LUND UNIVERSITY

SCHOOL OF ECONOMICS AND MANAGEMENT

A Look into Organising in the Era of AI

by

Gustaf Linder & Luheng Zhang

June 2020

Master's Programme in Management

Supervisor: Stein Kleppestø
Examiner: Anna Thomasson

Abstract

Artificial Intelligence (AI) is advancing rapidly. It is beginning to appear in personal life, business sectors, society, and shows impacts on each these contexts. The purpose of this study is to increase our understanding of how narrow AI could potentially affect the way we will organise. To fulfil this purpose, the Four Frames was used to collect and analyse recent publications for insights over this topic, as well as eight qualitative interviews with AI professionals, were conducted to test and supplement perspectives from publications. This study's scope is to look at organising in the context of organisations such as corporations and public sector units, excluding other forms such as events and groups.

The results of this study show that narrow AI could potentially impact the way we organise when looking at aspects such as organisational structure, human resources, decision making, and organisational culture. The publications and interviews present the same or similar result in the majority of aspects, such as a new division of labour between humans and AI, data-driven decision making will be common, etc. They do, however, disagree in how AI should be viewed, as a colleague or as a support function. Furthermore, the publications and interviews present unique insights respectively that should be combined to fully understand AI's impact on how we will organise in the future.

Keywords: Narrow Artificial Intelligence, Organisation, Organising, The Four Frames

Acknowledgements

We want to thank our fantastic respondents for providing valuable insights in these difficult times of COVID-19. We also want to acknowledge Stein Kleppestø at the Department of Business Administration for providing constructive feedback and guidance.

Table of Contents

1 Introduction 1
1.1 Background 1
1.2 Research Purpose 2
1.3 Delimitations 3
1.4 Research Limitations 4
1.5 Outline of the Thesis 4
2 AI & The Four Frames 6
2.1 Artificial Intelligence 6
2.2 Four Frames 9
2.2.1 Structural Frame 10
2.2.2 Human Resource Frame 13
2.2.3 Political Frame 14
2.2.4 Symbolic Frame 16
2.2.5 Motivation & critique towards the framework 18
2.3 Chapter Summary 19
3 Methodology 20
3.1 Research Approach & Design 20
3.2 Data Collection Method 21
3.3 Data Analysis 24
3.4 Validity and Reliability 25
3.5 Limitations 26
3.6 Ethics 27
3.7 Chapter Summary 27
4 Analysis and Discussion 29
4.1 Publication Analysis 29
4.1.1 Matrix Analysis 29
4.1.2 Insights from Publications 31
4.2 Interview Analysis 36
4.2.1 Matrix Analysis 36
4.2.2 Insights from Interviews 37
4.3 Comparison of Publications and Interviews 45
4.3.1 Structural Frame 47
4.3.2 Human Resource Frame 47

4.3.3 Political Frame 48
4.3.4 Symbolic Frame 48
4.4 Chapter Summary 48
5 Conclusion 50
5.1 Research Purpose 50
5.2 Research Questions 50
5.3 Practical Implications 52
5.4 Future Research 52

List of Tables

Table 2.1 Overview of the Four Frames (Bolman & Deal, 2016) 10
Table 3.1 Publication Search Limiters 21
Table 3.2 Publication Search Results 22
Table 3.3 Key words from each frame 24
Table 4.1 Publication Matrix Analysis 29
Table 4.2 Insights from Publications 31
Table 4.3 Interview Matrix Analysis 36
Table 4.4 Insights from Interviews 37
Table 4.5 Comparison between publications and interviews 45

List of Figures

Figure 2.1 Narrow AI vs. General AI (Haenlein & Kaplan, 2019) 8
Figure 2.2 Adhocracy (Bolman & Deal, 2016, p.82) 12
Figure 4.1 Task Components (Agrawal, Gans & Goldfarb, 2017) 35

1 Introduction

Artificial intelligence (AI) has advanced dramatically in recent years, making its presence apparent in every sector. Brynjolfsson and McAfee (2017) see AI as the most important general-purpose technology of our time, a technology that is on a par with steam engine, electricity, and the internal combustion engine. Due to the tremendous opportunities it provides, many organisations have begun to implement AI in their business. Chui and Malhotra (2018) at McKinsey conducted a survey on AI adoption and received responses from 2135 organisations that represents the full range of regions, industries, company sizes, functional specialities, and tenures. They reported that nearly half of the respondents claimed that their organisations had deployed AI into their business processes and another 30% reported piloting the application of AI. As AI is reshaping businesses, it has implications for organisations and the way to organise.

