study in the public sector	HRIS, Public sector, Performance Management, Human resources, human resource information system, HRIS, public sector
13	Patel, M. and Dhal, S.	2017	A study on e-HRM practices in different Public and Private Sector Industries. Communications on Applied Electronics	Human Resources, Electronic -Human –Resources Management (E-HRM), Human Resources Information Systems (HRIS), Employees satisfaction Level, Public and Private sector companies in Oriss
14	Sinha, B.C. and Mishra, M	2014	E-HRM tools: An empirical study in select Indian organizations.	ANNOVA, Automation, Point- of- access, Questionnaire, Stakeholders, ICT, EHRM tools.
15	Dubey, T	2019	An assessment of E-HRM in public and private sector	Human Resources, Electronic -Human –Resources Management (E-HRM), Public sector, Private Sector.
16	Imran, A. and Gregor, S.	2005	Strategies for ICT use in the public sector in the least developed countries: A cross-country analysis	Least Developed Country (LDC), ICT adoption, Public Sector, e-government, ICT Strategy
17	Bhatti, Y., Basu, R. R., Barron, D., & Ventresca, M. J.	2018	Frugal innovation: Models, means, methods.	Innovation, technology innovation.
18	Bertot, J. C., Choi, H., & Kumar, S.	2019	HR technology implementation in the public sector: Balancing competing interests and managing change	eHealth, Human resources, Health care management, Information systems, Human resource information systems, HRIS, People analytics
19	Troshani, I., Jerram, C. and Rao Hill, S.	2011	Exploring the public sector adoption of HRIS	HRM, Information system, Public sector
20	Lacity, M. C., Tjong, Y. L., & Carmel, E.	2018	A review of the IT outsourcing literature: Insights for practice	Outsourcing Information technology

				Offshoring Strategy Literature review
21	Matimbwa, H. and Masue, O.S.	2019	Usage and challenges of human resources information system in the Tanzanian public organizations	Ghost Workers, Human Resources Management, Human Resource Information System, Local Government Authority, Payroll, Salary Administration
22	Naveed, S., Suhail, A. and Rana, N.S.	2021	Adoption of HRIS in the public organizations: Institutional logics perspective.	Human resources; Information system; Institutional logics; NPM reforms; public organizations
23	Wickramaratna, U.C.,	2011	The role of human resource information systems in human resource planning in private sector organisations in Sri Lanka	Business Process Outsource DSS : Decision Support System ESS : Executive Support System HR : Human Resource HRIS : Human Resource Information Systems HRM : Human Resource Management IaaS : Infrastructure as a Service IS : Information Systems IT : Information Technology MIS : Management Information System PaaS : Platform as a Service SaaS : Software as a Service SHRP : Strategic Human Resource Planning SOA : Service Oriented Architecture TPS : Transaction Processing Systems
24	Al-Dmour, R.H., Love, S. and Al-Debei, M.M.	2016	Factors influencing the organisational adoption of human resource information systems: a conceptual model.	human resource information systems, HRIS adoption, conceptual models, factors analysis, human resources management, HRM, Jordan, principal component analysis, PCA
25	Al-Dmour, R.H. and Zu'bi, M.F.	2014	Factors motivating and inhibiting the practice of HRIS in business organizations: An empirical analysis	electronic human resources management, e-HRM, Human Resource Information System (HRIS), HRIS implementation.
26	Elliott, R.H. & Tevavichulada, S.	1999	Computer Literacy and Human Resource Management: A Public/Private Sector Comparison	Computer Literacy and Human Resource Management.
27	Sulaiman, A., Aziz, A. A., & Wasif, M.	2017	Impact of e-HRM Implementation on Employees' Performance in the Banking Sector.	employee engagement, environment, transparency, collaboration, and continuous learning, personalized development opportunities, and organizational performance
28	Oswal, N. and Narayanappa, G.L.,	2015	Evolution of HRM to E-HRM to achieve organizational effectiveness and sustainability	HRM, Organizational Effectiveness (OE), sustainability, e-HRM

29	Abdullah, A., Upadhaya, B., & Mishra, S. K.	2018	Challenges of Implementing Electronic Human Resource Management (E-HRM) in Jordanian Universities	Electronic Human Resources Management; Perceived Usefulness; Perceived Ease of Use; Continuance Usage Intention; User Satisfaction;
30	Jiang, K., Fombad, M., Weeks, K., & Ragu-Nathan, T. S.	2019	The dynamics of HRIS vendor selection: A comprehensive review and future directions	HRIS, Challenges. Private sector.
31	Mbatha, B. and Ocholla, D.N.,	2011	Contextualising the use of ICTs in the public sector: the case of selected government departments in KwaZulu-Natal	Civil servants, ICTs, impact, public sector use, social informatics
32	Evans, O.	2018	Digital government: ICT and public sector management in Africa.	digital government; ICT; public sector management; public value; e-government
33	Azemi, H.S.C., Romle, A.R. and Udin, M.M.,	2016	The implementation of ICT towards improving service quality in public sector.	The implementation of ICT towards improving service quality in public sector services.
34	Hazlett, S.A. and Hill, F.	2003	E-government: the realities of using IT to transform the public sector.	Technology led strategy, Public sector.
35	Bonina, C.M. and Cordella, A.,	2010	Public sector innovation and ICT: beyond the private sector rationale	ICT led innovations, e-government. New Public Management (NPM)
36	Bigi, M., Greenan, N., Hamon-Cholet, S. and Lanfranchi, J.	2018	The human sustainability of ICT and management changes: Evidence for the French public and private sectors.	organizational changes; ICT; management tools; work experience; employee outcomes; comparison of public and private sectors; linked employer-employee survey
37	Steven, G.S.,	2017	Effectiveness of Electronic Human Resource Management System in Governing Human Resource in Public Sectors: A Case Study of the Musoma Municipal Council	Effectiveness, Human Resource, Human Resource Management and Electronic Human Recourse Management.
38	Chilunjika, A., Intauno, K. and Chilunjika, S.R.,	2022	Artificial intelligence and public sector human resource management in South Africa: Opportunities, challenges and prospects.	Fourth Industrial Revolution; artificial intelligence; public sector; human resource management; South Africa
39	Sethibe, T., Campbell, J. and McDonald, C.,	2007	IT governance in public and private sector organisations: examining the differences and defining future research directions.	IT Governance, Public and Private sector organisation, HRM.

40	A. S. Barzoki, S. Mazraeh and S. Maleki.	2013	"Feasibility of implementing electronic human resource management (E-HRM) case study: Isfahan municipality	{Organizations;Information technology;Recruitment;Planning;Consumer electronics;Ethics;Human Resource Management (HRM);Electronic Human Resource Management (E-HRM);Electronic Human Resource Management Subsystems; Infrastructures of Information
41	Lengnick-Hall and Moritz,	2003	The impact of e-HR on the human resource management function	
42	Pyszka, A.,	2018	The impact of e-HRM on efficiency in the public institution–Case study of local government.	
43	Varma, S. & Gopal, R.	2011	The implications of implementing electronic-human resource management (e-HRM) systems in companies	Human resource Information system. Employee performance. Private sector, Public sector.
44	Kettley, P. and Reilly, P.,	2003	eHR: An Introduction. IES Report.	electronic human resources(HER), organization's business strategy, service delivery model
45	Sepahvand, R., Nawaser, K., Azadi, M.H., Vafaei-Zadeh, A., Hanifah, H. and Khodashahri, R.B.,	2023	In search of sustainable electronic human resource management in public organisations	sustainable electronic human resource management , SEHRM , FMEA , type 2 fuzzy TOPSIS , type 2 fuzzy AHP
46	Hoq, M.Z.	2021	A comprehensive review of contemporary issues of electronic human resource management (E-HRM)	
47	Al-Harazneh, Y.M. and Sila, I.	2021	The impact of E-HRM usage on HRM effectiveness: highlighting the roles of top management support, HR professionals, and line managers.	
48	Pan, Y. and Froese, F.J.	2023	An interdisciplinary review of AI and HRM: Challenges and future directions.	
49	Zandieh, S.O., Yoon-Flannery, K., Kuperman, G.J., Langsam, D.J., Hyman, D. and Kaushal, R.,	2008	Challenges to EHR implementation in electronic-versus paper-based office practices.	IT, HER, challenges to HER.

