A Qualitative Study into The Practicality of AI as a tool for Recruitment and Selection

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Abstract

Background: The digital era is changing the world of work. HR is going through significant change because of the impact and implementation of higher functioning technologies such as AI. Rapid advancements in technology are forcing organisations to adapt to digitisation of the workforce (Bondarouk and Brewster, 2016). Organisations are now required to embrace new technologies to remain competitive in the market (Lumi, 2020).

Objective: While the advantages of AI and automation for certain HR functions are well documented, it is clear that there is a significant gap in the research in relation to how HR practitioners feel about digitising the HR function (Bondarouk and Brewster, 2016; Berber et al., 2018; Stone et al., 2015). This research aims to fill this gap through further investigation.

Methods: Through inductive qualitative methods, the researcher seeks to explore the practicality of AI as a tool for R&S by interpreting the perceptions of HR practitioners. Semi-structured interviews will be analysed through thematic analysis (Braun and Clarke, 2006). The researcher will draw conclusions, discuss limitations, and provide recommendations for future research.

Results: Research findings identify that AI is practical as a tool for R&S, however, HR practitioners lack trust in the systems. This limits organisations from using AI to its full capacity. HR do not want to relinquish R&S tasks due to the necessity of hiring the 'right-fit' for the organisation.

Conclusions: These findings are significant as it will move research forward by providing information on how AI will change the role of a HR practitioner. Understanding AI systems and the encroachment of HR is going to help HR professionals to future-proof both department and practice.

Declaration

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List of abbreviations

CHRO – Chief Human Resource Officer

CIPD - Chartered Institute of Personnel and Development

R&S – Recruitment and selection

PM – Performance management

L&D – Learning and development

HR – Human resources

AI – Artificial intelligence

PA – People analytics

IoT – Internet of things

HRIS – Human resource information system

NCI – National College of Ireland

Chapter 1 - Introduction

Background

As the digital era leads to significant changes in the workforce, technology – especially Artificial Intelligence (AI) and automation – has become a crucial aspect of the HR function (Bondarouk and Brewster, 2016). By the end of the decade, Manyika and Sneader (2018) expect automation, alone, to have replaced around 15% of the workforce globally.

New marketplace realities are forcing businesses to adapt their strategies and business models to continue digital transformations. Organisations are implementing new technologies at scale to keep up with the new demands of the workforce. Millennials will make up 44% of the workforce by 2030, this is a generation that requires personalised experiences, flexible work practices and a valuable employee experience (Hmoud, 2021). Therefore, a 'people-first' approach will be required to improve the organisations brand and become an employer of choice (Hmoud, 2021). The digital era was driving this change, however, Covid has accelerated the adoption of this technology in the workforce (Wright et al., 2020).

Consequently, HR leaders expect the role of human resources to be "unrecognisable" by 2030 (CIPD, 2019). Once an 'admin-heavy' role, HR is being transformed into a function that is more people centric and data driven, with technology permeating almost every aspect, from sifting through job applications to assessing employee performance.

AI has proved it has the ability carry out administrative duties, alleviating HR from their traditional roles. AI can complete R&S, L&D and PM at a much faster pace than a human (Stone et al. 2015).

This would suggest that AI may pose a threat to the HR profession in its current form. However, Wright et al. (2020) suggests HR practitioners will still be at the 'heart' of these changes thus, will need to 'future proof' the profession and the department to stay relevant. This will require a shift in the organisation requiring HR practitioners to be agile and adapt to this change. Sage (2020) suggest that HR need a 'business paradigm shift' and should become proactive to change the organisational environment. This is done through using predictive AI and data analytics to restructure the workforce to stay competitive in the market.

Research Aims

While the advantages of AI and automation for certain HR functions are well documented, it is clear that there is a significant gap in the research in relation to how HR practitioners feel about digitising the HR function (Bondarouk and Brewster, 2016; Berber et al., 2018; Stone et al., 2015).

The nature of HR is changing, understanding the new systems that will be implemented in HR practitioners place, will be fundamental to ensuring HR successfully 'future poof 'the HR function. The success of 'future-proofing' an organisation will largely depend on the practicality of AI for core HR functions such as R&S. Therefore, the central aim of this research is to explore the practicality of AI as a tool for R&S. This research will discuss both internal and external recruitment further illuminating the impact of AI on PM and L&D.

Research Objectives

This research aims to garner a deeper understanding from HR professionals in Ireland regarding their use of AI and its implementation in the recruitment process.

By exploring recent trends and advancements in technology, and understanding how these changes will affect the future role of HR practitioners, the researcher aims to move this research forward by answering the following questions:

1. How practical is AI as a tool for R&S?
2. How important is the human touch?
3. How effective is AI as a tool for PM?
4. How effective is AI as a tool for L&D?

Research Structure

The research will discuss and interpret the current literature regarding the impact of AI on the HR function. The following section will clarify the aims and objectives of this research, following this, the research approach is illustrated which discusses qualitative techniques and how they apply to this research. Key findings from the research will be presented, and a discussion section will follow, detailing everything that was found in the study. The conclusion outlines the implications and limitations of this study and also lays out potential avenues for future research detailing timelines and costings. Finally, a personal learning statement and appendix will conclude the research project.

Chapter 2 - Literature review

Introduction

This section explores the current body of literature on the introduction of technology to the field of workforce management, more specifically, the prevalence of AI in the HR function and the evolving role of the HR function itself. The research critically evaluates AI in different HR areas – recruitment and selection (R&S), learning and development (L&D) and performance management (PM).

Technology in HR

As Chanda (2019) writes, the main function of an organisation's HR department is to attract, retain and motivate employees. It has traditionally been a function dominated by administrative work, heavily populated by personnel specialised in particular areas, from attendance management to L&D. Advancements in technology are changing how the HR function operates, however, with corresponding effects on the workforce.

Organisations are having to keep up with these myriad technological changes, as Wright et al. (2020) observe. Those that do tend to be industry outperformers, as evident in the case of tech giants such as Google, Microsoft and HubSpot. Those that do not will find themselves struggling to attract and retain talent, which could eventually lead to industry underperformance.

Kiesler, Siegel and McGuire (1984) suggest that IT now serves as an intermediary in the relationship between the individual and the organisation. New technologies are being introduced all the time to better capitalise on the wealth of data captured by the internet of things (IoT) – smart technologies, such as smart phones, smart watches and security systems – that use sensors for the purpose of collecting and sharing data with other devices (Manyika and Sneader, 2018).

As CIPD (2021), writes, technology is now "everywhere" in the workplace. However, the CIPD notes that for this new technology to be successful, all stakeholders must be involved in the planning and implementation process and that the voice of the employee must be heard.

The CIPD (2019) further suggests that when employees feel part of the decision-making process, they have a more positive experience using IT systems**.** McGrath and Bear (2020) similarly suggest that a positive experience with technology plays a key role in employee engagement.

This underpins the view of this research, that while technology can be an invaluable tool in business optimisation, it should be part of a hybrid HR solution and organisations should not lose sight of the importance of the human touch.

In the following subsections, the researcher explores how technology is being used to optimise HR tasks, per the latest literature on the topic.

People analytics

McBride, Cunden and Bryce (2021) suggest that the increased use of new technologies has accelerated organisations' use of people analytics: "people analytics apply artificial intelligence (AI) to large data sets about people held by human resources in order to solve business problems." The storage and use of data generated by technology, they say, can contribute to the optimisation of an organisation's performance.

Gal, Jensen and Stein (2017) define people analytics as "a data driven approach to manage people at work" – in other words, using data analytics to assess employee and candidate performance and issues to assess how these might affect organisational development and to evaluate the effectiveness of HR initiatives.

However, Marr (2020) suggests that while people analytics may beneficial, it also increases the "importance of good governance". Organisations should take into account the ethical pitfalls that come with storing and using this data. Incorrect use may lead to a decline in morale and "trust issues". The organisation should, therefore, remain transparent around why and how they use these data and anonymise it wherever possible.

Human resources information systems

Redman, Wilkinson and Dundon (2017) suggest that organisations consider introducing a specific software system – a human resource information system (HRIS) – to aid HR planning, R&S, L&D and PM.

myHRfuture (2020) describes a HRIS as using people analytics to create a user-centric design to enhance the employee experience while enabling the organisation to share data across platforms to gain 'real-time actional insights'. Wright et al. (2020) note that gathering such insights creates a pool of reliable information – from current market trends to metrics and employee feedback – to aid the organisation in building new platforms and restructuring the workforce.

Many organisations are now using cloud-based HRIS platforms, such as Workday, Oracle and BambooHR, as old technologies and tools become out-dated and less effective (Berber, Đorđević and Milanović 2018).

Redman et al. (2017) and Parry and Tyson (2011) discuss how the integration of HRIS creates flexibility and autonomy over the full employee lifecycle, as it enables employees to deal with personal queries, L&D and performance reviews while working remotely. This gives HR professionals the capacity to focus on the strategic objectives of the business, such as relationship building and workforce planning.

Artificial intelligence (AI)

AI is the development of machines and computer programmes that can complete tasks that would otherwise require the cognitive capabilities of humans (Sree, 2018). The field of AI has been around since 1966. Recent AI advancements are largely due to 'big data' and machine learning. Machine learning is the use of algorithms to analyse and learn from large amounts of data and then make predictions to face the people challenges of the future (AIHR Digital, 2019).

Bhardwaj, Singh and Kumar (2020) describe AI as using analytics and natural language processors to offer an enhanced employee experience. This is achieved through functions such as 'chatbots', programmes that interact with individuals using speech recognition and text, which can offer an immediate response 24/7 (Franken and Wattenberg, 2019).

AIHR Digital (2019) notes that chatbots are useful for answering common HR queries and particularly useful in volume recruitment, for scheduling interviews and onboarding. While chatbots optimise cost efficiency, they also improve the candidate experience, as immediate responses offer transparency in relation to the recruitment process.

Forbes (2019), however, outlines the importance of not "losing sight" of the human factor, as top talent may not be attracted to an organisation that lacks the human touch.

Stone et al. (2015) suggest that these technologies do away with the opportunity to interact with real people and ask specific questions. This makes it difficult for applicants to clarify the nature of the job or the benefits of working for the organisation in question.

Introducing such impersonal and passive systems, therefore, could be viewed as creating an artificial divide between applicants and the organisation.

Virtual assistants

Berber et al. (2018) suggest that AI has a positive effect on the entire organisation, with virtual assistants such as 'Mya' improving efficiency and accuracy in dealing with queries. Similarly, Franken and Wattenberg (2019) believe virtual assistants add organisational value by promoting employee autonomy in dealing with common queries on issues such as holidays, payroll and policy. Doyle (2020) and Upadhyay and Khandelwal (2018) also laud the introduction of AI, as it saves time and reduces costs.

According to Hogarth (2017), virtual assistants use natural language processing to host neutral conversations with employees. However, such services may cause frustration when first implemented, as it may take time for the machine to learn all possible responses (Hogarth, 2017). Bondarouk and Brewster (2016) suggest that these automised responses may feel "cold", "faceless" or cause feelings of frustration.

This underscores the importance of not losing sight of the human element in HR interactions.

AI in recruitment and selection (R&S)

Using AI in the R&S process can significantly reduce the amount of time spent on time-consuming, repetitive tasks, such as the screening of CVs, the scheduling of interviews and the administration of assessments. Here we discuss some of the advantages and disadvantages of using AI for these purposes, as revealed in the literature review, as well as some of the pitfalls that organisations will need to avoid.

Narrowing down candidate lists

The CIPD (2019) suggests that introducing AI to the R&S process can narrow down job applicants based on job specifications. According to AIHR Digital (2019), organisations now use AI-driven applications, such as LinkedIn Recruiter, BambooHR and Greenhouse, to sift through large numbers of applications. This applicant tracking software (ATS) uses keyword identification software to match words from a candidate's CV to the job description, sourcing candidates with the "most relevant" experience.

Johansson and Herranen (2019) suggest that this ensures speed and accuracy in what was once a repetitive, time-consuming task, freeing up time for HR professionals to function as agile, data-driven consultants for the organisation.

Sourcing passive candidates

According to Johansson and Herranen (2019), AI can be used to widen the applicant pool, source passive candidates and build a talent pipeline. Often, ideal candidates may not be actively looking for jobs, but AI can be used to find them online.

Polli (2019), meanwhile, suggests that a time-constrained human has a greater chance of introducing bias, reducing the talent pipeline. Thus, another benefit of AI is its ability to assess thousands of candidates at once, ensuring that large pools of qualified candidates are not excluded from the process (Fenech, Baguant and Ivanov 2019).

Franken and Wattenberg (2019), in contrast, note that one of AI's shortcomings is its lack of gut instinct and emotional intelligence. They observe that while AI reduces the time spent on administrative tasks, the human touch is irreplaceable.

Missing out on good candidates

While CV search engines cut costs and save time, AI frequently excludes ideal candidates who have failed to tailor their CVs to the search engine. Many applicants are unaware of how ATS is programmed. If an applicant has not constructed their CV in the appropriate format, the ATS may disregard them due to a lack of corresponding terminology. This may result in top candidates being rejected and/or ignored for not having a specific degree, for instance, even though they might have ample experience to carry out the role successfully.