1.1 Background

There are various definitions of AI. In this study, the definition from the Oxford English Dictionary is used, "The capacity of computers or other machines to exhibit or simulate intelligent behaviour; the field of study concerned with this. Abbreviated AI." (Oxford English Dictionary, 2008. Artificial intelligence, n). However, there is a vast gap between current AI capabilities and human intelligence. The AI community agrees that today's AI belongs to 'narrow' AI (Canals & Heukamp, 2020). According to Naudé and Dimitri (2019), narrow AI is good at performing specific tasks in a single application domain, such as product recommendation, fraud detection, speech recognition, manufacturing robotics, etc. Its intelligence cannot, however, adapt to another domain, for instance, AI systems that specializing in recommending products cannot perform speech recognition task. In contrast, the human-level AI is referred to as 'general' AI, it is capable of handling a wide range of tasks and shows the problem-solving ability to any kind of problem, just as the same a human can do (Canals & Heukamp, 2020). General AI does not exist at the time of this study and is more of a futuristic concept, only narrow AI is implemented in commercial applications. Therefore, this

study decides to focus on narrow AI's impact on how we will organise in a foreseeable future as in the next 10 to 15 years.

Davenport and Ronanki (2018) suggest that narrow AI serves three ways to support practices and operations across an organisation. First, automating processes. This could be, for example, screening CVs of job applicants or scheduling meetings. Second, gaining insight from data analysis. For instance, identifying fraudulent transactions; forecasting inventory, demand, and supply for supply chain planning; predicting anomalies for preventive machine maintenance. Third, engaging clients and employees. Examples including chatbots that provide 24/7 customer service; recommendation systems that enable personalized products and content push service; knowledge-sharing platforms that enhance employee learning. By adopting narrow AI, organisations could improve productivity and drive value creation. Since organisations have just begun to harness AI and the influence of AI has not been fully explored, it has heightened the need for looking into AI's potential impact on organising and providing insights that could help organisations gain a better understanding of and prepare for the future work.

The latest research of AI and business can be divided into three main categories: AI's opportunities and challenges for business, AI adoption strategy, AI's impact on certain organisational aspects, such as decision-making, human resource, etc. To date, few studies have presented an integrated view of AI's impact on the way we organise. As Bolman and Deal (2017) suggest, certain models, capture only part of organisational life which provides managers with insufficient ideas that could lead to managerial failures, managers need to learn multiple perspectives to gain a holistic view of their organisation. The way humans organise and the need for organising is changing rapidly and becoming more complex due to our increased interconnectedness all around the world. This indicates a need to reframe our understanding to gain an integrative perception of how AI will affect our way of organising in the future, or else we might risk to fail while sticking to the way we are organising today.

1.2 Research Purpose

The purpose of this study is to increase the understanding of how narrow AI could potentially impact the way we will organise. To fulfil this purpose, a research question was formulated:

- What impacts does AI bring on the way we will organise?

This purpose is deemed important since narrow AI poses both opportunities and challenges for organisations in the future, and failure to adapt to this technology may result in organisations never catching up. Therefore, this study aims to make an integrated overview by collecting the best available knowledge to be able to understand narrow AI's potential impact on the way humans are organising. To achieve the goals of this study, the following steps were undertaken:

- First, a theoretical framework was selected to support this study.
- Second, a meta-study was conducted on the collected publications, the chosen framework was used to perform the analysis.
- Third, interviews were conducted, and qualitative data were systematically collected, coded, and analysed using the framework. Perspectives from publications and AI professionals were then compared.
- Fourth, an integrated overview was presented by incorporating all perspectives and the conclusion was drawn to fulfil this study's purpose.