50	Palvia, P., Jacks, T. and Brown, W.,	2015	Critical issues in EHR implementation: Provider and vendor perspectives.	
----	---	------	--	--

Number of studies	Authors, Year	Purpose of Study	Public sector HRM ICT focus	Private sector HRM ICT focus
5	Mbatha and Ocholla., 2011, Evans, 2018. Azemi, Romle, and Udin, 2016, Hazlett and Hill, 2003 Bonina and Cordella,2010.	What is the purpose of using ICTs in public sector?	1. To connect with coworkers, browse the web, manage spreadsheets, print documents, handle word processing tasks, and share departmental information. 2.To improve efficiency of administration and improvements of public sector service quality. 3. creating public values. 4. taking over routine tasks and focus more on strategic purpose.	
1	Bigi et al(2018)		Accumulation of new knowledge	Workers autonomy and skill development
2	Islam,2016, Beadles, Lowery & Johns, 2005		employee file and database recording, compensation & Benefit,	employee file and database recording, compensation & Benefit,
2	Steven, 2017, Chilunjika, Intauno and Chilunjika, 2022, Sepahvand et al.,2023.	Evaluate the efficacy of an electronic HR management system in overseeing human resource operations.	Basic applications such as word processing.	
1	Sethibe, Campbell and McDonald, 2007			A more centralized and cohesive HR system, incorporating data on equal employment opportunities, long-term planning including labor force projections, and supply and demand forecasts.
5	Bondarouk and Brewster, 2016,			Improved Efficiency, Enhanced Decision-Making, cost reduction, improved employee experience. Private sector organizations may be more inclined to embrace innovation and knowledge-sharing initiatives facilitated by ICT in HRM.

Table 6: ICT focus

Table 7:Level of ICT adoption in Private public sectors.

Number of Studies	Author	Purpose of the studies	Level of ICT usage in public sector in comparison to private sector is high	Level of ICT usage in public sector in comparison to private sector is low	No major differences
2	Islam,2016, Reddick, 2009	To evaluate any potential disparity between the existing implementation of EHRM practices and the planned level of electronic HRM in both the public and private sectors of Bangladesh.	No	High in areas like Human resource planning and budgeting, recruitment and selection, performance management	Not applied
10	Mishra and Akman, 2010 Budhwar and Boyne, 2004, West and Lu, 2009. Valcik, Sabharwal and Benavides, 2023,	.	Management and planning/Basic tasks/only complementary, not compulsory.	Recruitment, Some functional areas high such as compensation and training and development.	High in Private sector

	Naveed, Suhail and Rana,2021. Gueutal et al., 2009 ; Hosain, 2017 ; Mashrafi, 2020 ; Ruël & Bondarouk, 2012 , (Beadles, Lowery & Johns, 2005		Only non-sophisticated. Only admin not strategic.	Sophisticated and Strategic tasks are at lower stage.	
2	Patel and Dhal, 2017, Sinha and Mishra, 2014.	Examines the research pertaining to the usage patterns of Internet applications in various businesses across the public and private sectors.		Not applied	The implementation of E-HRM techniques in different public and private sector enterprises differs to some extent, both in similar and dissimilar ways.
2	Dubey,2019		Public sector higher than private		

Table 8:Adoption challenges in private and public sectors

Number of Studies	Autor and Year	Purpose of study	Public sector challenges	Private sector challenges
1	Imran and Gregor, 2005	To explore methods for promoting the utilisation of ICT in the public sector of least developed countries (LDCs).	Environmental inimical	
2	Bhatti et al., 2018, Bertot et al., 2019		Resistant to change	Security and Privacy Risks/resistant to change
3	Ngai et al., 2008). Lengnick-Hall and Moritz,2003. Palvia, , Jacks and Brown(2015).		Lack of stakeholder engagement	Technical Issues
2	Troshani, Jerram and Rao Hill., 2011, Lacity et al., 2018).		Software manufacturers offer standardised HRIS. Public sector organisations possess unique characteristics such as “domain-specific quirks, a bureaucratic nature, a complicated regulatory framework, and different stakeholder interests”, in addition to the typical HR functions.	

1	Beadles, Lowery and Johns, 2005,		Not been fully utilized	Not applicable
6	Matimbwa and Masue, 2019, Naveed,Suhail and Rana, 2021, Wickramaratna, 2011. Al-Dmour and Zu'bi, 2014, Al-Harazneh and Sila(2021). Zandieh et al.,2008.	Review the usage and challenges of HRIS in Tanzania	Limited financial resources to obtain, upgrade, and sustain the HRIS, The HRM workforce lacks sufficient knowledge in ICT and HRIS. There is a lack of cooperation among government apparatus in fulfilling their statutory tasks. Additionally, there are issues with unstable internet connectivity and insufficient support from senior management.	Inadequate top management support.
2	Elliott and Tevavichulada, 1999, Kettley and Reilly, 2003		Lack of specific training to employee	Lack of specific training to employee
2	TROSHANI, JERRAM and Rao hill, 2011, Sulaiman et al., 2017	Investigate and identify the aspects that are linked to the implementation of HRIS (Human Resource Information Systems) in the public sector.	multiple intangible goals (e.g. health, education),	typically driven by economic viability considerations

2	Oswal and Narayanappa (2015, Hoq(2021).		Challenges in persuading employees and managers to effectively use the e-HRM system.	
2	Abdullah et al., 2018, Barzoki, Mazraeh and Maleki(2013).			Lack of resources and infrastructure.
1	Jiang et al., 2019			Vendor Selection and Support
2	Khan et al., 2019, Bondarouk & Brewster, 2016(mentioned in a previous table).	Identify sectoral differences in EHRM adoption.	prioritize factors such as transparency, accountability, and citizen-centric service delivery when adopting EHRM systems	prioritize efficiency, productivity, and cost-effectiveness in EHRM adoption.
1	Varma and Gopal (2011),		"fit between costs and organisational requirements and types, meet the business requirements of the company, ensure the security of information, managing the data"	
1	Pan and Froese, 2023		Not applied	Job security

4.6. Discussion and findings

4.6.1. Level of ICT adoption in public and Private sector: High, low or similar

The public sector slowly shadows the private sector in terms of IT development, implementation, and governance. sixteen articles included in the systematic review supported this notion. This disparity can be attributed to the substantial differences between the two sectors. Out of the 50 articles, only Dubey(2019) posited that a substantial contrast is present in the average scores of employees' impression of the impact of E-HRM on the profitability of the organisation. In his research, the difference is statistically meaningful at a five percent point of significance, as indicated by the p-value of 0.001, that is less than the threshold of 0.05. It is clear that the average scores for employees' impression of the effect of E-HRM on the profitability of the organisation are greater for public banks (3.89) compared to private banks (3.73).. This research examines many attributes of E-HRM procedures by comparing the public and private service segments, including the banking and insurance sectors. Nothing is constant; everything is subject to change. According to Dubey(2019), in an ever-evolving corporate world, numerous influential factors, such as technical advancements, drive significant changes. The integration of technology and digitised corporate communications has improved and transformed multiple organisational processes. The employees' opinion of the constant use of E-HRM in public banks is higher than that in private banks. However, this study was a notable exception.