ATS also limits a recruiter's search to the pool of applicants that came through the system. Thus, while the ATS system may well identify the best candidates in the pool, it may also have excluded an array of highly qualified candidates from the hiring process. An organisation may miss out on top talent due to something as simple as word selection.

Forbes (2019) suggests that HR professionals remain inherent to recruitment process oversight, as they are required to detect flaws and inconsistencies in the system. A human is necessary to uncover candidates incongruent to AI patterns, sequences and norms. This is where AI becomes redundant. Human judgement must always remain, regardless of how sophisticated the algorithms become.

Deterring top candidates

Research carried out by Stone et al. (2015) suggests that using AI in the recruitment process attracts a larger quantity of applicants, encourages unqualified applicants to eliminate themselves from the process and motivates "well-fitting" applicants to apply for roles.

However, Stone and Johnson (2018) found limitations in the use of AI in the recruitment process. They suggest that inflexible and difficult-to-navigate websites, coupled with a lack of human contact, deter some applicants from applying for jobs. The use of AI may also be a deterrent to older applicants, applicants from ethnic minorities or less well-educated applicants.

Stone et al. 2015 further observes that while AI increases the volume of candidates received, there is little research examining the effects of AI on the diversity of job applicants, successful placements, or retention rates. The study also raises a key question, whether AI enables an organisation to increase the number of successful placements made.

Eliminating unconscious bias

Research suggests that all humans are biased. However, while humans can be aware of some of their biases and prejudices, most often, they make automatic decisions that unconsciously introduce bias (Manyika, Silberg and Presten, 2019)

Polli (2019) suggests that HR professionals are the moral arbiters of an organisation, so it is important that the selection process is transparent, ethical and accurate. Hiring candidates based on personal bias may result in unfair selection due to prejudices based on sensitive variables such as gender, ethnicity or sexual identity.

According to Bhardwaj et al. (2020), AI is highly beneficial to an organisation, as it removes unconscious bias from the R&S process, while at the same time ensuring the best 'fit' for a given role. Bhalgat (2019) suggests that AI can be programmed to ignore sensitive variables and background information in screening, while also assessing data points such as skills, traits and qualifications. These data points are designed to indicate whether the candidate is the best fit for the role based on the organisation's description of the traits they desire.

Learning human bias

However, Forbes (2019) states that "AI is only as powerful as the person using [it]". While robots are successful at following algorithms, humans are still required to input the source data. Algorithms, therefore, consist of data created by human decisions.

Reilly (2018) observes that an algorithm, therefore, can be just as biased as the human who wrote it. Studies carried out by CNBC (2018) show algorithms to reflect the biases of those who program them and to perpetrate rather than eradicate stereotypes.

Silberg and Manyika (2019) similarly suggest that while AI may help mitigate bias, it can also potentially "bake in and scale" bias, regardless of whether it excludes sensitive variables. Nouri (2021) writes that underlying data are often the source of bias, resulting in algorithms being trained on data that reflect skewed human decisions or second-order effects of societal or historical inequities.

Satterly (2021) notes that it is difficult to solve a problem that is systemic, so algorithms may be predisposed to bias due to societal and social norms. However, due to the algorithm's complexity, it is impossible to detect exactly where the bias has come from and that is the "black box problem" (Zhang et al., 2019). Data sets being used in training are mostly still curated and collected by humans. Therefore, AI may work well with one data set, but once it changes, the AI will no longer perform as expected.

Manyika and Sneader (2018) suggest that AI will only complete a task successfully if humans have identified the true success criteria for the role. Therefore, it is important to note that while AI has the potential to reduce unconscious bias, it may also extend or expand certain inequalities in the organisation.

According to Manyika, Silberg and Presten (2019), AI can help humans with bias, but only if humans are working together to tackle the bias within it.

Best fit

Reilly (2018) suggests that AI can help recruiters identify the best fit for both the role and the organisation based on a candidate's potential rather than past performance. The automation of administrative tasks gives recruiters more time to assess the candidate's needs, desires and values. Hiring a candidate whose values do not align with those of the organisation may result in a lack of motivation and their early departure from the organisation.

However, research carried out by Forbes (2019) disagrees, saying that AI is unable to predict 18whether a candidate will 'fit' into organisational culture due to its lack of emotional intelligence and highlights the importance of not overlooking the human factor when hiring. Algorithms are unable to assess tone, personality or soft skills, such as judgement and decision-making. ATS simply matches words from the from an applicant's CV to the job specification.

Desai (2021) strongly advises that, when hiring, HR professionals conduct in-depth character reference checks. According to the study, personality and soft skills are some of the most important aspects to consider when hiring staff. Employees are frequently let go from organisations due to their inability to work well in a team, for instance.

Similarly, the employee may only understand an organisation's culture once they have met the team. From there, it can be determined whether the candidate's values align with those of the organisation. This suggests that human judgement is still essential when selecting the best fit for roles within an organisation (Silberg and Manyika, 2019).

Detecting micro expressions

Research by CBNC (2018) looked at the new "Vera" software implemented by IKEA to interview more than a thousand candidates a day. The software is cost effective and claims to be free from bias. Vera uses facial analysis software to assess verbal and nonverbal cues while also monitoring certain expressions, such as eyebrow movement and frowning. These database points are combined to denote certain emotions, personality traits and thinking styles, which are then then compared against the organisation's highest performers.

However, this system may still perpetuate systemic bias and discrimination. According to Zhang et al. (2019), training algorithms to evaluate the behaviours of existing high performers has led to the selection of similar people, hindering organisational diversity.

Another study of Vera carried out by the Wall Street Journal (2018) found that the video interview format prompted 'computer anxiety', preventing candidates from representing themselves accurately, resulting in their premature elimination from the selection process.

The same study found that ideal candidates could be excluded for reasons irrelevant to the role. For example, if an interviewee had a virtual bookshelf as their online background, this greatly improved their final interview score. The same test found that a female candidate

wearing glasses received a low score but received a higher score if she removed the glasses and wore a headscarf.

Lack of interview feedback

When applicants are rejected, even though they might be perfectly qualified, AI does not provide feedback on why they were rejected. AI cannot be held accountable for decisions, which makes it difficult to justify why certain candidates are selected. Organisations may, thus, leave themselves vulnerable to litigation from rejected candidate (Wall Street Journal, 2018).

AI in learning and development (L&D)

AI uses people analytics to make continuous improvements in L&D (see Carton (2020) for more). Analytics are also used to identify emerging skills and understand workforce growth. Similarly, Donovan (2021)) suggest that AI helps to drive an organisational learning culture. This has become increasingly important due to the growing skills gap arising from technological developments.

PA Consulting (2020) adds that AI and automation can create higher-skilled and more interesting roles within an organisation. Many employees welcome the opportunity to upgrade their skills; CIPD (2019), for example, suggests that 61% of individuals whose jobs were affected by AI felt it was necessary to upskill.

Franken and Wattenberg (2019), in contrast, discuss the employee stress brought about by the continued need to upskill and/or the fear of certain roles becoming obsolete. This is especially true of older or less tech-savvy employees, suggesting that a "propensity to learn" should be a required skill when hiring.

The CIPD (2021) suggests that organisations should become more nurturing and build better relationships with employees. 'Old-school' e-learning models are no longer sufficient when it comes to L&D. It cites mandatory, irrelevant training as creating a 'disconnect' between the employee and the organisation. The CIPD, therefore, recommends implementing a more personalised model.

Bhardwaj et al. (2020) explore how AI can offer personalised "Netflix-like" learning options. AI-based software suggests skills that are relevant to the employee's existing role and skills that are required for future promotion. AI also offers transparency as to the skills required for cross-functional roles and equips employees with the necessary skills to apply for them.

Donovan (2021), however, suggests there may also be a risk of inaccuracies being baked into algorithms. Employee content may become compromised by out-dated information, suggesting learning paths skills that are irrelevant to the employee. This may cause frustration and a lack of motivation to complete the training.

Another challenge, according to Carton (2020), is the lack of social interaction involved in e-learning. This makes it difficult to establish whether employees are engaged and retaining the information. Employees can often find it difficult to stick with e-learning courses and the lack of support may cause feelings of isolation if the employee does not understand the content.

Moreover, Reilly (2018) found that e-learning is effective for hard skills but may not be as efficient when developing skills that are high level or competency based.

The CIPD (2021) suggests offering a hybrid approach that contains a variety of in-person training, videos, games, and activities to enhance employee engagement.

AI in performance management (PM)

PM is now an integral part of the annual work cycle. According to Berber et al. (2018), AI is an efficient tool for measuring performance. It provides the employee and line managers with consistent, up-to-date information.

Redman et al. (2017) echo this view, discussing its effectiveness in identifying criteria for promotion, learning opportunities, rewards and recognition. Continuous measurement and evaluation of performance may increase employee motivation and productivity. Bhardwaj et al. (2020) also suggest that AI eliminates unconscious bias and offers transparency when assessing the employees.

Stone et al. 2015 suggest that organisations' main motivation for implementing and using these technologies is to make the performance evaluation process more consistent, cut costs and reduce the time and effort needed to manage employee performance.

However, Bondarouk and Brewster (2016) suggest that AI may "overlook" certain important aspects, such as an employee's commitment to the organisation, their intention to leave the organisation or their social behaviours.

Ledford, Benson and Lawler (2016) similarly question the effectiveness of AI when it comes to employee performance. While AI may be an efficient system that cuts costs and saves

time, they say, it may be difficult to adjust employee performance and behaviour through machine feedback alone.

Technology and the future of HR

According to Stone et al. (2015), the "electronic revolution" is changing the role of HR by streamlining and eliminating repetitive and administrative tasks previously carried out by humans. This would suggest that AI poses a threat to the HR function in its current form.

AI has proved it has the ability to carry out tasks pertaining to talent acquisition, onboarding, HR administration, L&D and PM at a much faster pace than a human. Machine learning is designed to learn and improve continuously, resulting in a high probability of AI replacing HR in these functions.

Franken and Wattenberg (2019) suggest that while AI will eventually automate most aspects of human work, it won't replace human judgement. By reducing administrative work, HR professionals will have greater opportunity to evolve into strategic advisors and carry out higher-value work.

HR professionals will be responsible for driving technological change in the workforce and will ultimately oversee the implementation and maintenance of software. However, Berber et al. (2018) suggest there will be a "lack of appropriate staff" to carry out such duties. To combat this, HR and People Leaders Report (2020) propose that HR professionals become more "agile" and "data-oriented".

HR and People Leaders Report (2020) suggest that due to the increase in data generated by organisations, HR professionals now need to be highly skilled in the areas of technology and people analytics. HR professionals are required to interpret and utilise data to drive business decisions and create a better employee experience.

According to Sage (2020), 49% of employers believe their HR teams do not have the necessary skills to maintain or develop such software and, therefore, plan to upskill and "future-proof" their HR teams, while 34% of organisations intend to hire "non-traditional HR profiles", such as software engineers, data analysts and IT specialists to work alongside HR and drive this change.

The core goals and values remain the same, however. Stone et al. (2015) clearly note the importance of maintaining a people-focused organisation rather than one that is technology

focused. This is due to the potential negative effects on employee engagement, wellbeing and morale. By encouraging HR professionals to become more agile, organisations can adopt a more transparent, human-centred approach, with a collaborative coaching and learning culture.

Hillenbrand (2020) suggests that an agile transformation is "all about people", so HR professionals will be required to become more creative, enabling them to stay on top of trends and adapt to new working models.

Organisational practices should now be geared towards meeting the individual needs of employees, creating innovative and flexible learning organisations. Sage (2020) suggests the role of Chief Human Resource Officer (CHRO) has gained in significance, as it necessary to engage with senior leadership to drive the overarching goals of the organisation and a people-first strategy.

Conclusion

This literature review has explored the introduction of technology to the workplace, more specifically, the prevalence of AI in the HR function and the evolving role of the HR function itself. The research critically evaluates AI in different areas of HR – R&S, L&D and PM.

The positive impacts are clear. AI adds organisational value by providing employees with autonomy, flexibility and control over their work. Research shows organisations using AI to have experienced reduced costs and better services. The literature suggests there are significant advantages to using AI in the areas of R&S, L&D and PM, though organisations should be careful to ensure that they don't lose the 'human touch', damaging employee morale and deterring the best potential recruits.

Little research has been carried out on the practicality of AI as a tool for R&S, however. There are also substantial gaps in literature investigating this aspect of AI. This research aims to fill these gaps by interviewing HR professionals in Ireland to gain more far-reaching insights into the topic, as detailed in the following section. ,

Chapter 3 - Research Question

While the advantages of AI and automation are well documented, it is clear that there is a significant gap in research about how HR practitioners feel about digitizing the HR function, a department that relied so heavily on its human factor (Bondarouk and Brewster, 2016), (Berber et al., 2018), (Stone et al., 2015).