1.3 Delimitations

This study includes several delimitations, mainly reflected in the research scope.

First, for the research publications selection, only those academic journals and periodicals published since 2016 were collected. Kahn (2019) suggests that AI is evolving relatively fast, especially in recent years, for example, it took around 10 days and 4 hours to achieve a state-of-the-art accuracy level on a benchmark computer vision test in October 2017, while it only cost 2 minutes and 43 seconds in May 2019. The exponential growth of AI capabilities broadens its application scope and imposes more impact on business. For this reason, this study decides to collect publications that align with AI's latest impact.

Second, this study focuses on narrow AI instead of general AI. Every sort of artificial intelligence that surrounds us today is narrow AI and general AI has not been developed. This study considers it more meaningful to investigate narrow AI's impact, which is already happening and provides experience to make relevant predictions, rather than focusing on general AI which is full of uncertainty and mostly based on imagination. Unless AI is clearly specified as general AI, otherwise it refers to narrow AI in this thesis.

Third, the term 'AI professionals' refers to people who possess concrete working experience with AI, including AI engineers, computer scientists, managers who work with AI, managers who are responsible for deploying AI into their organisations, managers who are making AI strategies for their organisations, and consultants who help organisations use AI technologies.

Fourth, this study intends to explore narrow AI's impact within a time frame of 10 to 15 years from now. As AI keeps evolving, it is difficult to tell what it could achieve in the long run. Therefore, focusing on a limited time span could increase the validity of this study.

Fifth, this research scope is limited to organisations such as corporations and public sector units. Other forms of organising could also be studied. For example, groups, society, events etc, however, only data for organisations has been collected for this study and therefore other forms of organising will be excluded.

1.4 Research Limitations

Some factors affect and limit the scope of this research. First, since it is still at the early stage of organisations adopting AI, views obtained from publications and interviews are perceptions about the future, uncertainty exists and the future could be different. Second, due to the complexity of organisations, this study chose one specific model to analyse relevant data, as a result, the conclusion highly correlates with the model. Different insights could be obtained with another model and relevant valuable insights could be overlooked by this study. Third, we reached a small number of AI professionals, their perspectives could be industry and/or country-specific, our conclusion might not be generalizable into certain industries or countries. Fourth, due to the time limitation, this study only looked into how organising could be potentially affected by AI, this does not explain the full potential of AI' s impact.

1.5 Outline of the Thesis

This thesis is divided into five chapters: Chapter 1 provides a general introduction regarding background, research purpose, and research questions. Chapter 2 gives a general introduction of artificial intelligence and discusses the theoretical framework used in this study. Chapter 3

describes the methodology of this study and how it was conducted. Chapter 4 presents the qualitative data analysis and result discussion of both the publications and the interviews. Chapter 5 states the main conclusion of this study.

2 AI & The Four Frames

This chapter starts with a brief introduction about Artificial Intelligence and proceeds with an account on the chosen theoretical framework called the Four Frames. The section will be concluded with a motivation as to why this framework was used in this study as well as some criticism.

2.1 Artificial Intelligence

AI is everywhere, it has been applied to provide products and services both in personal life and organisational activities. Personal assistants such as Siri and Alexa provide individuals with fresh new experiences and cultivate new lifestyles. Different industries have drawn support from AI to grow businesses. Even though people might have limited experience with AI, stories such as self-driving cars, cancer diagnosis are spread all over the world. It has taken around 70 years for AI to get this far today and it still has a long way to go.