Technology has become an essential component of modern organisations and corporate entities. Efficiently handling a large workforce in organisations has been made easier and more streamlined with ICT adoption in HRM. This has resulted in numerous advantages for the organisation. The ICT adoption has greatly transformed the operations and strategic management practices of big corporations. The HRM is a crucial component and strategic link of organisational management, with a particular emphasis on EHRM, which gained significant prominence in this new century worldwide. The study(Islam,2016) evaluated any disparity amongst the existing level

of electronic HRM practices and the planned level of EHRM practices in two distinct sets of business organisations in Bangladesh: public sector and private sector. Data has been gathered from the employees, HR Managers, and system administration department of one-hundred and twenty organisations in the public and private sectors of Bangladesh. The t-test outcomes indicate a substantial difference between the two organisations in terms of their current degree of EHRM practices. It is simultaneously an endeavour to illustrate the impacts and significance of utilising digital systems in the fundamental operations of HRM, areas such as “planning & budgeting, Recruitment and Selection, Training and Development, Performance management, compensation & benefit Management, and Employee file & Database in both public and private sectors”. There was a notable disparity across both organisations on all dimensions excluding the database recording. Consequently, the average grade of the organizations in private sector have been determined to be higher comparing the governmental sector. The results of this study is not consistent with the previous study from Dubey(2019).

This outcome may be attributed to the fact that the private sector places greater focus on electronic EHRM practices. It is likely that the private sector is more interested and eager to include and implement in ICT-enabled HRM practices in their organisation. The private sector prioritises “cost optimisation, system and process efficiency, timely execution of business partnering functions, reduction of paper and manual work”, and other management objectives to secure strategic advantages. Furthermore, private sector organisations recognise the significance of this for their survival, particularly in a fiercely competitive and dynamic business landscape. Private sector organizations may be more inclined to embrace innovation and knowledge-sharing initiatives facilitated by ICT in HRM. The competitive nature of the private sector incentivizes organizations to leverage HRM technologies to gain a competitive edge in talent acquisition, retention, and development. In contrast, public sector organizations may face challenges in fostering a culture of innovation and knowledge sharing due to bureaucratic constraints and risk-averse cultures(Galliers and Hearnshaw,1994, Varma and Gopal, 2011).

This analysis reveals a notable disparity between private and public sector firms, with the private sector holding a much superior position. The public sector requires more initiatives and comprehensive plans through strong governmental efforts in order to

effectively implement technology-driven EHRM and reap the most benefits from these practices, as compared to the private sector (Mishra and Akman, 2010; Budhwar and Boyne, 2004; West and Lu, 2009; Valcik, Sabharwal and Benavides, 2023; Naveed, Suhail and Rana, 2021; Gueutal et al., 2009; Hosain, 2017; Mashrafi, 2020; Ruël & Bondarouk, 2012; (Beadles, Lowery & Johns, 2005)

4.6.2. Focus of ICT adoption

As explained in the literature review and proven in the systematic review, in recent years, there have been substantial changes in HRM. The advancement of ICT in this field of knowledge has facilitated a shift in emphasis from administrative management to the strategic collaboration of the organization's comprehensive strategy. Information systems significantly influence HRM management in the present day. It revolutionised the way businesses gather, retain, utilise, and share information during HRM procedures and methodologies. Mishra and Akman (2010), Budhwar and Boyne (2004), West and Lu, (2009; Valcik), Sabharwal and Benavides (2023) provided a common theme in the systematic review emphasizing that public sector in most countries especially in emerging economies use ICT only for basic admin tasks.

According to these authors, the adoption of HRIS in the public sector is greatly focused on functional tasks, but it is gradually being recognised for its potential in strategic decision-making. These researchers widely agree that the utilisation and implementation of HRIS in public and nonprofit organisations is restricted. Prior research has mostly focused on the implementation of ICT in the public sector (Troshani et al., 2011). HRIS is being increasingly relied upon to complete even the simplest jobs, according to Hendrickson (2003) and Lengnick-Hall & Moritz (2003), based on the level of complexity as determined by Ball (2001). "Payroll management and benefit administration" are commonly viewed as fundamental responsibilities, but "HR planning, recruiting and selection, training, and development" are seen as advanced tasks that contribute to "strategic decision-making" (Ball, 2001). As explained in the literature review chapter, ICT adoption in HRM in public sector is mostly limited to the fundamental responsibilities. This has been approved in the systematic review

as well. Troshani et al. (2011) state that the adoption of HRIS in the public sector is affected by technological, organisational, and environmental (TOE) variables.

Reddick (2009) conducted empirical research on the efficacy of HRIS in Texas cities in the United States, specifically focusing on its implementation and utilisation in the public sector. In 2006, a total of 88 answers were obtained from human resource departments in Texas out of the more than 150 localities that were contacted. Although the study was done over ten years ago, several findings may still be applicable due to the comparatively slower rate of development and implementation of HRIS in the public sector compared to the private sector. The main findings reveal that a significant majority of employees, roughly 70%, expressed a preference for contacting the HR department either in person or through email. Web-based HR applications were mostly used for job posting and application submission, but were less commonly used for “application tracking, automated resume intake, or new hire processing”. The findings of this investigation were consistent with earlier research (Dery et al., 2009; Ngai & Wat, 2006). A research conducted on HR Directors in public universities found that HRIS was used mostly to enhance data input and maintenance, rather than for recruitment, training, and forecasting purposes (Beadles, Lowery & Johns, 2005).

4.6.3.Challenges

ICT has revolutionized various features of business operations,HRM. However, despite its potential benefits, the integration of ICT in HRM is not without challenges. This systematic review explores the key challenges faced by public and private sector organizations in utilizing ICT for HRM purposes. Most of the challenges are common to both sectors. However, some of them are unique due to the contextual differences.

4.6.3.1. Resistance to Change:

One of the main difficulties in implementing ICT in HRM is the resistance to change from both employees and management in both sectors. Employees may feel threatened by the introduction of new technologies, fearing job displacement or increased surveillance. Similarly, managers may be reluctant to adopt ICT due to

concerns about its impact on traditional HRM practices and organizational culture(Bhatti et al., 2018, Bertot et al., 2019).

4.6.3.2. Cost and Resource Constraints

The adoption and maintenance of ICT infrastructure for HRM can be expensive, especially for small and medium-sized enterprises (SMEs) in private sector. Furthermore, companies may face resource constraints as they could not manage to hire IT experts to adopt and maintain ICT devices effectively. Limited financial resources and lack of IT expertise can impede the adoption and utilization of ICT in HRM. This has been discussed as a common factor for both sectors(Matimbwa and Masue, 2019, Naveed,Suhail and Rana, 202, Wickramaratna, 2011. Al-Dmour and Zu'bi, 2014, Abdullah et al., 2018)

4.6.3.3. Data Security and Privacy Concerns

With the growing dependency on ICT for HRM functions such as recruitment, performance management, and employee training, organizations are confronted with data security and privacy challenges. Safeguarding sensitive employee information from unauthorized access, data breaches, and cyber-attacks is crucial. Compliance with data protection regulations such as GDPR adds another layer of complexity to HRM ICT systems. Public sector organizations put a high value on this matter due to very sensitive data they handle with. For example: NHS UK(Bhatti et al., 2018, Bertot et al., 2019). Public sector HRM often involves managing diverse stakeholder interests and ensuring accountability and transparency in decision-making. The use of ICT in HRM can enhance stakeholder engagement and facilitate greater transparency and accountability in public sector organizations. However, balancing stakeholder expectations and addressing concerns about data privacy and security remains a challenge for the public sector. Organizations in public sector subject to strict regulatory frameworks and compliance requirements, which may influence the adoption of ICT in HRM. Compliance with government regulations such as data protection laws and transparency requirements can significantly impact the design and operation of HRM ICT systems in the public sector.