Therefore, the central aim of this research is to explore the practicality of AI as a tool for R&S.

This research aims to garner a deeper understanding from HR professionals in Ireland regarding their use of AI and its implementation in the recruitment process. The researcher suggests that answering the following questions, may help to progress research in this field.

Sub Questions

1. How important is the human touch?
2. Could AI be useful as a learning and development tool?
3. Could AI be useful as a tool to manage performance?

Chapter 4 - Methodology

Introduction

This chapter provides the methodology to the research including research philosophy, research design, data collection methods and limitations. The purpose of this is to provide an overview of how and why the study was conducted in this way.

Research philosophy

Ontology

The ontological position for this research is that HR is going through significant change because of the impact and implementation of higher functioning technologies like AI. This research is being conducted to understand if technology is having an impact on the HR function.

Epistemology

This research is subjective due to the rapid advancements in technology that are changing the world of work (Bell, Bryman and Harley, 2018). As referenced in the literature, technology is going to aid and transform processes such as R&S L&D and PM. AI and automation are taking over administrative tasks. HR practitioners are forced to upskill and future-proof themselves as their role becomes “unrecognizable” CIPD (2019). If HR practitioners do not embrace these technological changes and evolve as a profession, they risk redundancy Manyika and Sneader (2018).

These changes are happening due to the new digital era. Rapid advancements in technology are forcing organisations to adapt to digitisation of the workforce (Bondarouk and Brewster, 2016). Organisations are now required to embrace new technologies to remain competitive in the market. By digitising the workforce, all processes are moved online which generates large amounts of data. Organisations are now employing AI and robotics to effectively manage these large data sets that are created as a result CIPD (2019). These technologies are effective for the organisation as they reduce the risk of human error and are cost effective CIPD (2019).

This change is significant as HR practitioners are now required to transition to the role of a data analyst and interpret the data generated by the organisation. This data is then utilised to drive new initiatives and improve the employee experience.

Paradigm

This work is interpretivist in nature because the researcher is looking for experiential knowledge and opinions of practitioners who incorporate this technology or who have thought about the incorporation of this technology into their organisation (Saunders 2009). The researcher felt a positivist approach would not be sufficient for the purpose of this research due to the required use of statistical and mathematical techniques (Carson, D., Gilmore, A., Perry, C. and Gronhaug, K. 2001). This would not help the researcher understand and interpret the practitioners' experiences, thoughts, and feelings on the phenomenon.

Justification

Research relating to the implementation of AI in the HR function has been conducted a number of different ways, ranging from methods such as: surveys. (Carton, 2020), (Doyle, 2020), questionnaires, (Bhalgat, 2019), comparative analysis (Chanda 2019), (Upadhyay & Khandelwal 2018) and observations (Wright & Atkinson 2018). These methods enable the researchers to target a large sample and gather knowledge on individuals' potential thoughts on the phenomenon. However, Carton (2020), Doyle (2020) and Bhalgat (2019) critiqued their use of quantitative methods due to "lack of insight" and an inability to garner a deeper meaning of the target populations opinions and views on how technology may impact the HR function. These researchers called for future qualitative research to be carried out on the topic of AI in HR due to the limitations mentioned. Fenech, Baguant and Ivanov (2019) and Johansson and Herranen (2019), also studied similar topics regarding the "changing role of HR" and "impacts of AI on traditional recruitment methods" and chose qualitative methods. These authors chose an inductive approach that was interpretivist in nature using semi-structured interviews as their research instrument as they felt quantitative analysis was "too precise". The authors felt it was important to consider the thoughts and feelings of their interviewees to get an in-depth understanding of their topics. Both authors suggested for future research on these topics to gain a broader perspective due to the rapid developments in this area.

Research method

This research aims to build on these recommendations and conduct an inductive qualitative approach to understand the impact new technology is having on the HR practice (Saunders 2009). A qualitative approach is used when the researcher wants to obtain information rich answers to gain a deeper understanding of the attitudes of the participants (Barnham, 2015).

The inductive reasoning for this approach is for the researcher to "develop empirical generalisations and identify preliminary relationships" as the research progresses (Dudovskiy, 2011). Deductive reasoning would not have been suitable for this approach as the research is still developing due to rapid technological advancement thus, would not allow the researcher to be subjective when gathering and interpreting the data (Dudovskiy, 2011).

A semi-structured interview format was selected for this research. This was format was the most appropriate as mentioned earlier, Carton (2020), Doyle (2020) and Bhalgat (2019) suggested quantitative methods "lacked insight". Insight is what this research is looking to gain through information rich, in-person responses.

Research design

Research instrument

As previously noted, Fenech, Baguant and Ivanov (2019), Johansson and Herranen (2019) made suggestion for future research on this phenomenon and suggested that semi-structured interviews were necessary to understand the perception and attitudes of HR practitioners as their role evolves by the introduction of new technology. This research aims to build on these findings by designing a set of questions that discuss the major themes of AI in R&S, AI in L&D and AI in PM, and aim to answer some of the questions posed by the author's research. The use of semi-structured interviews with pre-arranged questions provides a necessary framework for the interview to ensure all themes are addressed, it will also provide flexibility and the opportunity for the researcher to "probe" and "prompt" if it is found necessary to elicit a more in-depth response (Carson et al., 2001).

The questions have been designed from the four major themes that emerged from the literature review: R&S, L&D, PM, and the future of HR. These questions aim to answer the questions posed by this research by drawing out opinions and experience of the use of AI and its implementation across R&S.

The researcher aims to ask some warmup questions to understand the interviewees background and how their role has changed over the course of their time in the industry. The interview will then be broken down into the three main sections based around the themes that emerged from the literature: R&S, PM and L&D. Each section will consist of a 'technology' subsection, focusing on how the technology is utilised in the organisation, and a 'people' subsection, focusing on how these technologies affect the people in the organisation. This is important to fully understand the relationship between the new technology and the employees

that utilise it. There are limitations to this approach, as it is time consuming and there is a risk of unconscious bias. However, quantitative methods would result in vague, unspecified feedback and therefore unsuitable for this research (Barnham, 2015).

Interview design

Each interview will be approximately 30-45 minutes depending on time constraints of the participants. Interviews will be conducted and recorded via the online platform "Zoom" using a set of pre-arranged questions (*Appendix 1*). Prior to the interview, the researcher will provide an overview of the project, discuss the ethical considerations, and confirm confidentiality. The researcher will request to record the interview and inform the participant it is for data analysis purposes only.

Table 1: Participant demographics

Pseudonym	Title	Length of Service	Duration (mins)
HR1	Head of HR	25 years	38:57
HR2	Head of HR	20 Years	46:40
HR3	Client Services Manager	6 years	18:26
HR4	Lead Recruiter	10 Years	23:43
HR5	HRM Executive	7 Years	23:50
HR6	HR Generalist	5 Years	30:11
HR7	Strategic HR Business Partner	18 Years	38:18
HR8	HR Manager	5 Years	31:37
HR9	HR Manager	12 Years	20:44

Research sample

Population: Human resource department with experience using AI in Ireland.

Sample: HR practitioners (9)

Sampling method: Purposeful sampling and part snowball sampling.

Rationale: The researcher has chosen their sample based on the information that emerged from the literature. The researcher feels it is necessary to understand the introduction of technology into HR from the viewpoint of a HR professional. Experience of AI is required so the practitioner can go in depth around their understanding of what the technology does and how it affects the organisation.

The researcher selected the participants of the study through a process of purposive sampling combined with snowball sampling (Barnham, 2015). A purposive sampling method enabled the researcher to select interviewees who had specific experience of AI within HR in Ireland. The researcher obtained the sample by contacting former colleagues via email (*Appendix 2*). This sampling method yielded four participants. Snowball sampling occurred upon completion of a number of interviews as interviewees offered to reach out to their network with the details of the study. From this, the researcher obtained five additional participants for the study. This was beneficial as it still enabled the researcher to exercise control over the sample and ensure the specific requirements were met (Bell, Bryman and Harley, 2018).

It must be noted that a limitation of this approach is that interviews may include unconscious bias due to accidental probing and behavioural cues of the researcher. Barnham (2015) suggests this risk heightened with purposive sampling due to the researcher being previously acquainted with the interviewee. The researcher acknowledges these limitations and ensures this will be minimised to the best of their ability. The knowledge provided is also subjective and will open to each individuals' personal beliefs and interpretation.

Another limitation of this method is the limited sample size that amounted from time constraints. However, the researcher believes valuable results will still be produced due to previous research carried out by Shannon (2020). Shannon had a similar sample size when carrying out "*A Qualitative Exploration from the Perspectives of Line Managers"* and suggested that while it may have been limited in some areas, the information rich interviews managed to provide "a unique insight" into the perspectives of the sample.

Pilot interviews

The researcher aims to conduct two pilot interviews. The pilot interviews are necessary to "iron out" any issues with the structure of the questions. This will ensure the questions have a logical flow and are not confusing for interviewee. The researcher has no interview experience prior to this research and therefore finds it necessary to conduct a pilot interview to ensure they are familiar and comfortable with the process

Data analysis

The researcher will look towards the three main themes identified in the literature: R&S, PM and L&D, when pulling information from the interviews.

The researcher plans to write notes during each interview, this will help to identify key words, themes, and interesting points. Each interview will be recorded via "Zoom" enabling the researcher to re-listen to the recording and familiarise themselves with the data. The researcher also aims to use "otter.ai" transcription software to analyse transcribe the data.

The researcher plans to analyse the data using a thematic analysis (Braun and Clarke, 2006). This includes revising the raw data generated from interviews, organising it and analysing it. Once the researcher has familiarised themselves with the transcripts of the data, they will identify codes through clustering of similar quotes and phrases. The researcher will then use these codes to uncover initial patterns, hidden trends or emergent themes to identify the main features of the data.

The themes and subthemes that emerged will then be reviewed defined, and presented in table format (Braun and Clarke, 2006). Findings of this research will be to cross checked to strengthen their reliability and reduce the chances of bias being incorporated by researcher.

Research timeline

These interviews were conducted during the period from 26 July 2021 to 2 August 2021.

Themes/codes

The interviews were designed around the four main themes uncovered in the literature review (RS, L&D and PM, future of HR) however, additional themes emerged from the data by coding (Braun and Clarke, 2006). The researcher used excel to compile the raw interview data and generate codes from the common words listed in Table 2, from this, the following themes were identified: efficiency engagement, implementation and training and future-proof HR.

Table 2: Table of themes, subthemes, codes, and theme description

1. Themes	2. Sub-Themes	3. Codes	4. Theme Description
Efficiency	- R&S - PM - L&D	- Decision making, speed of recruitment process, automatization of mundane tasks, removal bias, maintenance of records, reporting compliance, close skills gap, personalised learning, chatbots.	- This theme describes how AI has impacted the efficiency of the recruitment process.
Engagement	- R&S - PM - L&D	- Relationship with the organisation, engagement, productivity, flexibility, motivation, employee experience, candidate experience, employee value, goal setting, personal development, employee recognition.	- This theme describes how AI is utilized within organisations to enhance employee engagement.
Implementation and Training	- R&S - PM - L&D	- Support from management, people leaders, technological strategy, implementation process of new technologies, employee voice, tailored system, negative feedback.	- This theme describes the importance of successful implementation of AI and training of staff when implementing AI in an organisation.
Future Proof HR	- R&S - PM - L&D	- Changes in strategy, people analytics, data analytics, analytics, data driven decisions, new initiatives, capabilities of the future, new approaches.	- This theme describes how AI is driving a technological change in the workforce and is transforming the role of HR.

Limitations

A number of limitations appeared throughout the course of this research. The main limitation was the limited amount of time provided to conduct this study. Had the researcher had more time to conduct the study, they would have access to a larger sample size to gain a broader understanding of the topic. The researcher did not have the capacity to interview more participants due to the lengthy process of analysing the large amount raw data generated from interviews. These interviews were conducted during regular working hours and therefore some participants in the study could only spare a limited amount of time to conduct their interview. The researcher respected the time constraints however, felt this may have reduced

the opportunity to explore certain areas in more depth. This may have limited new themes from emerging.

Another limitation is the risk of unconscious bias by the researcher. The researcher was critical of these risks and conducted two pilot interviews to ensure the questions were not leading the interviewee down a certain path. The researcher also took extra caution when analysing the findings ensure they were an honest representation of what the interviewee said and not skewed by researcher bias in any way.

Ethical considerations

Prior to the interview the interviewee will be emailed an information sheet and a consent form detailing all the necessary information about how the study will be conducted and ethical considerations. Interviewees will be required to review and sign these forms before participating in the study.

The researcher will have a brief conversation with the participant prior to each interview and will ask if they have any questions regarding the study. The researcher will provide another brief overview of the study, research objectives and inform them interviewee that transcripts will be anonymised when writing the research report. Prior to turning on the recording, the researcher will ask if they consent. Recordings and interview transcripts will be destroyed two years after the study as per NCI ethics policy.

All ethics of this research are in line with NCI's ethical policy.