According to Haenlein & Kaplan (2019), AI was established as a discipline in the 1950s. They suggest that the concept of AI was first formulated by Isaac Asimov, an American science fiction author, in his 1942 short story "Runaround" by introducing three laws to protect humans from interactions with robots. Later in 1950, the British mathematician Alan Turing published his ground-breaking article "Computing Machinery and Intelligence" where he laid out a criterion to test a machine's intelligent ability: if a person interacts with another human and a machine and cannot distinguish the machine from the human, the machine is considered as intelligent (Haenlein & Kaplan, 2019). This criterion has since become known as the 'Turing Test', which is considered as a benchmark to determine the intelligence of machines (Haenlein & Kaplan, 2019). Five years later, John McCarthy from Dartmouth college coined the term "Artificial Intelligence" and defined it as "the science and engineering of making intelligent machines" (Canals & Heukamp, 2020). In 1956, he and Marvin Minsky organised an eight-week workshop "Dartmouth Summer Research Project on Artificial Intelligence (DSRPAI)", which marked the beginning of AI research (Haenlein & Kaplan, 2019).

The period from 1956 to 1974 was the golden years of AI (Canals & Heukamp, 2020). Significant progress was achieved during this period, and many researchers held the belief that a breakthrough were around the corner (Haenlein & Kaplan, 2019). For instance, the term "machine learning" was coined by IBM scientist Arthur Samuel in 1959 as computer algorithms started to learn from data and build models to make predictions, through which Arthur created the first checker-playing program that achieved skills to challenge a world champion (Canals & Heukamp, 2020). Inspired by successful stories, grants from governments and sponsors flooded into the field (Haenlein & Kaplan, 2019). In 1970, Marvin Minsky, one of the founding fathers of AI, stated that a machine with average human-level intelligence could be developed within three to eight years (Canals & Heukamp, 2020).

However, the interest in AI quickly slowed down and AI research went through progress and setbacks in the following years (Haenlein & Kaplan, 2019). Researchers underestimated the difficulties to achieve human-level machine intelligence, once the breakthroughs slowed down, interests in AI decreased and grants from governments and sponsors dried up, and AI research entered the period 1974 to 1980 which is often referred to as the first AI winter (Haenlein & Kaplan, 2019). Further on in time, AI research experienced another boom from 1980 to 1987 by focusing on an expert system, which was designed to answer questions or solve problems in a specific domain by programming rules into the software (Haenlein & Kaplan, 2019). At the same time, deep learning which involves an artificial neural network to learn from data was further developed (Canals & Heukamp, 2020). However, the second winter hit AI research from 1987 to 1994 due to the fact that it was difficult to integrate complex rules into the software system and the machines back then we're incapable of handling large amounts of data (Haenlein & Kaplan, 2019). From 1994 to today, along with the improvement in computing power and storage, AI progressed steadily without breaks. Especially after 2011, huge industrial and public investments have been made in AI research, technologies like deep learning, reinforcement learning start to take the stage (Canals & Heukamp, 2020).

Canals and Heukamp (2020) suggest that AI is expected to have several capabilities, including, but not limited to learning, understanding, reasoning, and interacting. However, they argue that today's AI is improving at learning patterns from data, but it lacks flexibility and contextual understanding and lacks skills in reasoning and interacting. Therefore, the differentiation between narrow AI and general AI was made by the AI community, as figure 2.1 illustrates. Current AI is narrow AI, Siri, Alexa, Spotify's music recommendation service, even something as complex as a self-driving car, all belong to this category. Big tech firms like Google, Microsoft, Facebook were investing heavily in general AI research, but it is not clear when it will be achieved.