4.6.3.4. Integration and Compatibility Issues

Integrating various HRM ICT systems and ensuring compatibility with existing organizational infrastructure can be complex and challenging. Different software platforms may have interoperability issues, leading to data inconsistencies and workflow disruptions. Achieving seamless integration between HRM technologies and other business systems remains a significant challenge for organizations. Resource allocation and budgetary constraints play a substantial role in determining the extent of ICT adoption in HRM in both sectors. While organizations in private sector got more investments in cutting-edge HRM technologies, public sector organizations often operate within tight budgetary constraints, which may limit their ability to invest in ICT infrastructure and systems.

The lack of sufficient ICT and HRIS competence among the HRM staff in the public sector is a prominent concern in this industry. Furthermore, the lack of proper coordination among government agencies in carrying out their mandated duties also contributes to this problem. The issues include internet connectivity unreliability and insufficient support from upper management (Matimbwa and Masue, 2019, Naveed, Suhail and Rana, 202, Wickramaratna, 2011. Al-Dmour and Zu'bi, 2014).

4.6.3.5. Training and Change Management

Effective utilization of ICT in HRM requires not only technical training but also change management initiatives to facilitate organizational transition. Employees need to be equipped with the necessary skills and knowledge to leverage HRM technology effectively. When implementing EHRM systems in the public sector, it is crucial to prioritise openness, accountability, and citizen-centric service delivery as stated in the literature review (Knies et al., 2022). Private sector organisations prioritise efficiency, productivity, and cost-effectiveness while adopting EHRM, as opposed to other considerations. Furthermore, cultivating a culture that promotes ongoing learning and adjustment is crucial for overcoming opposition and optimising the advantages of ICT adoption in HRM. Nevertheless, the emphasis on delivering services that prioritise the

needs of citizens in the public sector can present more difficulties compared to the profit-driven private sector (Khan et al., 2019, Bondarouk & Brewster, 2016).

While ICT offers immense potential to streamline HRM processes and enhance organizational performance, its successful implementation is contingent upon addressing various challenges. Overcoming resistance to change, managing costs and resources, ensuring data security and privacy, resolving integration issues, and investing in training and change management are critical steps in harnessing the full benefits of ICT in HRM. However, this implies that it's important to note that while the private sector may lead in ICT adoption, the public sector is increasingly recognizing the importance of ICT in improving service delivery, enhancing governance, and fostering citizen engagement. Efforts are being made to bridge the gap through initiatives such as digital transformation strategies, public-private partnerships, and capacity-building programs. As the public sector continues to leverage ICT to address societal challenges and enhance public services, the disparity in ICT adoption between the two sectors may gradually narrow.

4.7. Summery

In conclusion, while both public and private sector organizations recognize the importance of ICT in HRM, their approaches to adoption and utilization may differ due to various factors such as organizational culture, resource constraints, regulatory environment, stakeholder expectations, and innovation dynamics. Understanding these differences is essential for policymakers and HRM practitioners to design effective ICT strategies tailored to the specific needs and challenges of each sector.

5. Chapter 5: Conclusion and Recommendations

5.1. Introduction

As the research reach the culmination of our exploration into use of ICT to drive HRM practices, It is crucial to contemplate the path we have embarked upon and the knowledge we have acquired throughout. Throughout this study, the research has dig deeper into the difficulties of ICT adoption in HRM, examining its various dimensions and implications with the focus of sectoral differences. In doing so, we have uncovered a tapestry of interconnected ideas, challenges, and possibilities that shape our understanding of adoption of ICT in HRM in both private and public sector.

In this concluding chapter, the research revisits the research objectives, fundamental themes and findings that have emerged from our research. The research consolidates the disparate threads of inquiry into a coherent framework, offering a synthesis that not only encapsulates our current understanding but also illuminates pathways for future investigation. Moreover, it underscores the significance of research contributions within the broader context of ICT adoption, elucidating their potential implications for theory, practice, and policy.

Ultimately, this conclusion serves not as a definitive endpoint, but rather as a springboard for further exploration and inquiry. It is our hope that the insights gleaned from this study will inform future research endeavours, spark new avenues of inquiry, and contribute to the ongoing dialogue surrounding ICT usage and HRM.

5.2. Contribution to the theory and Practice

According to the systematic analysis in the previous chapter, the private sector has consistently demonstrated a propensity to leverage ICT to a greater extent compared to the public sectors. This divergence stems from several factors, including differing organizational structures, funding mechanisms, and objectives. In the private sector, entities are driven by profit motives and competition, prompting them to adopt cutting-edge ICT solutions to enhance operational efficiency, drive innovation, and gain competitive advantage. Moreover, private sector organizations often have greater financial resources at their disposal, enabling them to invest more heavily in ICT infrastructure, research, and development. In contrast, the public and charity sectors are typically constrained by budgetary limitations and bureaucratic processes, which may hinder their ability to fully exploit the potential of ICT. Additionally, these sectors may face unique challenges such as regulatory constraints, data privacy concerns, and public scrutiny, which can further impede their ICT adoption efforts. It's observed in this research that the public sector lags behind the private sector in the adoption and utilization of Information and Communication Technology (ICT) to some extent. (Mishra and Akman, 2010; Budhwar and Boyne, 2004; West and Lu, 2009; Valcik, Sabharwal and Benavides, 2023; Naveed, Suhail and Rana, 2021; Gueutal et al., 2009; Hosain, 2017; Mashrafi, 2020; Ruël & Bondarouk, 2012; Beadles, Lowery & Johns, 2005). Despite these disparities, efforts are underway to bridge the digital divide and promote ICT inclusion across all sectors, recognizing the transformative potential of technology in driving social progress and economic development. Both the private and governmental sectors face distinct difficulties when it comes to incorporating Information and Communication Technology (ICT) in Human Resource Management (HRM). Here is a summary of some of these difficulties derived from the systematic analysis of literature:

5.3. Private Sector

Cost Considerations: Although private sector organisations may possess greater financial resources in comparison to the public sector, the adoption of advanced ICT solutions in HRM can nonetheless result in substantial expenses. Striking a balance

between the allocation of resources to ICT, the anticipated profits, and sustaining competitiveness can pose a difficulty (Matimbwa and Masue, 2019, Naveed, Suhail and Rana, 202, Wickramaratna, 2011. Al-Dmour and Zu'bi, 2014)

Data Security and Privacy: Private sector companies often handle sensitive employee data, including personal information and performance metrics. Confirming the security and privacy of the data in compliance with regulations such as “GDPR (General Data Protection Regulation) or CCPA (California Consumer Privacy Act)” is crucial, but it can be complex and resource-intensive (Bhatti et al., 2018, Bertot et al., 2019).

Talent Acquisition and Retention: Private sector organisations must adopt ICT in their HRM to effectively acquire and retain talented individuals. Nevertheless, in a fiercely competitive job market, it can be difficult to attract and keep highly trained ICT experts who are capable of managing these systems.

Customization and Integration: Private sector companies may require customized HRM ICT solutions tailored to their specific needs and organizational structures. Integrating these solutions with existing systems and processes while ensuring compatibility and scalability can pose technical challenges.

5.4. Public Sector

Budget Constraints: Public sector organizations often operate within tight budget constraints, limiting their ability to invest in ICT infrastructure and systems for HRM. Securing funding for ICT projects and justifying their return on investment (ROI) can be particularly challenging in the public sector.

Bureaucratic Processes: Complex bureaucratic processes and procurement regulations in the public sector can slow down the implementation of ICT solutions in HRM. Decision-making processes may be lengthy, and navigating government regulations and compliance requirements can be cumbersome.