Chapter 5 - Analysis and findings

Introduction

This research set out to explore the effectivity of AI as a tool for R&S by conducting a comprehensive document review and semi-structured interviews. This section presents the findings of these studies, reflecting, in particular, the viewpoints of HR practitioners on the use of AI in HR practices.

The findings are based on a thematic analysis, the coding of raw interview data. The four main themes that emerged from this analysis are: efficiency, engagement, implementation and training, and future-proofing HR. The researcher had one follow-up discussion with an interviewee via email to add clarity to certain answers.

The researcher interpreted each theme and will be discuss them in the context of the common identified areas of R&S, PM and L&D (Braun and Clarke, 2006). The researcher deemed it important to include these areas, as they are commonly discussed in the broader field. Certain themes and subthemes may overlap, as they feature in several different contexts, and are signposted to guide the reader.

Theme 1 – Efficiency

A theme common to all interviews was the efficiency of AI in R&S. This theme will be discussed as separate subsections in the context of R&S, L&D and PM.

The efficiency of AI in R&S

It was the view of 70% of interviewees that the use of AI in R&S improved efficiency. Several interviewees discussed how automation and AI had streamlined their processes, saving time and cutting costs. Several interviewees also noted how AI created more ethical, efficient storage and maintenance of data, helping them to comply with regulatory requirements. Most organisations mentioned AI's ability to send reminders and prompts, speeding up the recruitment process and creating more transparency for the candidate.

Narrowing down applicants

The organisations that used AI specifically mentioned the practicality of ATS for volume recruitment. This finding is consistent with that of Johansson and Herranen (2019). However, it emerged that organisations only found ATS suitable for junior roles, due to the system's inability to assess candidate 'fit'.

Organisations also expressed concerns about the ability of ATS to narrow down the applicant pool without excluding good candidates on the basis of keyword hits. Interviewees suggested that the human touch was crucial here, in order to monitor and alleviate these risks.

> *"It has proved to be extremely difficult to tune the AI to get what we want. AI will present us with 20 CVs out of several hundred; we won't have looked at the several hundred and we won't be sure what we've missed. But it's just a way of managing volume."*
> HR2

While recognising the benefits of AI in recruitment, organisations also admitted to a lack of trust in and knowledge of the ATS. This may prevent organisations from using AI to its full capacity.

> *"I'd never rely solely on AI. It's great to see the recommended matches, but I would say 9/10 times they aren't suitable. But that could just be lack of knowledge around the tool."*
> HR7

Organisations also expressed distrust in AI's ability to fully remove bias from the recruitment process.

> *"It's that's not always accurate, so we do always have to double check the CV's that do come through and sense check the pipeline is balanced and that it's not kind of skewed in any way"*
>
> HR5

However, while trust in AI systems is an issue when it comes to identifying suitable candidates, it would seem that practitioners are happy to let these systems 'chat' to candidates during the recruitment process.

Chatbots

Multiple interviewees discussed the efficiency of chatbots across the organisation. On the whole, they agreed that the use of chatbots supported growth and was helpful in dealing with candidate enquiries.

> *"We found that our base cost was rising all the time in HR. [We use chatbots] just to put us on a kind of trajectory that, as we grow, we're not actually exposed to having to create an oversized HR function."*
> HR2

Interviewees also felt that chatbots enabled them to focus on strategic duties rather than spend time on mundane tasks.

> *"If I put in a robot that saves me three full-time equivalents… I think what it could do is free people up to take on higher-value work."*
> HR1

As referenced in the literature, candidates were often surprised to find out they were talking to a robot, which suggests that the advancements in technology have been successful (Franken and Wattenberg, 2019). Both HR practitioners and candidates remain sceptical about the use of AI in candidate selection, however.

While chatbots can be helpful in progressing the interview process, HR practitioners were hesitant to implement them for fear of being edged out of their roles. Most organisations cited the need for the 'human factor' in finding candidates with the 'right fit', but also in ensuring that bias was not being incorporated into recruitment algorithms.

Bias

The organisational use of AI to reduce bias can be viewed as a positive step, however, it does not solve the problem. Interviewees suggested language tools, such as *Textio,* helped to remove bias from job applications, observing a broader, more diverse applicant pool as a consequence. However, interviewees expressed concerns over bias in the later stages of the recruitment process.

> "*It only works at the first hurdle … Once a hiring team actually meets the person, you can't protect them from whatever bias the hiring team has. That's the implicit problem with recruitment at the end of the day: no matter how many great processes are built in, it comes down to human decision and that's just a flaw in how we recruit."*
> P4

This outcome contradicts that of Bhardwaj et al. (2020), who found that AI does have the ability to both remove bias and ensure the right 'fit'. Using AI hiring bots to conduct interviews may circumvent these challenges, due to their unbiased judgement, but organisations could encounter resistance from HR professionals reluctant to relinquish tasks.

Overall, though, interviewees said AI was still beneficial in the early stages of recruitment, as it sped up the application process. Still, AI can only take the process so far. The human touch is most important when assessing candidate 'fit'. This correlates with the conclusions of the

body of available literature, with Franken and Wattenberg (2019), for instance, citing the "irreplaceable" need for the human element in recruitment due to AI's lack of gut instinct and emotional intelligence. Interviewees discussed the importance of assessing the applicant's personality, as they felt that AI could not make these judgements.

> *"Human interaction is really important to make sure you get the right type of character."*
> H7

> *"A person does need to come in and … [recruiters need to] discuss [skills/hobbies] with the candidate and get a sense of their personality off the page."*
> HR5

> *"The way you recruit people is not always based on fixed criteria … Personality and things play into recruiting and that can't really be tracked on a system."*
> HR9

While some interviewees emphasised the importance of the 'right fit', others chose to emphasise the 'best fit'.

> *"We all want the same people basically. We all want the best. We have slightly different emphases, but it's not a whole lot different. Somebody who gets offered a job at one big four [technology companies] is the same kind of person we all want."*
> HR2

'Right fit' and 'best fit' are often contradictory concepts. While the 'best' candidate may have the best qualifications and skills, they may not be the 'right fit' for an organisation. Similarly, 'right fit' may be down to arbitrary elements, such as the shared interests or similar background of a hiring manager and candidate. This may exclude protected characteristics from the selection process, as they may not 'fit' with the organisational culture.

As humans, it is difficult to quantify the 'best' or 'right' fit – and there are myriad nuances to and perspectives on how it is decided. This could suggest that interviewees are incorporating their own preconceived bias as to what the best/right candidate might be.

One organisation, meanwhile, spoke of why they did not use AI. They argued that there were too many eligible applicants for the roles available and they were constrained by specific legal requirements. They said that the use of AI to process candidates was costly and could not determine whether candidates were fit for purpose.

"Processing is very expensive; we only want people who are real potential candidates … the numbers that are eligible are so huge. And the numbers of jobs are relatively small … I have to have ways of deflecting or filtering that down."
HR1

Their statements run contrary to those of other organisations and to the logic of using AI for narrowing down candidate lists, suggesting that a lack of knowledge of AI is preventing them from incorporating more efficient practices.

The Covid-19 pandemic, meanwhile, has shifted organisations' mindset on the use of AI for transactional duties and has forced them to recognise its importance to certain strategies.

"Covid has allowed the organisation to make decisions. We were so structured and regimented in our thinking that we didn't allow ourselves to think outside that. But I think that it has actually almost blown us open … I actually think it completely, in the very best way possible, has made us, as an organisation, think differently about our HR strategy and our resourcing strategy."
HR1

The organisation in question, however, went on to express how the use of AI was unnecessary for its R&S process due to its widely recognised brand. This suggests that the organisation may be excluding a large number of good-quality applicants who are being attracted elsewhere. By introducing AI, the organisation could optimise its hiring funnel by sourcing passive candidates through ATS. Automating the process could also make the organisation more easily accessible and attractive as an employer. AI could be further tuned to meet the organisation's specific legal requirements, reducing costs and streamlining the R&S process.

In sum, this suggests the organisation may be choosing to forgo implementing AI due to its institutionalised culture and processes. The organisation expressed a positive opinion on the use of robotics in other departments, so implementation may be considered in the future. However, a large culture shift will be required to facilitate this change.

While there are arguably trust issues when it comes to incorporating AI into recruitment, the use of AI in PM appears to be viewed as a more positive development.

The efficiency of AI in PM

Organisations were positive on having performance reviews feed into new learning paths in L&D. As mentioned in the literature, such a system is beneficial, as it helps to bridge the skills gap that new technologies have created Donovan (2021).

Seventy percent of interviewees noted how AI had enabled organisations to conduct more frequent informal feedback sessions. Interviewees felt the system was more organised and transparent, helping to clarify and justify decisions on bonuses, promotions and other discretionary rewards and benefits.

However, such an AI system may also be vulnerable to subjectivity and distrust, depending on the management style. Organisations that used forced distribution in their review and reward systems suggested that using AI in PM opened them up to greater scrutiny.

> *"If you are performing really well, you may get a percentage, and if a colleague of yours is performing really well, they may get a different percentage. While it may be transparent, there is no context to people as to why there may be two different percentages. That, for me, is a perfect example of where HR fits in your organisation. We're making sure that the managers are having those conversations with those people, so that … it's transparent. They understand what goes in behind that number."*
> HR8

The transparency of these systems could also have negative effects on the employee. Automated PM systems may add pressure for the employee to consistently perform at their best. It could enable management to be less forgiving when an employee has a bad day. Management may have preconceived bias towards certain employees and could use this information to justify a dismissal.

Another organisation also discussed the potential risks of online 360 feedback.

> *"The biggest concern we always have … is having that type of confidential information in writing. We always feel that there could be a threat, and if anything happened in the system, or it got sent out to the worker by mistake and it said something bad about their performance … it would cause an issue."*
> HR4

However, the same organisation uses online software for exit interviews and feedback surveys and finds the experience positive. This would suggest that its HR professionals may

not be sufficiently trained on how to handle sensitive information and, therefore, choose to forgo the use of a system that could potentially streamline PM in their organisation.

PwC (2021) suggests that the only way to eliminate AI risks is to use responsible AI. AI is a complex tool, but by identifying and assessing potential risks, the organisation could implement an effective AI strategy that would mitigate them. This is only possible if employees are on board with developments and willing to learn how to use them.

This study found that AI is useful as a tool, as it connects performance reviews with new learning paths resulting in a more seamless employee experience. This has helped to upskill employees, closing the skills gap created by new technologies.

The efficiency of AI as a tool for L&D

Upskilling

Interviewees viewed the incorporation of AI into L&D systems as highly convenient, providing employees with equal opportunities to upskill. AI connects learning and skills to opportunities, thus saving the employee having to seek out courses or videos on certain training topics or having to request permission for training from their managers. By letting employees take control of their own learning trajectory, managers do not need to spend as much time encouraging employees to undertake certain training courses.

The format of L&D has changed, with the Covid-19 pandemic having accelerated the adoption of e-learning as an organisational strategy. As referenced in the literature, the digital era has created a skills gap across organisations, forcing employees to upskill (Manyika and Sneader, 2018). This is consistent with the findings of the interviews for this research, with one interviewee noting how their organisation has a regulatory requirement to continuously upskill their employees. The organisation cited a requirement of a minimum of 40 hours of mandatory training per year and an optional 0-200 hours of voluntary training to be completed outside of working hours.

> *"We use skills, almost like a currency … We can suggest a specific learning path for an employee out of a certain skill … It's taking the onus out of people's hands to make things happen … it's almost like behavioural psychology to prompt them to do something."*
> HR6

Upon completion of a training course, the acquisition of skills is rewarded by way of a badge recognition system and used as a currency. This aids internal recruitment and provides

exciting project opportunities for the employee. Badges are posted publicly on the organisation's intranet, to which all employees have access. This recognition platform is used to increase efficiency and drive engagement.

> *"Now we expect staff to fit the training around their schedules, but this puts people under pressure to do training out of hours. There is the added pressure to secure badges, as these are considered positive indicators of commitment and dedication in performance reviews."*
> HR2

Automating the L&D function in this way could also have adverse effects, however. While e-learning may offer autonomy on the completion of training, courses must frequently be completed outside of working hours. Employees may feel pressured to complete additional training in their own time to gain recognition from management and colleagues. Badges are discussed in performance reviews and are used as a guide for bonuses and promotions.

There are negative aspects to such an approach too, however. Having to complete training outside of work hours can result in increased stress and employee burnout. Pressure to chalk up unpaid working hours can also harm employee engagement and, thus, productivity, offsetting any efficiency gains.

Theme 2 - Engagement

This section discusses the effects on employee engagement of using AI for R&S, L&D and PM.

Engagement in R&S

Candidate experience

As mentioned in the previous thematic section on efficiency, interviewees suggested the use of AI and automation in the R&S process improved the candidate experience, as chatbots offered real-time information. Organisations also found that candidates appreciated the transparency AI created around the application process.

However, while most interviewees found chatbots helpful, they felt the human touch remained crucial and noticed an increase in dropout rates if there was no personal connection during the recruitment process.