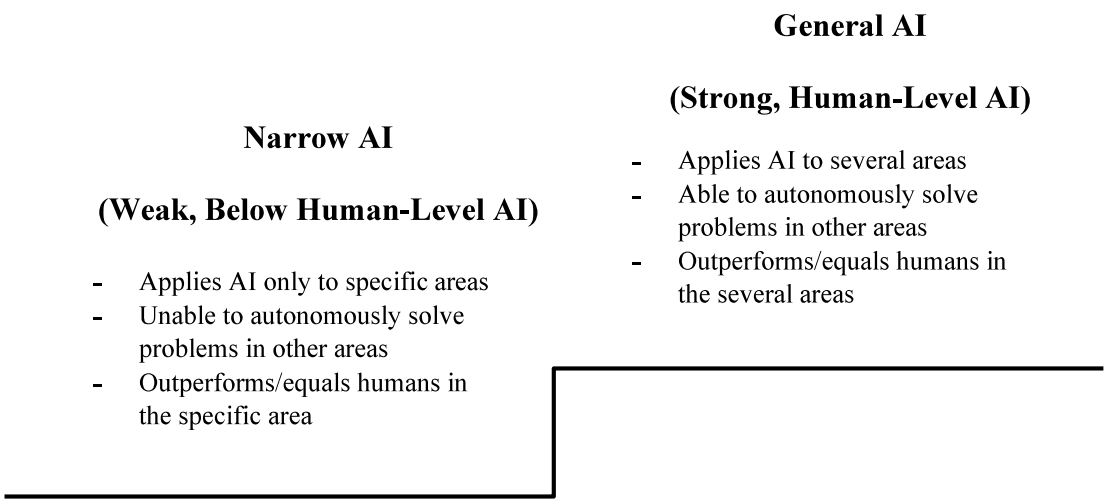

Figure 2.1Narrow AI vs. General AI (Haenlein & Kaplan, 2019)

Narrow AI is a broad concept and incorporates several technologies. One of these technologies is computer vision, it aims to train computers to understand the visual world just like a human does. For instance, it is used to identify if the object in a picture is a bike or a car. Or it could locate the object in an image, like which part of the image is a bike. Another technology is speech recognition, which allows computers to recognize spoken language and transcribe it into text. Siri, Alexa, and other interactive assistants all rely on this technology. Natural language Processing is another one, it is designed to read, decipher, understand, and make sense of human languages. It enables translation between different languages, just as Google Translate does. Robotics is a part of AI technologies as well, it could automate manufacturing tasks in factories and enhances the speed, safety, and accuracy of production.

AI provides great opportunities for organisations and could impact the way organisations are organised accordingly while being adopted. Brynjolfsson and McAfee (2017) suggest that AI

could bring changes to an organisation at three levels: tasks and occupations, business processes, and business models. An example of task and occupation redesign is using computer vision to detect flaws in manufactured goods, it frees human inspectors from this repetitive and exhausting task to take on other activities. An example of a business process redesign is utilizing chatbot to provide customer support. Customers first interact with a chatbot for their queries, if they are not satisfied with the answers, their questions will be redirected to a human supporter. Ant Financial, an affiliate of Alibaba Group, illustrates a new financial business model by employing AI and data to provide customers with fully online lending, health insurance, credit-rating services, etc. (Iansiti & Lakhani, 2020). In general, AI affects every aspect of the way of organising.

2.2 Four Frames

It is a difficult task to depict how we as humans organise due to its complexity and turbulence, therefore, a framework is required to help this study achieve its goal. A preferred framework would be comprehensive enough to cover all organising aspects but also provide details, and could be used to facilitate data collection and analysis. The Four Frames was chosen since it meets the above-mentioned requirements. The creators of the framework have studied and collected knowledge from the major schools and disciplines of the social sciences, integrated insights from thousands of managers and organisations, and created a comprehensive tool that is powerful enough to capture the subtle and complex aspects of organisational life, yet it is simple enough to be useful (Bolman & Deal, 2006).

The framework has been somewhat altered for it to be used for this study's purpose. As previously stated, it is quite an extensive model, and trying to use all of it to analyse the collected data would be nearly impossible within this timeframe. Therefore, the model has been somewhat slimmed down to fit the purpose of this study. The chapters used from the book "Reframing Organisations. Artistry, Choice & Leadership" (2016) are chapters 1-13, excluding chapter 11. These chapters were deemed the most important, and the ones that solely focus on the actual frames. We are of course aware that this comes with consequences since opportunities might be missed when not analysing data with the full scope.