Legacy Systems and Resistance to Change: Many public sector organizations rely on legacy systems for HRM, which may be outdated and difficult to integrate with modern

ICT solutions. Resistance to change from employees accustomed to traditional processes and systems can further impede ICT adoption efforts.

Transparency and Accountability: Public sector organizations are accountable to taxpayers and must ensure transparency in their HRM practices. Implementing ICT solutions that enhance transparency while safeguarding data integrity and privacy is essential but can be challenging to achieve.

Addressing these challenges requires a strategic approach that considers the unique needs, constraints, and objectives of both private and public sector organizations, along with a commitment to leveraging ICT to optimize HRM practices and enhance organizational performance.

5.5. Recommendations on how to adopt ICT to drive HR practices in both sectors.

Implement an Integrated HR Management System: Invest in a comprehensive HR management system that automates routine tasks such as payroll, attendance tracking, and performance evaluations. This streamlines HR operations, reduces errors, and frees up HR personnel to focus on strategic initiatives. This more vivid in private sector and appeared as an unique challenge for public sector. There is a chance for public sector to learn from private sector.

Utilize AI for Recruitment and Talent Management: Adopt AI-powered tools for candidate screening, resume parsing, and predictive analytics to identify top talent efficiently. These tools can help in assessing candidate fit, predicting employee performance, and reducing bias in the hiring process.

Develop Learning and Development Platforms: Implement e-learning platforms and virtual training programs to facilitate continuous learning and development for employees. These platforms can offer personalized learning paths, micro-learning modules, and certifications to upskill and reskill the workforce.

Enhance Employee Engagement with Collaboration Tools: Implement collaboration tools and internal social networks to facilitate communication, cooperation, and

knowledge exchange among staff. This has the potential to enhance employee engagement, productivity, and innovation within teams.

Implement Performance Management Software: Utilise performance management software to establish objectives, monitor advancement, deliver feedback, and carry out performance evaluations efficiently. Utilise tools such as 360-degree feedback, real-time performance tracking, and goal alignment to enhance employee performance and foster professional growth.

Enable Remote Work with Digital Workplace Solutions: Equip employees with digital workplace solutions that facilitate remote work, including cloud-based productivity tools, virtual meeting platforms, and secure VPN access. This promotes adaptability, harmony between work and personal life, and the uninterrupted operation of a firm, particularly during periods of emergency.

Ensure Data Security and Compliance: When deploying HR technology solutions, it is crucial to give priority to data security and compliance with standards such as GDPR and CCPA. Employ stringent security protocols, employ data encryption techniques, and enforce access rules to safeguard confidential employee data.

Promote Diversity, Equity, and Inclusion (DEI) with Technology: Employ technology to bolster DEI (Diversity, Equity, and Inclusion) efforts, including the use of blind recruitment platforms, diversity analytics tools, and inclusive language detectors. It is important to promote a culture that values diversity and inclusion by implementing specific initiatives and raising awareness through campaigns.

Invest in Mobile HR Solutions: Create mobile-responsive HR solutions, such as employee self-service portals and mobile applications, to enable convenient access to HR services at any time and from any location. This enhances the employee experience, making it more accessible and engaging, particularly for workers who are remote or working in the field.

By leveraging these technology-driven approaches, both public and private sector organizations can modernize their HR practices, improve efficiency, and better support their workforce in achieving their goals.

5.6. Limitations of the research

5.6.1.Publication Bias

As a systematic review, this research relied on published literature, which may be biased toward studies with positive results. Unfavourable or unknown results are less likely to be published, resulting in an inadequate portrayal of the evidence. It is also noteworthy that conducting a systematic review requires significant time, resources, and expertise. It involves thorough searching, screening, and synthesizing of a large volume of literature, which was very challenging and time consuming. It can also take time for research findings to be published, leading to a potential lag between the conduct of the systematic review and the availability of the most current evidence. The research was originally intended to focus specifically on the United Kingdom. However, because there is a scarcity of published articles on the topic of "ICT adaption in the UK private and public sectors," the scope of the research was broadened to include a worldwide perspective(Bartolucci and Hillegass, 2010).

5.6.2.Language Bias

Systematic reviews often include only studies published in English or other major languages, potentially leading to language bias and exclusion of valuable research published in other languages. Understanding this, this research includes articles published in English. Moreover, despite efforts to minimize bias, Errors and biases can occur in systematic reviews at many phases, such as “study selection, data extraction, and synthesis”. The “validity and reliability” of the review's interpretations may be impacted by these biases(Morrison et al,2012).

Acknowledging these limitations and conducting systematic reviews with care and transparency can help mitigate their impact and enhance the credibility and usefulness of the findings.

5.6.3.Direction for future research

Due to a lack of published studies on the subject of "ICT adaption in the UK private and public sectors," further study is necessary to explore this topic. Further empirical investigations are also required. This is the case with charity sector as well. There is a dearth of literature written on use of ICT in charity sector in UK as well.

6. Referencess

- Abdullah, A., Upadhaya, B., & Mishra, S. K. (2018). Challenges of Implementing Electronic Human Resource Management (E-HRM) in Jordanian Universities. *International Journal of Academic Research in Business and Social Sciences*, 8(3), 389-406.
- Agahi, H. & Gulthawatvichai, S. (2021). Investigating Barriers That May Influence the Implementation and Use of E-HRM Tools in the Organization. In B. Khan, M. Kuofie, & S. Suman (Eds.), *Handbook of Research on Future Opportunities for Technology Management Education* (pp. 350-370). IGI Global. <https://doi-org.ezproxy.uwtsd.ac.uk/10.4018/978-1-7998-8327-2.ch021>
- Ahammad, T., 2017. Personnel management to human resource management (HRM): How HRM functions. *Journal of Modern Accounting and Auditing*, 13(9), pp.412-420.
- Ahmer Z. Adoption of human resource information systems innovation in pakistani organisations. *Journal of Quality and Technology Management*. 2013;IX(II):25– 50.
- Al-Ababneh, M., 2020. Linking ontology, epistemology and research methodology. *Science & Philosophy*, 8(1), pp.75-91.
- Alam, G.R., Abdul Kadar, M.M., Loo-See Beh & Hong, C.S. 2016, "Critical Factors Influencing Decision to Adopt Human Resource Information System (HRIS) in Hospitals", *PLoS One*, vol. 11, no. 8.
- Al-Dmour, R.H. and Zu'bi, M.F., 2014. *Factors motivating and inhibiting the practice of HRIS in business organizations: An empirical analysis. International Business Research*, 7(7), p.139.
- Al-Dmour, R.H., Love, S. and Al-Debei, M.M., 2016. Factors influencing the organisational adoption of human resource information systems: a conceptual model. *International Journal of Business Innovation and Research*, 11(2), pp.161-207.
- Al-Khowaiter, W., Dwivedi, Y. and Williams, M., 2013. Conceptual model for examining the adoption and success of human resource information systems in public sector organisations in Saudi Arabia.

Al-Harazneh, Y.M. and Sila, I., 2021. The impact of E-HRM usage on HRM effectiveness: highlighting the roles of top management support, HR professionals, and line managers. *Journal of Global Information Management (JGIM)*, 29(2), pp.118-147.

Alshammari, A.A., 2020. The impact of human resource management practices, organizational learning, organizational culture and knowledge management capabilities on organizational performance in Saudi organizations: a conceptual framework. *Revista Argentina de Clínica Psicológica*, 29(4), p.714.

Amladi P. HR's guide to the digital transformation: Ten digital economy use cases for transforming human resources in manufacturing. *Strategic HR Review*. 2017;16(2):66–70

Amoako, R. et al. (2023) "Factors influencing electronic human resource management implementation in public organisations in an emerging economy: An empirical study," *South African journal of business management*, 54(1), pp. 1–12. Available at: <https://doi.org/10.4102/sajbm.v54i1.2937>

ARTHUR, D. (2004). *Fundamentals of Human Resources Management*: EBook Edition (4th ed.). AMACOM.