> *"I would be a big advocate of the human touch in recruitment. To be honest, I don't think that the AI is the answer to everything. And I think if you actually want to close a candidate, you have to chat to them. Because recruitment, at the end of the day, is sales. You know, you're selling a job, a company and a culture. A robot can't do that; people have to do that."*
>
> HR4

> *"I've had people not show up [for interviews arranged by AI] before. Whereas when I've called candidates and gotten a commitment over the phone, and then followed up with an email, I find that they're more likely to follow through … because you've built that relationship from the outset".*
>
> HR3

One organisation said it had received negative feedback from candidates in relation to chatbots, as they caused feelings of frustration. However, the interviewee in question noted that chatbots were still necessary as a way of reducing costs.

> *"We get more negative feedback on the chatbot support system than positive because people find it frustrating."*
>
> HR2

This could suggest that the organisation is prioritising cost reduction over the nurturing side of HR. To prevent negative experiences, organisations should ensure they offer an option to speak with a HR team member when candidates do not want to deal with a robot.

Similar to R&S, on the whole, organisations felt that the human touch was equally important when managing performance to keep employees engaged.

Engagement in PM

Consistent feedback

The implementation of an organised, transparent system linked to a bonus structure drives productivity, increasing engagement. The use of 360-degree feedback software is an easy way for both employers and employees to engage, thanks to its accessibility. Interviewees suggested that AI in PM added value, as both employees and management could prepare notes in advance. Interviewees suggested regular informal 'chats' were less rigid, offering an opportunity to gain insight into employee development and offer extra coaching if needed. This finding is consistent with Redman et. al. (2017).

> *"More frequent informal feedback sessions provide an opportunity to discuss skills that have been developed and also, more importantly, to point out avenues for future improvement, whether it's learning goals or a milestone that is created once a week – it's a good method of tracking and gathering insight."*
> HR6

Interviewees also noted the importance of conducting an employee satisfaction survey, which *"takes the entire pulse of company"* (HR4).

Insights are generally collected with a view to helping organisations make informed business decisions and drive new strategies. However, surveys may only offer a selection of answers that don't fully reflect how employees feel, resulting in inaccurate data. This inaccurate data may then feed into algorithms that drive strategy. HR departments control the way in which questions are structured, so there is the potential to skew the data to promote a strategy that suits the department more than organisational employees more broadly.

There are also questions over the storage and use of data collected, as employers could potentially use it to influence promotions or dismissals. Interviewees did not express concerns over such potential inaccuracies, which was inconsistent with earlier findings of interviewees showing concerns over algorithmic bias in hiring.

Interviewees did express concern over the provision of machine feedback alone, underscoring the need for the human touch in employee development.

Machine feedback

Interviewees were asked for their views on employees' response to machine feedback and all cited the importance of taking a hybrid approach. All interviewees said a one-to-one session with a line manager was important to discuss feedback with employees and to provide guidance on potential learning and coaching paths. It also ensured social behaviours were not overlooked.

> *"[It is] difficult to feel safe providing that information just in a form. The face-to-face conversation is still fundamental, as people may take machine feedback less seriously than in person."*
>
> HR5

These findings were consistent with the literature, with Ledford, Benson and Lawler (2016) and Bondarouk and Brewster (2016) discussing the difficultly of changing employee behaviour through machine feedback alone.

Twenty percent of interviewees could see the benefit of frequent informal sessions and suggested that they had attempted to implement this in the past. However, they observed that without an automated system, it was difficult to track managerial compliance, so found the process to be inconsistent.

> *"It shouldn't be something that's done once a year… but it's hard to control who doesn't do it if you don't automate it."*
>
> HR9

This might suggest that the organisation in question had not implemented the software successfully and that its HR had not been sufficiently trained to support the change. PwC (2021**)** suggest that for AI to be successful in an organisation a "cultural shift" is required. This may prove to be more difficult in an industry dominated by manual and/or mechanical work rather than a more technologically advanced organisation. See Theme 3 on *implementation and training* for more on how this affects an organisation.

Engagement in L&D

While interviewees suggested the personal touch is important to L&D, none of them used live agents to assist with training if needed.

Personalised learning

Organisations that offered personalised learning services based on individual employee skills, interests and personal development goals saw higher levels of employee engagement. This was found to be important to show employees they are not stagnating in their roles and that their development is valued. Organisations also felt that it was important to include a variety of online learning sessions, workshops, articles and interactive resources to add variety and increase engagement. This finding is consistent with that of CIPD (2021).

It was found, however, that a lack of human interaction during these training sessions could also have adverse effects on engagement. Interviewees suggested that AI limited oversight on employee understanding of training content, as there was often no option to ask questions of a live agent.

> *"From an engagement level, though, it does kind of miss that kind of human interaction."*
> HR3

> *"There's less accountability with online learning than there is in person."*
> HR4

The organisation collects insights from mandatory questionnaires completed by employees after each training session. However, similar to the 'satisfaction survey' mentioned in the previous section, answers may not be clear or reflect the answers the employee would wish to give. Inability to speak with a live agent can cause frustration and loss of engagement.

> *"We have workers who go through those trainings that might be struggling in their role, and that's where they really need leadership and someone explaining and communicating to them."*
> HR4

When implementing AI in L&D, there should be agents available, or sessions scheduled with employees, to ensure understanding and offer clarification. Most organisations suggested a hybrid approach was most efficient to avoid employees feeling isolated and detached.

> "*I think it's kind of like a balancing act … you want to go systems heavy, because it's going to give you results, but at the same time, you need to marry in that amount of personal touch and that one-on-one HR contact that ultimately you really can't replace."*
> HR6

Engaging Management and Employees

Organisations are implementing new strategies, such as gamification, to enhance employee engagement. However, senior leadership must be on board and engaged for employees to have the opportunity to use such software.

> *"[Gamification] does drive engagement, but all of that is only as good as the shift lead that gives you time to do it,"*
> HR8

This is important, as many employees want such opportunities, but do not always get them. Heavily investing in these strategies and having "*people … at the core"* (HR8) is important in building trust and loyalty within organisations. There was a clear correlation between organisations that invested heavily in supporting their employees with a positive employee experience and higher engagement. Employees that have positive experiences act as brand ambassadors for the organisation, making them more competitive in the market.

This study also showed that engagement may be industry specific. One organisation found that due to the cultural diversity of its employees in an industry where literacy was not necessarily required, employees did not respond well to e-learning. The organisation, therefore, found in-person training to be more suitable.

> *"I think that, specifically in hospitality, maybe there's more need [for in-person training] due to the different populations that you're training. Having some populations behind a computer and following a training just doesn't really make sense and is not very useful."*
> HR9

Employees who don't sit behind a screen all day are going to have different responses to receiving a training online. Adding this burden to an employee could potentially have negative effects on their psychological attachment to the organisation.

Incorporating technology into the HR function should, in theory, benefit HR practices. However, similar to Pan et al. (2021), this research found that not all industries will be able to implement it in the same way or to the same degree.

Theme 3 – Implementation and training

This section discusses the effects of successfully implementing and training personnel on the use of AI in an organisation. This theme is discussed in the context of the organisation as a whole because of the nature of interviewee responses on the topic.

Successful implementation

Prior studies that have observed the importance of successfully implanting technologies in organisations (CIPD, 2021). AI will only be beneficial if implemented correctly. This process can be time consuming and challenging to get right.

> *"It's difficult to get right at first. There are often challenges with implementation, but the benefits have an overwhelmingly positive impact on HR."*
> HR6

This research showed a clear correlation between organisations that invested heavily in human organisational support and satisfactory experiences with new technologies. Five out of the nine organisations interviewed acknowledged the importance of effective implementation and ensuring that all employees were fully trained on new technologies.

> *"If not done correctly, it could be a huge waste of money… People may then think there aren't opportunities for growth and may leave."*
> HR6

One interviewee in the hospitality industry discussed the challenges of not having a system specifically tailored to the organisation's needs. Misuse of the software occurred due to a lack of training, support and collaboration from leadership during implementation. The interviewee struggled to engage employees with the new platform, as they were concerned about losing personal interaction. As mentioned, per PwC (2021), a 'cultural shift' in the industry may be required for the adoption of this technology.

> *"It wasn't set up for our country or our needs … it didn't make sense for us … I know there was a lot more in the system that we didn't actually use … It wasn't customised enough for us to really take advantage of it … But I won't say it was because of the system … It's because of the way we dealt with it … I guess you need to have all leadership on board and … really go for it with your marketing to your employees and show them that this is a positive change for them."*
> HR9

The employees that are pushing back against AI may be unaware of the fact that it is something they come into contact with on a regular basis. As mentioned in the literature review, if organisations offer transparency on their implementation strategy, employees may be more willing to adapt (CIPD, 2021). Each employee may use the software differently, so it is the organisation's responsibility to ensure its employees are sufficiently trained.

Once the system has been implemented successfully, it is also important to have a strategy that 'makes sense' and aligns with the strategies of other departments. Implementing a centralised strategy is difficult and time consuming, however.

Centralised strategy

It is important to have a centralised strategy when using AI solutions, as it can be frustrating for the employee when individual systems do not 'talk' to each other.

> *"There is scope for more efficiency with AI systems. At present, AI is deployed on a system-by-system basis. We have many systems deployed and most involve some degree of AI. This reflects how AI has been developed – as new technology has come on stream, we have used it in the next system to be developed and launched."*
> P2

Making sure that systems in different departments are linked will further streamline the system. Technology is moving so rapidly, however, that organisations may need to take a longer-term view when implementing a strategy for AI deployment.

> *"We want to develop an enterprise approach whereby we plan the place of AI [deployment] in our organisation. To date, this hasn't been possible, as AI has been developing at such a rapid pace, any enterprise approach may be out of date very quickly. But we think now might be the time to develop this. We have been working on a Cloud strategy and are committed to being fully cloud based in three years. We need to take the opportunity to make sure our AI is thought through at an enterprise level and that we have a vision for the use of AI across the firm that is future proofed as far as possible. This will involve several planning sessions with the various heads of business, support services and led by our CTO."*
> HR2

"It's a really interesting space but … I don't think we're anywhere near where we're going to be in another five years around the capabilities of it."

HR4

Technology is rapidly advancing and achieving a single source of truth is difficult. Traditional HR practitioners may not have the skills necessary to fully understand or drive such changes.

Theme 4 – Future-proof HR

This section discusses the future of the HR profession and how the role has evolved. It does not contain the subthemes of R&S, L&D and PM, as these were included as an introductory element of the interviews. The responses given were valuable in providing insight into how HR practitioners felt about future-proofing the profession.

Evolving role of HR

Interviewees were asked how their role had changed over their time in the industry. All interviewees discussed the huge advancement and benefits that technology had brought to the organisation. Traditionally, HR has played an administrative role, but AI and automation have created more efficient processes by completing repetitive, time-consuming tasks.

There was a clear contrast between organisations that were advanced in terms of technology and those that were not. Interviewees that were not as practised or knowledgeable about AI suggested that the most important function of HR was its role in offering employees human interaction.

"HR Is about looking after the people and that people feel like they can reach out to a human."

HR4

These interviewees also disagreed with the use of interview bots to assist in the hiring process, but still felt comfortable having chatbots 'chat' with candidates. This could suggest that less tech-savvy employees might be more protective of their roles and were scared to relinquish their tasks to AI. They might not want to believe that machines could perform their role more effectively for fear of redundancy.

Technologically advanced organisations can see the benefits that AI brings, so do not see it as a threat. Interviewees from such organisations cited the importance of business insights and

how they had transformed the way organisations make decisions to make them more competitive. Organisations can now use the data created by employees to improve different aspects of the HR function, such as workflow management, skills mining, bridging skills gaps, creating career paths, development plans and regular feedback.

> *"With the incredible leaps that we've had in technology and the advances we've had, a lot of [those mundane tasks have been] taken away from people. And the emphasis is on making sure that we have the staff who are able to shape the systems … I think it's definitely turned into a HR where there are a lot more possibilities for people who are more data driven, technologically minded people, to get into that world to improve the HR function."*
> HR6

> *"Ultimately, it helps us get insights we didn't have access to before."*
> HR8

However, big data has increased the need for data analysis and interpretation – a skill that most HR professionals do not currently have (Sage, 2020). Through workforce planning, organisations have recognised that data analytics will be an essential skill in five years' time, so are using AI to upskill their workforce and future-proof themselves.

> *"We look at all the different talent we have in the organisation and all the skills that [have been] acquired and, over the next five years … the skills we need to build. We've done this in each area of our business and one of the programmes that's come out of that is data analytics, because, in the future, people are going to need to be a lot more analytical in relation to data... One the outcomes of that is a data analytics camp, so every staff member can avail of data analytics awareness training… Aside from that, we also have 100 licences where people can do an advanced level of data-... and early stages of data-scientist training … That's something that we have identified and that we are tackling currently."*
> HR7

The automation of time-consuming tasks has enabled HR professionals to think strategically and act as a driving force in implementing new initiatives. This finding aligns with Hillenbrand's (2020) observation that CHRO's are now responsible for driving the overarching goals of the organisation. This will help organisations to create a more valuable experience for the employee, which will help them to remain competitive in the market.