This framework was chosen since the authors see it as an adequate tool to help us in analysing the different data sources found through search in the library databases. As the model tries to

explain how organisations organise themselves, it seems like a good choice when trying to understand how AI will impact these organising processes. Bolman and Deal (2016) themselves argue and name their book "Reframing Organisations" since they feel that there is a need to reframe the way we understand organising because of the increasing complexity along with rapid development of our society (Bolman & Deal, 2016). AI is a technology that could drive this rapid change, and therefore we want to present a list of criteria as to why this framework is important to understand AI's potential impact on organising. The different Frames are called Structural Frame, Human Resource Frame, Political Frame, and Symbolic Frame (Table 2.1), descriptions will be disclosed below.

Table 2.1 Overview of the Four Frames (Bolman & Deal, 2016)

	Frame			
	Structural	**Human Resource**	**Political**	**Symbolic**
Metaphor for organization	Factory or machine	Family	Jungle	Carnival, temple, theater
Supporting disciplines	Sociology, management science	Psychology	Political science	Anthropology, dramaturgy, institutional theory
Central concepts	Roles, goals, strategies, policies, technology, environment	Needs, skills, relationships	Power, conflict, competition, politics	Culture, myth, meaning, metaphor, ritual, ceremony, stories, heroes
Image of leadership	Social architecture	Empowerment	Advocacy and political savvy	Inspiration
Basic leadership challenge	Attune structure to task, technology, environment	Align organizational and human needs	Develop agenda and power base	Create faith, belief, beauty, meaning

2.2.1 Structural Frame

Organisational structure is something that often comes to mind when talking about organisational life and organisational types. Structure has been discussed for a long time, even as early as the 1800s and it is still a widely discussed topic today (Bolman & Deal, 2016).

Structure is deemed important when discussing the effects of AI since this is an emergent new technology that brings about change. As Knickrehm (2018) mentions, AI will force organisations to redefine both roles and structures, and therefore it is an important aspect to analyse.

Bolman and Deal (2016) present the assumption which carries this frame, organisations are created to achieve goals and results. This is accomplished by increased efficiency and enhanced performance that stem from a division of labour and specialization. They continue by stating that this is controlled and coordinated somehow to make sure the best efforts are given. They believe that if an organisation has an effective structure, it could fit well with its surroundings which can be affected, for example, by technology or workforce. Structural deficits should not be tolerated and can usually be solved by restructuring (Bolman & Deal, 2016).

Bolman and Deal (2016) describe the organisational structure as a blueprint for how it should operate in its daily activities, it is a plan for how things should be done, both internally and externally. Furthermore, they mention that it is a guideline for how tasks and goals should be accomplished, and two aspects that are central to a structure are differentiation and integration. They describe differentiation as the process of how to allocate work, and integration is how to coordinate this work after handing out responsibilities, in other words, division of labour as previously mentioned. They go on to explain that division of labour gives rise to specialization among workers, which can make the production more effective and efficient, this is done by integration and can be divided by skill, time, client, etc. They also mention that this can create benefits but also coordination issues since different units or people perform different tasks.

Bolman and Deal (2016) mention two types of coordination, vertical and lateral. Vertical coordination is when the higher levels of the organisation (e.g. top management) coordinate the lower levels with authority, rules, and policies (Bolman & Deal, 2016). An example is that in some workplaces, employees have to report exactly what tasks they have performed every day. If this is disregarded, they probably will be sanctioned. The hierarchy is clear, employees follow commands from their superiors and decisions are made top-down (Bolman & Deal, 2016). According to Bolman and Deal (2016), lateral coordination is used when people fail to adhere to commands, hierarchy, and rules, which of course can happen. Lateral coordination is described by them as more informal and flexible than its vertical counterpart and is often more commonly used in more flattened organisations. They present some examples of techniques that can be used, such as meetings where strategic decisions can be made, task forces created

to increase collaborations, and matrix structures. So, when designing the structure of an organisation, the manager has to think about what kind of coordination would be the most optimal, given the internal and external circumstances. They also mention that often both vertical and lateral coordination is used to achieve goals.