Ashbaugh, S. and Miranda, R. (2002), "Technology for human resources management: seven questions and answers", *Public Personnel Management*, Vol. 31 No. 1, pp. 7-20.

A. S. Barzoki, S. Mazraeh and S. Maleki, "Feasibility of implementing electronic human resource management (E-HRM) case study: Isfahan municipality," *7th International Conference on e-Commerce in Developing Countries: with focus on e-Security*, Kish Island, Iran, 2013, pp. 1-16, doi: 10.1109/ECDC.2013.6556731.

Awan, S.H., Habib, N., Shoaib Akhtar, C. and Naveed, S., 2020. Effectiveness of performance management system for employee performance through engagement. *SAGE open*, 10(4), p.2158244020969383.

Azemi, H.S.C., Romle, A.R. and Udin, M.M., 2016. The implementation of ICT towards improving service quality in public sector. *World Applied Sciences Journal*, 34(4), pp.499-505.

Ball, K. S. (2001). The use of human resource information systems: a survey. *Personnel Review*, 30(6), 677–693.

Bartolucci, A.A. and Hillegass, W.B., 2010. Overview, strengths, and limitations of systematic reviews and meta-analyses. *Evidence-based practice: Toward optimizing clinical outcomes*, pp.17-33.

Beadles II, N.A., Lowery, C.M. and Johns, K., 2005. The impact of human resource information systems: An exploratory study in the public sector. *Communications of the IIMA*, 5(4), p.6.

Beardwell, J. and Claydon, T. eds., 2007. *Human resource management: A contemporary approach*. Pearson Education.

Berisha Qehaja, A. and Kutllovci, E., 2015. The role of human resources in gaining competitive advantage. *Journal of Human Resource Management* (2015), 18(2), pp.47-61.

Bertot, J. C., Choi, H., & Kumar, S. (2019). HR technology implementation in the public sector: Balancing competing interests and managing change. *Government Information Quarterly*, 36(1), 156-168.

Bhatti, Y., Basu, R. R., Barron, D., & Ventresca, M. J. (2018). *Frugal innovation: Models, means, methods*. Cambridge University Press.

Bigi, M., Greenan, N., Hamon-Cholet, S. and Lanfranchi, J., 2018. The human sustainability of ICT and management changes: Evidence for the French public and private sectors. *Sustainability*, 10(10), p.3570.

Blobel, B., 2022, November. Human Resource Planning in Health Care: Outlining a Basic Model and Related Complexities. In *PHealth 2022: Proceedings of the 19th International Conference on Wearable Micro and Nano Technologies for Personalized Health* (Vol. 299, p. 279). IOS Press.

Blom, R., Kruyen, P. M., Van der Heijden, B. I. J. M., & Van Thiel, S. (2020). One HRM Fits All? A Meta-Analysis of the Effects of HRM Practices in the Public, Semipublic, and Private Sector. *Review of Public Personnel Administration*, 40(1), 3-35

Bondarouk, T., & Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21), 2652-2671.

Bondarouk, T.V & Ruel, H.J. (2009B). Structuring the IT-enabled Transformation of HR: An HRM Frames Analysis in an International Company. In Sparrow (Eds.) *Handbook of International Human Resource Management*. John Wiley:

Bonina, C.M. and Cordella, A., 2010. Public sector innovation and ICT: beyond the private sector rationale. *Haettu*, 13, p.2011.

Bright, David S., Cortes, Anastasia H.(2019), *Principles of Management*, OpenStax, available at <https://openstax.org/books/principles-management/pages/1-introduction>

Budhwar, P.S. and Boyne, G., 2004. Human resource management in the Indian public and private sectors: an empirical comparison. *The International Journal of Human Resource Management*, 15(2), pp.346-370.

Caudron C. (2003). Counting heads and hiring, firing and managing them too. *PROFIT Oracle's e-business magazine*, February, 79-80.

CedarCrestone (2010). *The HR Systems Survey: HR Technologies, Deployment Approaches, Value and Metrics*, 12th Annual Edition.

Chia, R., 2002. *Philosophy and research. Essential skills for management research*, pp.1-19.

Chilunjika, A., Intauno, K. and Chilunjika, S.R., 2022. Artificial intelligence and public sector human resource management in South Africa: Opportunities, challenges and prospects. *SA Journal of Human Resource Management*, 20, p.12.

Crossan, F., 2003. Research philosophy: towards an understanding. *Nurse Researcher* (through 2013), 11(1), p.46.

Davis, F.D., 1989. Technology acceptance model: TAM. Al-Suqri, MN, Al-Aufi, AS: *Information Seeking Behavior and Technology Adoption*, 205, p.219.

De Alwis A. The impact of electronic human resource management on the role of human resource managers. *E a M: Ekonomie a Management*. 2010;4(4): 47-60

Diaconescu, A., Mos, A. and Murphy, J., 2004, May. Automatic performance management in component based software systems. *In International Conference on Autonomic Computing*, 2004. Proceedings. (pp. 214-221). IEEE.

Dubey, T. 2019, An assessment of E-HRM in public and private sector. *JETIR*, Volume 6, Issue 6

Dyer, L. and Kochan, T.A., 1994. Is there a new HRM? Contemporary evidence and future directions.

Eisenhardt, K.M., 1989. Agency theory: An assessment and review. *Academy of management review*, 14(1), pp.57-74.

Elliott, R.H. & Tevavichulada, S. (1999). Computer Literacy and Human Resource Management: A Public/Private Sector Comparison. *Public Personnel Management*, 28(2), 259-274

Evans, O., 2018. Digital government: ICT and public sector management in Africa.

Fenech, R., Baguant, P. and Ivanov, D. (2019), "The changing role of human resource management in an era of digital transformation", *Journal of Management Information and Decision Sciences*, Vol. 22 No. 2, pp. 1-10

Fernandez, V. and Gallardo-Gallardo, E., 2021. Tackling the HR digitalization challenge: key factors and barriers to HR analytics adoption. *Competitiveness Review: An International Business Journal*, 31(1), pp.162-187.

Goertz, G. and Mahoney, J., 2012. Concepts and measurement: Ontology and epistemology. *Social Science Information*, 51(2), pp.205-216.

Gueutal, H.G., Strohmeier, S., & Kabst, R. (2009). Organizational adoption of e/HRM in Europe: An empirical exploration of major adoption factors. *Journal of Managerial Psychology*, 24(6), 482–501. <https://doi.org/10.1108/02683940910974099>

Harris, J. G., Craig, E. and Light, D. A. (2011), 'Talent and analytics: new approaches, higher ROI', *Journal of Business Strategy* 32(6), 4–13.

Hassan U, Iqbal S, Habibah U. Self-service technology service quality: building loyalty and intention through technology trust in Pakistani service sector. *Sage Open*. 2020;10(2):1-19

Hazlett, S.A. and Hill, F., 2003. E-government: the realities of using IT to transform the public sector. *Managing Service Quality: An International Journal*, 13(6), pp.445-452.

Hemistocleous, M., Irani, Z., Kuljis, J. and Love, P.E.D. (2004), "Extending the information systems lifecycle through enterprise application intergration", *Proceedings of the The 37th Hawaii International Conference on System Sciences, IEEE* , Big Island, HI .

Hendrickson, A. R. (2003). Human resource information systems: Backbone technology of contemporary human resources. *Journal of Labor Research*, 24(3), 381–394.

Henriksen, H.Z. and Mahnke, V. (2005), "E-procurement adoption in the Danish public sector", *Scandinavian Journal of Information Systems*, Vol. 17 No. 2, pp. 85-106.