Chapter 6 - Discussion

Introduction

This research aimed to explore the practicality of AI as a tool for R&S through the use of qualitative techniques (Barnham, 2015). While the literature review evaluated the impact of new technology on the HR department, there was little to be found in relation to HR practitioners' perspectives and experiences. Through semi-structured interviews the researcher obtained rich information on how these changes are affecting HR. This section will discuss the research findings in light of the broader field of research under the headings of AI in R&S, AI in PM, AI in L&D, AI and engagement, Future-proof HR.

AI in R&S

The interviewees looked at R&S in several different contexts. This research was interpreted in conjunction with research in the field. This research found that AI in R&S is efficient as it speeds up routine tasks. It helps to narrow down candidate lists, source passive candidates and remove bias. These findings are consistent with that of (Johansson and Herranen, 2019; Bhardwaj et al., 2020; Fenech, Baguant and Ivanov. 2019; AIHR Digital, 2019). This provides HR the opportunity to focus on strategic duties of the business. This includes optimising the culture, talent development and workforce planning.

This research found that human touch was most important when assessing the 'fit' of a candidate. Having the 'right fit' is important as it enhances productivity and engagement. However, this contrasts to that of Bhalgat (2019) who found that AI could be programmed to ignore sensitive variables and assess certain characteristics to select the 'best fit' for the role. There are a number of culture fit assessments that AI can carry out such as "equalture" and "assessfirst" (Rios, 2019). These technologies have the ability to assess the 'fit' of the candidate which would enable hiring managers to relinquish this task to AI. (Rios, 2019). While employees discussed the importance of inclusivity and diversity initiatives and implemented non-bias augmented writing tools such as 'Textio', they also expressed the need for the 'right fit'. Recruiters want a candidate who will 'fit' with the culture however, these hiring decisions could be subjective and may biased in themselves (Rios, 2019). Dali (2018) argues that 'culture fit' may become personal to the recruiter thus, could lead to an organisation requiring 'social fit', depending on the background/age/ethnicity of the candidate, leading to discrimination. Franken and Wattenberg (2019) suggest that AI will never replace human judgement due to its lack of emotional intelligence however, while AI

may lack the human touch, it removes what humans seek to eliminate, implicit bias. This would therefore suggest that recruiters still want to meet the candidate to make a personality-based assessment. Agrawal (2018) suggests that new technologies should be trusted as they are proven to be 'better predictors' than humans. Organisations should consider this and be cautious of the power they offer hiring managers around the discretion of overriding the AI system. This research found that hiring managers often disregard suggestions of AI when it does not provide the answers they require. This confirms the suggestion from Reilley (2018) who illustrates a likelihood of AI systems becoming corrupted by hiring managers who manipulate the system to suit their needs. However, it is beyond the scope of this study to comment on what justifies these decisions.

Lack of trust

The research found that HR practitioners that were unfamiliar with technology had little trust in AI as a tool for R&S. It was also noted that some large organisations admittedly lacked knowledge around the capabilities of AI and only used it for routine tasks. Interviewees illustrated that they felt they had the capacity to complete the remainder of their duties. Interviewees highlighted the possible risk of AI missing out on potential candidates. In the early stages, AI will make mistakes however, it will consistently learn and improve once an incorrect decision is made. The findings of this study suggest that HR practitioners are not willing to pass this task over to AI. If HR practitioners offered AI full functionality to select candidates, machine learning would eventually learn to make the right decision. This finding is consistent with that of Agrawal (2018), who suggests that AI has the ability to perform R&S activities independently without the need for human input. The Institute for Employment Studies (IES, 2021) similarly found that the biggest challenge when introducing AI was distrust in the system. This finding correlates with that of Reim, Åström and Eriksson (2020) who suggests that trust is essential to get employees to engage with new technologies. Reim suggests that employees may be reluctant to trust AI if they have not received training on the functionalities of the system. Another possible explanation for this is that management aren't communicating with employees upon implementation. Transparency around why this complex technology is being used is necessary to increase engagement and adoption of the system. *See Theme 3 for further discussion on implementation*.

AI in PM

This study found that the use of AI in PM creates a more efficient, positive experience as consistent feedback and performance development discussions are more interactive and engaging for the employee. This finding broadly supports the work of other studies in this area linking AI with increased engagement and efficiency such as Berber et al. (2018). It increases motivation and engagement as it provides an upward trajectory which helps with employee value (Redman et al. 2017), (IES, 2021). Interviewees found AI in PM to be a positive implementation and have seen the benefits of offering transparency around promotion and bonus targets (Stone et al. 2015). However, this study confirmed the findings of Ledford, Benson and Lawler (2016) showing machine feedback as not enough for the delivery of performance reviews as it overlooks social behaviours. The study also found that employees take feedback less seriously than in person. Therefore, this confirmed the research carried out by CIPD (2021) who suggested that a hybrid approach to PM is most appropriate to add value to feedback and provide support when coaching and developing employees. This confirms that AI is effective as a tool for PM, however, a hybrid approach is necessary to make employees feel valued.

This system may also be open to distrust by the employees. Organisations now have easier access to intrusive data that could be used unethically in performance reviews to justify decisions. This may result in employees being fearful of a negative review, resulting in them working harder to impress management and avoid negative feedback and/or dismissal. This may be more efficient for the organisations; however, it could result in stress and burnout for the employee. Interviewees showed no concerns over this possibility. Interviewees spoke positively around AI as a tool to justify promotions which contradicts the earlier discussion of HR practitioners not using AI as a selection tool. This could further suggest that HR practitioners have a lack of knowledge of the full capabilities of AI. However, this suggestion must be interpreted with caution as no existing literature was found on the association between AI in PM and employee burnout.

Implementation and Training

This study found that engagement from leadership is essential when implementing new technologies. Lack of collaboration and engagement with management can result in unsuccessful implementation and adoption of technology into an organisation. This confirms studies by CIPD (2019) and Pan et al., (2021) that illustrates that employees who are part of the decision-making process have a more positive experience using IT systems**.** The

employee voice must be prioritised when making decisions around new technology to increase engagement and adoption (Pan et al.,2021). However, this may require a cultural shift in the organisation. See *"cultural shift"* for further discussion.

AI in L&D

The present study was designed to determine the effectiveness of AI as a tool for L&D. The study found that the implementation of AI in L&D is a positive advancement in the organisation and is something that organisations have been forced to adapt to due to Covid-19. This study found that AI in L&D increases engagement and efficiency. Similar to Bhardwaj et al. (2020), results suggest that a personalised approach with a user-centric design is beneficial for increasing engagement. It is also beneficial for the organisation as it closes the skills gap created by new technologies which improves employer brand, making them more competitive as an employer (Suseno et al., 2021). (IES, 2021) found that providing exciting opportunities and providing an upward trajectory creates 'belief' in organisations. This creates a positive attitude and a willingness to go beyond the requirement of their role, strengthening the relationship between employee and organisation (IES, 2021).

It was found, however, that a lack of human interaction during these training sessions could have adverse effects on engagement. Interviewees suggested that AI limited oversight on employee understanding of training content, as there was often no option to ask questions to a live agent. Studies carried out by Deloitte (2021) suggest that high performers in the industry were motivated by AI and automation and median performers preferred to take a hybrid approach. Deloitte suggested this was necessary to establish a personal relationship to compensate for performance gaps.

However, as discussed earlier in the previous section *"AI in PM"*, organisations may benefit from an efficient, engaged workforce at the cost of employee burnout. Alex Eben Meyer (2021), suggest that closing the skills gap and having highly skilled employees makes the organisation attractive as an employer and competitive in the market. This study found that employees may feel pressured to undertake 'voluntary' training 'out of hours' as it is used to guide career progression and annual bonus rounds**.** This further questions the contradiction mentioned in the earlier theme *"AI in PM"*, regarding HR relinquishing the tasks of hiring**.** Minimal research was found on the topic of L&D and burnout, therefore; caution must be applied to the interpretation of this finding. The sample size of this study was also small which may result in an inaccurate representation of the population.

AI and Engagement

Incorporating certain technologies into HR in theory, should benefit the HR practice, however, this research has found that not all industries will be able to implement it in the same way. This finding aligns with that of Suseno et al. (2021) who illustrates that engagement with technology will only be successful with individuals who trust and understand it. Additionally, Hmoud (2021) found that managers of organisations with higher adaptability and engagement with AI have a positive attitude toward its contributions.

This study found that engagement with e-learning may be industry specific. A possible explanation for this might be that certain industries i.e., the hospitality industry, have a strong need for relationship building and emotional intelligence, something that AI does not have (Franken and Wattenberg 2019). AI can only answer the questions that have been built into the system and therefore would not be sufficient in an industry that prioritises the 'human touch' and is required to deal with unpredictable situations. Another possible consideration for this may be that literacy of staff is important when implementing these systems. Studies have found that literacy may create anxiety around the implementation of new trainings Reim, Åström and Eriksson (2020). Employees that perceived complexity towards AI limited adoption of the system in the organisation. This can largely be due to how technologically advanced an organisation is (Pan et al., 2021).

Culture shift

This research found that a culture change may be required to adapt to technological advancements in an organisation. Large organisations with bureaucratic procedures may not want to adapt to new working models as it is costly and requires a significant shift in current procedures. A cultural shift requires leadership who are willing to collaborate with HR and drive change through operations (Suseno et al., 2021). Studies have shown that if employees are involved in the implementation of new technology, they are more likely adopt it (CIPD, 2019). Hmoud (2021) suggests that increased anxiety around the future of administrative roles should encourage organisations to consider how they introduce new technologies to the workforce and suggest a slow and collaborative transformation is best. Pan et al., (2021) further suggests that employees may resist change as they feel pressured to upskill to understand new complex systems. This is consistent with CIPD (2019) who illustrates that that 61% of individuals whose jobs were affected by AI felt it was necessary to upskill. Reim, Åström and Eriksson (2020) suggest organisations should create transparency and clarity around the implementation of technology and enable employees to put forth ideas and

collaborate without a fear of failure. Organisations should stop fearing failure with AI and understand that it will make mistakes to begin with. However, it will only learn and improve. This requires a large organisational shift from leaders who should prepare, motivate and encourage the workforce for this change (Fountaine, McCarthy and Saleh, 2019). CIPD (2020) suggests that AI will create more jobs than it eliminates, therefore it is important to reassure employees of this, as AI will be a fundamental tool for retraining practitioners for the role of the future. Fountaine, McCarthy and Saleh, (2019) suggests that resisting these changes limits the broad adoption of AI which will limit the organisations capabilities, making them less competitive in the market. Therefore, organisations should provide transparency and sufficient training on the full capabilities of AI to increase trust and adoption.

Future-proof HR

Technology was already changing the world of work however, the COVID-19 pandemic accelerated this transformation as organisations were forced to facilitate remote working (Alex Eben Meyer, 2021). Many organisations are expected to shift to a hybrid model 'post-Covid' (McKinsey 2021). This research reflects that of McKinsey who also found that employees enjoy the convenience remote working brings. Organisations have noticed that employees are equally as engaged and have witnessed an increase in productivity.

Similar to the findings of this study, Alex Eben Meyer (2021) found that using PA will provide organisations with a competitive edge as it enables them to identify, recruit and retain talent at a much lower cost. Millennials will make up 44% of the workforce by 2030, this is a generation that requires flexible work practices and a valuable employee experience (Hmoud, 2021). Therefore, a 'people-first' approach will be required to make the organisation competitive in the market and an employer of choice.

This study found that organisations are implementing AI at a rapid pace and currently they are being deployed on a system-by-system basis. AI is going to change the HR practice but right now the complicated implementation isn't just restricted to HR departments, its organisational wide. AI is still evolving and has not yet been developed to the point where all departments can be connected which makes streamlining the process difficult. HR practitioners need to have the skills available to implement new strategies as they emerge.

(Reim, Åström and Eriksson 2020) suggest that for this to happen, organisations will require substantial shifts in operational procedures which will result in ‘uncertainty’ and ‘risk’. Therefore, HR need to develop an agile mindset where they can work flexibly and develop a culture that welcomes this uncertainty. Creating an innovative environment that is adaptable and willing to fail will be inherent to organisational acceptance when administering these changes.

Chapter 7 - Conclusion

This research was undertaken to explore the practicality of AI as a tool for R&S through the use of qualitative analysis (Barnham, 2015). The findings of this research revealed in depth and detailed insight into the perceptions of HR practitioners towards the implementation of new technology in organisations. The researcher would not have had the opportunity to garner an in depth understanding of this phenomenon had another method of research been employed.

This research explored the encroachment of new technologies on HR and contributed to the understanding of how HR practitioners perceive these changes.

The researcher felt this was important as the development of new systems will change the role of the HR practitioner. This research found that AI is practical as a tool for R&S across the whole HR function, including the areas of PM and L&D as functions to aid both internal and external recruitment. AI assist organisations to upskill talent to meet skills shortages created by the technological era, however, the human touch must remain to support, coach, and develop employees. Digitisation of the workforce has resulted in a need for agile, data driven HR practitioners who can interpret data to drive business decisions. Understanding new systems and encroachment of HR is going to help HR practitioners to future proof both department and practice.