Hosain, M.S. (2017). The impact of e-hrm on organizational performance: Evidence from selective service sectors of Bangladesh. *International Journal of Human Resources Management (IJHRM)*, 6(3), 1–14.

Hoq, M.Z., 2021. A comprehensive review of contemporary issues of electronic human resource management (E-HRM). *Global Journal of Economics and Business*, 11(2), pp.278-296.

Huikun Chang, Seung Yeon Son & Jongwook Pak. (2020) How Do Leader–Member Interactions Influence the HRM–Performance Relationship? A Multiple Exchange Perspective. *Human Performance* 33:4, pages 282-301.

Huselid, M., Jackson, S., and Schuler, R. (1997), 'Technical and Strategic Human Resource Management Effectiveness as Determinants of HRM Performance,' *Academy of Management Journal*, 40, 1, 171–188

Imran, A. and Gregor, S., 2005, November. Strategies for ICT use in the public sector in the least developed countries: A cross-country analysis. *In Proceedings of the 16th Australasian conference on information systems* (p. 32). Sydney: ACIS 2005.

Islam, M.S., 2016. Evaluating the practices of electronic human resources management (E-HRM) as a key tool of technology driven human resources management function in organizations-a comparative study in public sector and

private sector enterprises of Bangladesh. *IOSR Journal of Business and Management* (IOSR-JBM), 18(11).

Jensen, M.C., & Meckling, W.H. (1976). "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *The Journal of Financial Economics*, 3(4), 305-360.

Jiang, K., Fombad, M., Weeks, K., & Ragu-Nathan, T. S. (2019). The dynamics of HRIS vendor selection: A comprehensive review and future directions. *International Journal of Human Resource Management*, 30(4), 597-634.

Kamal, M.M. (2006), "IT innovation adoption in the government sector: identifying the critical success factors", *Journal of Enterprise Information Management*, Vol. 19 No. 2, pp. 192-222.

Kambur, E. and Yildirim, T., 2023. From traditional to smart human resources management. *International Journal of Manpower*, 44(3), pp.422-452.

Karanja, D., Sang, A.K.A. and Ndirangu, M., 2018. Influence of Integration of ICT on human resource management in Kenyan public universities. *International Journal of Sustainability Management and Information Technologies*, 3(6), p.73.

Kettley, P. and Reilly, P., 2003. eHR: An Introduction. IES Report. Grantham Book Services, Ltd., Isaac Newton Way, Alma Park Industrial Estate, Grantham NG31 9SD, United Kingdom (19.95 British pounds (paper); 8 British pounds (pdf); free to members). Web site: <http://www.employment-studies.co.uk>.

Khan, Z., Ahsan, K., & Alam, M. M. (2019). Adoption of E-government services in developing countries: The case of Bangladesh. *Information Technology for Development*, 25(1), 145-173.

Knies, E., Boselie, P., Gould-Williams, J. and Vandenabeele, W., 2017. Strategic human resource management and public sector performance: context matters. *The International Journal of Human Resource Management*, pp.1-13.

Lengnick-Hall, M.L. and Moritz, S., 2003. The impact of e-HR on the human resource management function. *Journal of labor research*, 24(3), p.365.

- Lacity, M. C., Tjong, Y. L., & Carmel, E. (2018). A review of the IT outsourcing literature: Insights for practice. *The Journal of Strategic Information Systems*, 27(1), 23-49.
- Lawani, A., 2021. Critical realism: what you should know and how to apply it. *Qualitative research journal*, 21(3), pp.320-333.
- Lengnick-Hall, M. L., & Moritz, S. (2003). The impact of e-HR on the human resource management function. *Journal of Labor Research*, 24(3), 365–379.
- Maphosa, V., 2021. The Adoption of e-HRM: A View of a Telecommunications Company in Zimbabwe. *Advances in Research*, 22(6), pp.1-13.
- Marangunić, N. and Granić, A., 2015. Technology acceptance model: a literature review from 1986 to 2013. *Universal access in the information society*, 14, pp.81-95.
- Markoulli, M. P., Lee, C. I. S. G., Byington, E., & Felps, W. A. (2017). Mapping human resource management: Reviewing the field and charting future directions. *Human Resource Management Review*, 27(3), 367–396. <https://doi.org/10.1016/j.hrmr.2016.10.001>
- Mashrafi, K.A.S.Al. (2020). The influence of e-HRM practise (e-HRM importance and courts system) towards employee performance in primary courts of Sultanate of Oman. *Journal of Management and Human Science*, 4(3), 1–13.
- Masum M, Kadar A. Adoption factors of electronic human resource management (e-HRM) in banking industry of Bangladesh. *Journal of Social Sciences*, 2015;11(1):1-6.
- Matimbwa, H. and Masue, O.S., 2019. Usage and challenges of human resources information system in the Tanzanian public organizations. *Journal of Human Resource Management*, 7(4), pp.131-137.
- Mbatha, B. and Ocholla, D.N., 2011. Contextualising the use of ICTs in the public sector: the case of selected government departments in KwaZulu-Natal. *Mousaion*, 29(2), pp.195-210.
- McGrath, C. and Zell, D. (2001), "The future of innovation diffusion research and its implications for management: a conversation with Everett Rogers", *Journal of Management Inquiry*, Vol. 10 No. 4, pp. 386-91.

McKinnon, R. (2010), "An ageing workforce and strategic human resource management: staffing challenges for social security administrations", *International Social Security Review*, Vol. 63 Nos 3/4, pp. 91-113.

Minbaeva, D. B. (2018), 'Building credible human capital analytics for organizational competitive advantage', *Human Resource Management* 57(3), 701–713.

Mishra, A. and Akman, I., 2010. Information technology in human resource management: An empirical assessment. *Public Personnel Management*, 39(3), pp.271-290.

Morrison, A., Polisena, J., Husereau, D., Moulton, K., Clark, M., Fiander, M., Mierzwinski-Urban, M., Clifford, T., Hutton, B. and Rabb, D., 2012. The effect of English-language restriction on systematic review-based meta-analyses: a systematic review of empirical studies. *International journal of technology assessment in health care*, 28(2), pp.138-144.

Nagendra, A. and Deshpande, M., 2014. Human Resource Information Systems (HRIS) in HR planning and development in mid to large sized organizations. *Procedia-Social and Behavioral Sciences*, 133, pp.61-67.

Nath, M.P.S. and Naidu, G. (2016), Exploring the effect of integrating Learning management System with Human Resource Management System. *International Research Journal of Management Sociology & Humanity (IRJMSH)*, Volume 7, Issue 7.

Naveed, S., Suhail, A. and Rana, N.S., 2021. Adoption of HRIS in the public organizations: Institutional logics perspective. *Pakistan Journal of Information Management and Libraries*, 23, pp.1-27.

Nightingale, A., 2009. A guide to systematic literature reviews. *Surgery (Oxford)*, 27(9), pp.381-384.

Nikolaou, I., 2021. What is the Role of Technology in Recruitment and Selection?. *The Spanish journal of psychology*, 24, p.e2.

Nosike, C.J., 2023. DEPLOYMENT OF MODERN DIGITAL TECHNOLOGIES AND ICTS IN PUBLIC SECTOR HRM: BENEFITS AND

CHALLENGES. *INTERDISCIPLINARY JOURNAL OF AFRICAN & ASIAN STUDIES* (IJAAS), 9(3).

Ondarouk, T., Parry, E., & Furtmueller, E. (2016). Electronic HRM: Four decades of research on adoption and consequences. *International Journal of Human Resource Management*, 28(1), 98–131. doi:10.1080/09585192.2016.1245672

Oswal, N. and Narayanappa, G.L., 2015. Evolution of HRM to E-HRM to achieve organizational effectiveness and sustainability. *International Journal of Business Administration and Management Research*, 1(2), pp.22-26.

Oye, N.D., A. Iahad, N. and Ab. Rahim, N., 2014. The history of UTAUT model and its impact on ICT acceptance and usage by academicians. *Education and information technologies*, 19, pp.251-270.

Palvia, P., Jacks, T. and Brown, W., 2015. Critical issues in EHR implementation: Provider and vendor perspectives. *Communications of the Association for Information Systems*, 36(1), p.36.

Pan, Y. and Froese, F.J., 2023. An interdisciplinary review of AI and HRM: Challenges and future directions. *Human Resource Management Review*, 33(1), p.100924.

Patel, M. and Dhal, S., 2017. A study on e-HRM practices in different Public and Private Sector Industries. *Communications on Applied Electronics (CAE)*, 7(10), pp.28-34.

Pati D, Lorusso LN. How to Write a Systematic Review of the Literature. *HERD: Health Environments Research & Design Journal*. 2018;11(1):15-30. doi:[10.1177/1937586717747384](https://doi.org/10.1177/1937586717747384)

Piabuo, S.M., Piendiah, N.E., Njamnshi, N.L. and Tieguhong, P.J., 2017. The impact of ICT on the efficiency of HRM in Cameroonian enterprises: *Case of the Mobile telephone industry*. *Journal of Global Entrepreneurship Research*, 7(1), p.7.

Pinho, G., Arantes, J., Marques, T., Branco, F. and Au-Yong-Oliveira, M., 2019. *The use of LinkedIn for ICT recruitment*. In *New Knowledge in Information Systems and Technologies: Volume 1* (pp. 166-175). Springer International Publishing.

Poisat, P., & Mey, M. R. (2017). Electronic human resource management: Enhancing or entrancing? *SA Journal of Human Resource Management*, 15(9), 1–9. doi:10.4102ajhrm.v15i0.85

Pyszka, A., 2018. The impact of e-HRM on efficiency in the public institution—Case study of local government. *International Journal of Contemporary Management*, 17(2), pp.137-161.

R. D. Galliers & W. J. R. Hearnshaw, 1994. Information Technology and Organizational Change: Strategies for a New Era.

Reddick, C. G. (2009). Human resources information systems in Texas City governments: Scope and perception of its effectiveness. *Public Personnel Management*, 38(4), 19–34.

Richter A, Näswall K. Job insecurity and trust: Uncovering a mechanism linking job insecurity to well-being. *Work & Stress*. 2019;33(1):22-40.

Ruël, H.J.M., & Bondarouk, T. (2012). A cross-national perspective on the intersection between information technology and HRM. In C. Brewster, W. Mayrhofer, & E. Farndale (Eds.), *Handbook of research on comparative human resource management* (pp. 339–357). Cheltnham: Edward Elgar.

Ryan, A. M., & Ployhart, R. E. (2014). A century of selection. *Annual Review of Psychology*, 65(1), 693–717. <https://doi.org/10.1146/annurev-psych-010213-115134>

Schwandt, T.A., 1994. Constructivist, interpretivist approaches to human inquiry. *Handbook of qualitative research*, 1(1994), pp.118-137.

Sethibe, T., Campbell, J. and McDonald, C., 2007. IT governance in public and private sector organisations: examining the differences and defining future research directions. *ACIS 2007 Proceedings*, p.118.

Sepahvand, R., Nawaser, K., Azadi, M.H., Vafaei-Zadeh, A., Hanifah, H. and Khodashahri, R.B., 2023. In search of sustainable electronic human resource management in public organisations. *International Journal of Information and Decision Sciences*, 15(2), pp.117-147.

Silva MSA e and Lima CG da S (2018) The Role of Information Systems in Human Resource Management. Management of Information Systems. InTech. Available at: <http://dx.doi.org/10.5772/intechopen.79294>.

Sinha, B.C. and Mishra, M., 2014. E-HRM tools: An empirical study in select Indian organizations. *International Journal of Business and Management Invention*, 3(9), pp.71-83.

Snell, S.A., Stueber, D. and Lepak, D.P., 2002. Virtual HR departments. Human resource management in virtual organizations, 81, pp.81-101.

Sözer, S., 2004. An evaluation of current human resource management practices in the Turkish private sector (Master's thesis, Middle East Technical University).

Stavrou E., Charalambous C., Spiliotis S. (2007). Human resource management and performance: A neural network analysis. *European Journal of Operational Research*, 181, 453-467.

Steven, G.S., 2017. Effectiveness of Electronic Human Resource Management System in Governing Human Resource in Public Sectors: A Case Study of the Musoma Municipal Council (*Doctoral dissertation*, The Open University of Tanzania).

Sulaiman, A., Aziz, A. A., & Wasif, M. (2017). Impact of e-HRM Implementation on Employees' Performance in the Banking Sector. *Review of Integrative Business and Economics Research*, 6(1), 243-259.

Suri, H. (2018). 'Meta-analysis, systematic reviews and research syntheses' In L. Cohen, L. Manion & K. R. B. Morrison *Research Methods in Education* (8th ed., pp. 427–439). Abingdon: Routledge.

Suri, H., 2020. Ethical considerations of conducting systematic reviews in educational research. *Systematic reviews in educational research: Methodology, perspectives and application*, pp.41-54.

Troshani, I., Jerram, C. and Rao Hill, S., 2011. Exploring the public sector adoption of HRIS. *Industrial Management & Data Systems*, 111(3), pp.470-488.

Tsui, A.S., Pearce, J.L., Porter, L.W., and Tripoli, A.M. (1997), 'Alternative Approaches to Employee–organisation Relationship: Does Investment in Employees Pay Off?' *Academy of Management Journal*, 40, 1089–1121

Valcik, N.A., Sabharwal, M. and Benavides, T.J., 2023. *Existing research on HRIS in public organizations. In Human Resources Information Systems: A guide for public administrators* (pp. 35-48). Cham: Springer International Publishing.

Vanhala S., Stavrou E. (2013). Human resource management practices and the HRM-performance link in public and private sector organizations in three western societal clusters. *Baltic Journal of Management*, 8, 416-437.

Varma, S. & Gopal, R. (2011). The implications of implementing electronic-human resource management (e-HRM) systems in companies. *Journal of Information Systems and Communication*, 2(1), 10–29

Wang, S. (1997). Impact of information technology on organizations. *Human Systems Management*, 16, 83-90.

West, D.M. and Lu, J., 2009. Comparing technology innovation in the private and public sectors. Atlanta: *Governance Studies at Brookings*.

What Is the Private Sector? Definition and Business Examples (*investopedia.com*)

Wickramaratna, U.C., 2011. The role of human resource information systems in human resource planning in private sector organisations in Sri Lanka.

William, F.K.A., 2024. Interpretivism or Constructivism: Navigating Research Paradigms in Social Science Research. Interpretivism or Constructivism: Navigating *Research Paradigms in Social Science Research*, 143(1), pp.5-5.

Wright, P.M., McMahan, G.C., Snell, S.A., and Gerhart, B. (2001), 'Comparing Line and HR Executives' Perceptions of HR Effectiveness: Services, Roles, and Contributions,' *Human Resource Management*, 40, 2, 111–123

Wright, R.W., Brand, R.A., Dunn, W. and Spindler, K.P., 2007. How to write a systematic review. *Clinical Orthopaedics and Related Research®*, 455, pp.23-29.

Zandieh, S.O., Yoon-Flannery, K., Kuperman, G.J., Langsam, D.J., Hyman, D. and Kaushal, R., 2008. Challenges to EHR implementation in electronic-versus paper-based office practices. *Journal of general internal medicine*, 23, pp.755-761.