However, the main finding from this research is that there is a lack trust and knowledge around the full capabilities of these systems. HR should trust these systems and it should be understood that by removing mundane tasks, the human factor will not be removed, it will enable practitioners to carry out higher value work such as improving the organisational culture and creating a valuable employee experience. Another major finding was that while organisations lack trust, a major mindset shift is required to adapt to the new demands of the workforce. Therefore, building AI literacy across the organisation, early in the AI adoption phase, will be necessary to deliver long term benefits and enable HR practitioners to use technology to its full capacity. If HR practitioners do not become agile and data driven to adapt to these changes, they will shrink as a profession and become less relevant.

Suggestions for further research

This research clearly illustrates that AI is essential for future proofing the HR profession but also raises the question of why HR practitioners don't want to relinquish the tasks of R&S. To better understand the implications of these results future studies could be undertaken to

investigate the psychology of interview practice. This would help garner an understanding around the predisposed bias humans have from life experience which dictate whether an employee is the 'right fit' for the organisation.

Further research could also be carried out around bias. HR practitioners will struggle to trust AI until bias has been reduced. This would make more data available to HR practitioners who are implementing these systems which could help AI reach its full potential in organisations.

This research found that AI is a useful tool for L&D and PM as it creates opportunities, closes the skills gap, and drives productivity. However, questions were posed regarding the extent to which its actually benefiting the employees. Is the investment of time adding sufficiently to employees' career paths, or is it solely for the benefit of the organisation? How personalised is the 'personalised training' that is provided? Organisations don't seem to monitor engagement on this or offer a live agent to support employees and therefore won't know if they are struggling. On one hand, it's clear these training systems complement the skills of individuals and provide an incentive to take advantage of training available, however, it may be putting too much pressure on the employee. Further research is required to understand the perspective of employees regarding the impact new technological advancements have on employee burnout in the organisation.

Limitations

There are a number of limitations within this research that could be improved upon. The use of interviews resulted in a small sample size which may have limited the study. Also, there is a chance that researcher bias was present throughout both the interviews and the interpretation of the results for this research. The researcher also had limited access to interviewees due to Covid and had to conduct all elements of the study online. The researcher felt time was a limitation, had there been more time to conduct the study, the researcher would have had access to more participants which would have resulted in a broader, more diverse outreach.

Recommendations, timelines, and costings

Based on the findings and conclusions, the researcher has developed the following recommendations including prospective timelines and potential costs involved.

1. Implement AI into the organisation

Due to the many benefits listed in this study, the researcher recommends for organisations to implement AI as a mechanism to future proof the HR function. However, due to the difficult implementation, the researcher recommends a comprehensive change management strategy is necessary to ensure the successful implementation of AI technologies in the organisation.

2. Implement a comprehensive change management strategy

A comprehensive change management program is recommended to ensure that AI technology is implemented as effectively as possible. This will especially help shift the mindset of bureaucratic organisations (PWC, 2021). Depending on the size and mindset of the organisation, engaging change management consultants may be more efficient to help reduce execution risk and to ensure successful implementation (Reim, Åström and Eriksson, 2020)

A change program will consider the technology implementation and migration path and timelines; changes to work processes to take advantage of the new technology, impact on employee data and training of employees. Communication to all stakeholders and employees is a critical success factor of a change management program. The success of the AI technology implementation will be directly related to the design and execution of a well-designed change management plan (PWC, 2021).

A plan will depend on the nature and scale of the system. However, a typical workplan with indicative pricing will look as follows:

Table 3: Cost Analysis

Workstream	Work Item	Days	Cost Estimate @ €2K/Day average
Strategy	Business objectives	20	40
Technology/Data	System selection	20	40
	Analysis & Design	40	80
	Implementation Planning	40	80
	Migration	20	40
	Implementation	20	40
Process	Work process Design	20	40
	Change planning	20	40
	Migration	20	40
People	Training Design	60	60
	Training Execution	30	60
	Communication	40	80
	Total	320 Days	€640K
Software	Licences		€250-1m

Estimated investment for a mid-size organisation would start in the region of €900K, comprising €640K Systems integration and Software charges starting at €250K, to deliver a system based on the structure above. Many of the activities will run concurrently suggesting a project timeline of 8-10 months on average. These estimates are based on a third-party service provider "*Workday"*. If the organisation chooses to develop their own in-house solution, the timeline could take anywhere between 18-60 months depending on the size of the organisation (Fountaine, McCarthy and Saleh, 2019).

These costs would need to be offset by a corresponding benefit. The benefits would fall into the themes outlined above of Efficiency and Engagement.: Implementation of AI results in greater productivity, reduced HR staffing cost, increased retention, becoming more competitive as an employer.

3. Provide continuous learning

Due to the rapid growth of technology in organisations, it is essential that all employees are skilled in data analytics. HR practitioners should complete regular advanced training to

ensure they can handle adoption of new AI strategies when they emerge. This is recommended as a strategy to increase knowledge and encourage trust amongst employees to enhance engagement and encourage adoption of new technologies in the organisation. The licence costs of trainings are factored into the cost analysis noted above and should be completed every 6 months.

Chapter 8 – Personal Learning and Reflection

Writing this dissertation has been a positive learning experience. I chose a topic of interest and one which is topical at the moment. Having in depth information about the future of HR will benefit me in my career going forward. I also gained valuable experience scheduling and conducting interviews, something I had not done prior to this research.

I found the process of carrying out this research challenging, it has taught me that I must improve my organisational and time management skills. Carrying out a dissertation remotely was challenging due to the lack of study facilities. I also felt a disconnect from the college due to the fact that I had never met or spoken to any of my classmates. This made it difficult to remain motivated, however I am thankful to have had the opportunity to make productive use of a year in lockdown. This research enabled me to increase my knowledge on relevant topics that will benefit me in the future.

Appendix 1 – Interview schedule

Warm-up questions

1. Could you tell you title and a little about how/why you got into the HR profession?
2. How long you have been in HR? How do you think the role of HR has changed?
3. Could you describe any ways in which AI has been implemented into your department HR practice (if at all).

R&S

4. How do you think AI/tech has changed the recruitment process?
5. Have you ever been concerned about bias being incorporated into the AI systems you might use? If so, how do you measure the amount of bias in the system?
6. What would you say are the advantages and disadvantages of AI in Recruitment?
7. Do you feel the use of AI in R&S has positively or negatively impacted the candidate experience?
    a. How do you think candidates respond to using chatbots during the recruitment stages?
8. How can you be sure these systems aren't narrowing down your applicant pool?
9. When hiring, how do you ensure you are getting the right fit for the organisation when AI cannot assess human qualities and soft skills?
10. What do you believe is most important when hiring – Qualifications or Experience?

L&D

11. Do you use technology for L&D?
    a. If not, could the software be implemented? In what ways do you think it would benefit the organisation?
12. How have new systems helped to improve L&D in the organisation?
13. What are the advantages and disadvantages AI in L&D

14. Have you noticed an increase in motivation from employees because of the systems used in L&D

15. Studies have shown that top candidates may prefer more empathetic interactions rather than e-learning - How do you feel these systems have impacted the employee experience?

16. Do you believe the lack of human interaction during trainings may create a disconnect between the organisation and the employee?

PM

17. Do you use AI as a system to manage performance?

    a. If not, could the software be implemented? In what ways do you think it would benefit the organisation?

18. How have new systems helped to improve PM in the organisation?

19. What would you say are the advantages/disadvantages of AI in PM?

20. How would you say the employee responds to conducting performance appraisals online rather than in person?

21. Do you feel like PM online may overlook certain aspects of an employee's social behaviours e.g., intention to leave?

    a. Have you noticed a different employee response to receiving machine feedback v in-person feedback?

Appendix 2 – Participation email

Hi _____

I hope you're well.

I would like to invite you to participate in my research project, which is part of my MA in Human Resource Management at the National College of Ireland.

To make an informed decision on whether you wish to take part in this study, please take a few minutes to read the information sheet attached to this email. Once reviewed, please let me know if you are happy to move forward as I will send a consent form for you to review and sign. The interview will take place online via "Zoom" and will be recorded for data analysis purposes. The interview will take approximately 30-45 minutes depending on your availability.

Looking forward to hearing from you.

Best wishes,

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References

Agrawal, A. (2018). *The economics of artificial intelligence* [online]. McKinsey & Company. Available at: https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/the-economics-of-artificial-intelligence.

AIHR Digital (2019). *AI and Automation in HR: Impact, Adoption and Future Workforce* [online]. Digital HR Tech blog. Available at: https://www.digitalhrtech.com/ai-in-hr-impact-adoption-automation/.

Alex Eben Meyer (2021). *Future-Proofing Your Organization* [online]. Harvard Business Review. Available at: https://hbr.org/2021/09/future-proofing-your-organization.

Barnham, C. (2015). Quantitative and Qualitative Research: Perceptual Foundations. *International Journal of Market Research*, 57(6), pp.837–854.

Bell, E., Bryman, A. and Harley, B. (2018). *Business Research Methods* [online]. *Google Books*. Oxford University Press. Available at: https://books.google.ie/books?hl=en&lr=&id=J9J2DwAAQBAJ&oi=fnd&pg=PP1&dq=Bryman.

Berber, N., Đorđević, B. and Milanović, S. (2018). Electronic human resource management (e-HRM): A new concept for digital age. *Strategic Management* [online], 23(2), pp.22–32. Available at: https://scindeks.ceon.rs/article.aspx?artid=1821-34481802022B.

Bhalgat, K.H. (2019). An Exploration of How Artificial Intelligence is Impacting Recruitment and Selection Process.

Bhardwaj, G., Singh, S., Vikram and Kumar, V. (2020). An Empirical Study Of Artificial Intelligence and its Impact on Human Resource Functions. *Researchgate*.

Bondarouk, T. and Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management* [online], 27(21), pp.2652–2671. Available at: https://www.tandfonline.com/doi/full/10.1080/09585192.2016.1232296.

Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology* [online], 3(2), pp.77–101.

Bryman, A. (2016). *Social Research Methods* [online]. Google Books. Oxford University Press. Available at: https://books.google.ie/books?hl=en&lr=&id=N2zQCgAAQBAJ&oi=fnd&pg=PP1&dq=Bryman.

Carson, D., Gilmore, A., Perry, C. and Gronhaug, K. (2001). *Philosophy of Research - SAGE Research Methods* [online], methods.sagepub.com. Available at: https://methods.sagepub.com/book/qualitative-marketing-research-carson/n1.xml.

Carton, S. (2020). *What impact will artificial intelligence have on learning and development?* [online]. Available at: http://norma.ncirl.ie/4586/1/stevencarton.pdf.

Chanda, A. (2019). *Impact of Artificial Intelligence In Recruitment, Selection, screening and retention outcomes in the Irish Market in view of the Global Market* [online]. Available at: http://norma.ncirl.ie/4321/1/aratrikachanda.pdf.

CIPD (2020). *Workplace technology The employee experience* [online]. Available at: https://www.cipd.co.uk/Images/workplace-technology-1_tcm18-80853.pdf.

CIPD (2021a). *Perspectives from independent learning practitioners Impact Of Covid-19 on The L&D Profession* [online]. Dublin. Available at: https://www.cipd.co.uk/Images/impact-COVID-19-ld-profession_tcm18-92209.pdf.

CIPD (2021b). *Technology and the Future of Work* [online]. Dublin. Available at: https://www.cipd.ie/news-resources/practical-guidance/factsheets/artificial-intelligence-automation#gref.

CNBC (2018). *How AI Changes The Way We Apply For Jobs*. *CNBC* [online]. www.youtube.com. Available at: https://www.youtube.com/watch?v=JmF-SUiMWV4&t=12s&ab_channel=CNBC.

Dali, K. (2018). *(PDF) "Culture Fit" as "Anti-Diversity":* Avoiding Human Resources Decisions that Disadvantage the Brightest [online]. *International Journal of Information, Diversity, & Inclusion*, 2(4). Available at: https://www.researchgate.net/publication/332347501_Culture_Fit_as_Anti-Diversity_Avoiding_Human_Resources_Decisions_that_Disadvantage_the_Brightest.

Deloitte (2021). *Future of Human Resources* [online]. Deloitte Deutschland. Available at: https://www2.deloitte.com/de/de/pages/strategy/articles/glimpse-the-future-of-human-resources.html.

Desai, A.H. and D.R. (2021). *Taming AI's Can/Should Problem* [online]. MIT Sloan Management Review. Available at: https://sloanreview.mit.edu/article/taming-ais-can-should-problem/.

Donovan, M. (2021). *"Black Mirror" or better? The role of AI in the future of learning and development* [online]. Chief Learning Officer - CLO Media. Available at: https://www.chieflearningofficer.com/2021/03/19/black-mirror-or-better-the-role-of-ai-in-the-future-of-learning-and-development/" https://www.chieflearningofficer.com/2021/03/19/black-mirror-or-better-the-role-of-ai-in-the-future-of-learning-and-development/.

Doyle, M. (2020). *An Exploratory Study into the Impact of the Fourth Industrial Revolution on Administration Professionals in an Irish Context*. Master's thesis. Dublin: National College of Ireland.

Dudovskiy, J. (2011). *Inductive Approach (Inductive Reasoning) - Research-Methodology*. [online] Research-Methodology. Available at: https://research-methodology.net/research-methodology/research-approach/inductive-approach-2/.

Fenech, R., Baguant, P. and Ivanov, D. (2019). The Changing Role of Human Resource Management in an Era of Digital Transformation. *International Journal of Entrepreneurship*, 22(2).

Forbes (2019). Council Post: 10 Downsides Of Using Artificial Intelligence In The Hiring Process [online]. *Forbes*, 14 August 2019. Available at: https://www.forbes.com/sites/forbescoachescouncil/2019/08/14/10-downsides-of-using-artificial-intelligence-in-the-hiring-process/.

Fountaine, T., McCarthy, B. and Saleh, T. (2019). Building the AI-Powered Organization [online]. *Harvard Business Review*, July-August 2019. Available at: https://hbr.org/2019/07/building-the-ai-powered-organization" https://hbr.org/2019/07/building-the-ai-powered-organization.

Franken, S. and Wattenberg, M. (2019). *The Impact of AI on Employment and Organisation in the Industrial Working Environment of the Future*. Conference Proceedings of the 1st European Conference on the Impact of Artificial Intelligence and Robotics. Oxford, UK. Available at: https://www.researchgate.net/publication/334899242_The_Impact_of_AI_on_Employment_and_Organisation_in_the_Industrial_Working_Environment_of_the_Future.

Gal, U., Jensen, T. and Stein, M.-K. (2017). People Analytics in the Age of Big Data: An Agenda for IS Research. *ICIS 2017 Proceedings* [online]. Available at: https://aisel.aisnet.org/icis2017/TransformingSociety/Presentations/1/.

Hillenbrand, P. (2020). *The people-first approach to business building* [online]. McKinsey. Available at: https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-people-first-approach-to-business-building.

Hmoud, B. (2021). The Adoption of Artificial Intelligence in Human Resource Management and the role of human resources. *Forum Scientiae Oeconomia*, 9(1). Available at: https://www.researchgate.net/publication/350517240_The_adoption_of_artificial_intelligence_in_human_resource_management_and_the_role_of_human_resources/link/60646bf3299bf173677f55f2/download.

Hogarth, T. (2017). *Automation Artificial Intelligence On-demand Labour and Other Flexible Forms of Labour in the New IDB Employer Survey Skills at Work in LAC* [online]. Washington, DC: Inter-American Development Bank. Available at: https://publications.iadb.org/publications/english/document/Automation-Artificial-Intelligence-On-demand-Labour-and-Other-Flexible-Forms-of-Labour-in-the-New-IDB-Employer-Survey-Skills-at-Work-in-LAC.pdf.

Holden, M.T. and Lynch, P. (2004). Choosing the Appropriate Methodology: Understanding Research Philosophy. *The Marketing Review* [online], 4(4), pp.397–409. Available at: https://www.researchgate.net/publication/228744697_Choosing_the_Appropriate_Methodology_Understanding_Research_Philosophy" https://www.researchgate.net/publication/228744697_Choosing_the_Appropriate_Methodology_Understanding_Research_Philosophy.

HR and People Leaders Report (2020). *The Changing Face of HR*. Sage.

IES (2021). *Report summary: e-Recruitment: Is it Delivering? | Institute for Employment Studies (IES)* [online]. Report summary: e-Recruitment: Is it Delivering? | Institute for Employment Studies (IES). Available at: https://www.employment-studies.co.uk/report-summaries/report-summary-e-recruitment-it-delivering.

Johansson, J. and Herranen, S. (2019). *The application of Artificial Intelligence (AI) in Human Resource Management: Current state of AI and its impact on the traditional recruitment process* [online]. Available at: https://www.diva-portal.org/smash/get/diva2:1322478/FULLTEXT01.pdf.

Konczak, C. (2007). Research Methods in Physical Activity: 5th Edition. *The Journal of the Canadian Chiropractic Association* [online], 51(2), p.124. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1924667/.

Ledford, G.E., Benson, G. and Lawler, E.E. (2016). Aligning Research and the Current Practice of Performance Management. *Industrial and Organizational Psychology*, 9(2), pp.253–260.

Lorenzo, R. and Reeves, M. (2018). How and Where Diversity Drives Financial Performance [online]. *Harvard Business Review,* 30 January 2018. Available at: https://hbr.org/2018/01/how-and-where-diversity-drives-financial-performance" https://hbr.org/2018/01/how-and-where-diversity-drives-financial-performance.

Lumi, A. (2020). The Impact of Digitalisation on Human Resources Development. *Prizren Social Science Journal*, 4(3), pp.39–46.

Manyika, J., Silberg, J. and Presten, B. (2019). What Do We Do About the Biases in AI? [online]. *Harvard Business Review*, 25 October 2019. Available at: https://hbr.org/2019/10/what-do-we-do-about-the-biases-in-ai" https://hbr.org/2019/10/what-do-we-do-about-the-biases-in-ai.

Manyika, J. and Sneader, K. (2018). *AI, automation, and the future of work: Ten things to solve for* [online]. McKinsey & Company. Available at: https://www.mckinsey.com/featured-insights/future-of-work/ai-automation-and-the-future-of-work-ten-things-to-solve-for" https://www.mckinsey.com/featured-insights/future-of-work/ai-automation-and-the-future-of-work-ten-things-to-solve-for.

Marr, B. (2020). What Are The Pitfalls Of People Analytics And Data-Driven HR? [online]. *Forbes*, 12 February 2020. Available at: https://www.forbes.com/sites/bernardmarr/2020/02/12/what-are-the-pitfalls-of-people-analytics-and-data-driven-hr/.

McBride, N., Cunden, M. and Bryce, V. (2021). *How people analytics and AI are changing HR departments* [online]. People Management, 8 July 2021. Available at: https://www.peoplemanagement.co.uk/voices/comment/how-people-analytics-and-ai-changing-hr-departments" https://www.peoplemanagement.co.uk/voices/comment/how-people-analytics-and-ai-changing-hr-departments.

McGrath, D. and Bear, M. (2020). *Why Human Experience Matters* [online]. Podcast. HR.com. Available at: https://www.hr.com/en/hr_com_live/why-human-experience-matters_k9sarpjn.html.

McKinsey (2021). *The future of work after COVID-19* [online]. McKinsey. Available at: https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19.

myHRfuture (2020). *How IBM Is Reinventing HR With AI and People Analytics.* Interview with IBM CHRO, Diane Gherson. YouTube, 9 September 2020. Available at: https://www.youtube.com/watch?v=dG_EocMgM8k&ab_channel=myHRfuture.

Nouri, S. (2021). Council Post: The Role Of Bias In Artificial Intelligence [online]. *Forbes*, 4 February 2021. Available at: https://www.forbes.com/sites/forbestechcouncil/2021/02/04/the-role-of-bias-in-artificial-intelligence/.

PA Consulting (2020). *People and Machines – From Hype to Reality*. PA Consulting.

Pan, Y., Froese, F., Liu, N., Hu, Y. and Ye, M. (2021). The adoption of artificial intelligence in employee recruitment: The influence of contextual factors. *The International Journal of Human Resource Management*, pp.1–23. Available at: https://www.researchgate.net/publication/349344117_The_adoption_of_artificial_intelligence_in_employee_recruitment_The_influence_of_contextual_factors.

Parry, E. and Tyson, S. (2011). Desired goals and actual outcomes of e-HRM. *Human Resource Management Journal*, 21(3).

Polli, F. (2019). Using AI to Eliminate Bias from Hiring [online]. *Harvard Business Review*, 29 October 2019. Available at: https://hbr.org/2019/10/using-ai-to-eliminate-bias-from-hiring" https://hbr.org/2019/10/using-ai-to-eliminate-bias-from-hiring.

PwC (2021). *Future of Work* [online]. PwC. Available at: https://www.pwc.ie/issues/future-of-work.html" https://www.pwc.ie/issues/future-of-work.html.

Redman, T., Wilkinson, A. and Dundon, T. (2017). *Contemporary human resource management : text and cases*. 5th ed. Harlow, United Kingdom: Pearson Education.

Reilly, P. (2018). *The Impact of Artificial Intelligence on the HR Function*. Brighton, UK: Institute For Employment Studies.

Reim, W., Åström, J. and Eriksson, O. (2020). Implementation of Artificial Intelligence (AI): A Roadmap for Business Model Innovation. *AI*, 1(2), pp.180–191.

Rios, K. (2019). *[3-Part Series] The Psychology Behind Personality Assessments and Pre-Employment Screening Tools (Part 1)* [online]. deltPRO. Available at: https://www.deltpro.com/3-part-series-the-psychology-behind-personality-assessments-and-pre-employment-screening-tools-part-1/.

Sage (2020). *The People Team of Tomorrow*. Sage Group Publications.

Saunders, M.N. (2009). *Understanding Research Philosophies and Approaches*. London: Pearson Education.

Shannen, A. (2020). *Approaching Mental Health and Wellbeing in the Workplace: A Qualitative Exploration from the Perspectives of Line Managers*. Master's thesis. Dublin: National College of Ireland.

Silberg, J. and Manyika, J. (2019). *Tackling bias in artificial intelligence (and in humans)*. [online]. McKinsey & Company. Available at: https://www.mckinsey.com/featured-insights/artificial-intelligence/tackling-bias-in-artificial-intelligence-and-in-humans" https://www.mckinsey.com/featured-insights/artificial-intelligence/tackling-bias-in-artificial-intelligence-and-in-humans.

Sree, B. (2018). Recruitment Through Artificial Intelligence: A Conceptual Study. *International Journal of Mechanical Engineering and Technology (IJMET)* [online], 9(7), p.63. Available at: https://iaeme.com/MasterAdmin/Journal_uploads/IJMET/Volume_9_Issue_7/IJMET_09_07_

007.Pdf"
https://iaeme.com/MasterAdmin/Journal_uploads/IJMET/Volume_9_Issue_7/IJMET_09_07_007.Pdf.

Stone, D.L., Deadrick, D.L., Lukaszewski, K.M. and Johnson, R. (2015). The influence of technology on the future of human resource management. *Human Resource Management Review*, 25(2), pp.216–231.

Stone, D.L. and Johnson, R.D. (2018). The Advantages and Unintended Consequences of eHRM [online]. In: R. Landers (ed.) (2019) *The Cambridge Handbook of Technology and Employee Behavior*. Cambridge University Press. Available at: https://www.researchgate.net/publication/322963788_The_Advantages_and_Unintended_Consequences_of_eHRM"
https://www.researchgate.net/publication/322963788_The_Advantages_and_Unintended_Consequences_of_eHRM.

Suseno, Y., Chang, C., Hudik, M. and Fang, E.S. (2021). Beliefs, anxiety and change readiness for artificial intelligence adoption among human resource managers: the moderating role of high-performance work systems. *The International Journal of Human Resource Management*, pp.1–28.

Upadhyay, A.K. and Khandelwal, K. (2018). *The Rise of Artificial Intelligence in Talent Acquisition*.[online]. *Strategic HR Review*, 17(5). Available at: https://www.researchgate.net/publication/328490829_Applying_artificial_intelligence_implications_for_recruitment"
https://www.researchgate.net/publication/328490829_Applying_artificial_intelligence_implications_for_recruitment.

Wall Street Journal (2018). *Artificial Intelligence: The Robots Are Now Hiring | Moving Upstream* [online]. YouTube, 20 September 2018. Available at: https://www.youtube.com/watch?v=8QEK7B9GUhM&ab_channel=WallStreetJournal.

Wright, A., Gherson, D., Bersin, J. and Mertens, J. (2020). *Accelerating the Journey to HR 3.0* [online]. IBM Institute for Business Value. Available at: https://www.ibm.com/downloads/cas/0LR4N1WK"
https://www.ibm.com/downloads/cas/0LR4N1WK.

Wright, J. and Atkinson, D. (2018). *The impact of artificial intelligence within the recruitment industry: Defining a new way of recruiting*. [online]. Carmichael Fisher. Available at: https://www.cfsearch.com/wp-content/uploads/2019/10/James-Wright-The-impact-of-artificial-intelligence-within-the-recruitment-industry-Defining-a-new-way-of-recruiting.pdf" https://www.cfsearch.com/wp-content/uploads/2019/10/James-Wright-The-impact-of-artificial-intelligence-within-the-recruitment-industry-Defining-a-new-way-of-recruiting.pdf.

Zhang, H., Feinzig, S., Raisbeck, L. and Mccombe, I. (2019). *The role of AI in mitigating bias to enhance diversity and inclusion* [online]. IBM Smarter Workforce Institute. Available at: https://www.ibm.com/downloads/cas/2DZELQ4O#:~:text=AI%20holds%20great%20promise%20for.