Organisations can be structured in several ways, models that can be used to illustrate organisational structures is Mintzberg's “fives” (Bolman & Deal, 2016). Figure 2.2 shows one of the configurations of Mintzberg’s Fives - 'adhocracy’. Adhocracy is a loose and flexible structure that thrives in an external environment that is turbulent and experiences rapid changes. It is defined by its informal structure and aim towards unclear objectives and serve as an “organisational tent” (Bolman & Deal, 2016). Instead of a formal top-down structure, it employs specialized teams that focus on one function and in a way manage themselves. Bolman and Deal (2016) further explain that the members of this organisational structure have authority in their area of expertise due to a lack of any formal authority.

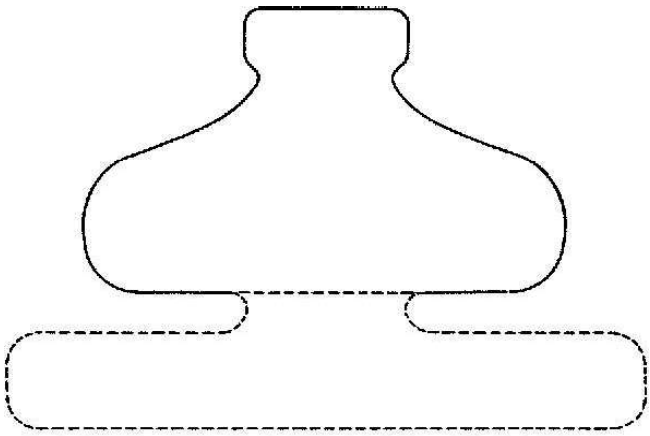

Figure 2.2 Adhocracy (Bolman & Deal, 2016, p.82)

Bolman and Deal (2016) state that the organisational structure is important since it is an effort to align internal goals and activities with external circumstances. They claim that sometimes the structure is not well aligned at all because of pressure from external factors (e.g. technology) and needs to be realigned. The structural frame also covers different team configurations, for example, the “all channel team” where everybody in the team has contacts with each other with full transparency (Bolman & Deal, 2016). This study will not go in-depth on teams; however, it can be interesting to note that Bolman and Deal (2016) mention self-managing teams, who plan, organise, and control themselves, which could be more common in the future. These self-managing teams assign tasks by themselves and plan how to produce outputs without a manager’s intervention (Bolman & Deal, 2016). This team structure is kind of similar to the

adhocracy structure of an organisation since it does not have top-down decision making and every decision and coordination are achieved through lateral means (Bolman & Deal, 2016).

2.2.2 Human Resource Frame

Entering this frame, moving on from structure to the actual people within. This frame argues that it is not the structure that makes an organisation, but people's skills, attitudes, and commitment (Bolman & Deal, 2016). Human resource is important to address since AI can affect a lot of people working within organisations when it is being implemented. Brynjolfsson & McAfee (2017) argue that there is a widespread belief that people will be substituted when AI is adopted, and this, of course, creates a mistrust towards technology. They further discuss that it can be very important for organisations to be transparent to their employees what they intend to do, and try to use the technology for good reasons, such as measuring employee satisfaction or providing training.

Some core assumptions on this frame presented by Bolman and Deal (2016) are that people and organisations are co-dependent on one another, if one part suffers, so does the other. On the contrary, both parties benefit if they are well aligned with each other (Bolman & Deal, 2016). They explain that a key element here except for human needs is motivation and it is emphasized that people work not only for money but also for other things such as personal development, knowledge, or finding their purpose in life. This has been developed into theory X and theory Y. Bolman and Deal (2016) explain that theory X assumes that staff are lazy and will not do their jobs unless you make them through tactics such as supervision or sanctions. Comparatively, theory Y states that the task of management is to align conditions in the organisation with the subordinates' ambitions and goals so they can give it their best efforts (Bolman & Deal, 2016). The more managers align the organisational needs with the employee's needs, the more motivation it will bring to the members of the organisation (Bolman & Deal, 2016). Furthermore, this theory also suggests that managers need to believe in their employees since if they think employees are lazy and passive, they are probably going to act in that way (Bolman & Deal, 2016).

So how does a manager make sure to use theory Y perspective without the employees taking advantage? Bolman and Deal (2016) suggest that a human resource strategy needs to be formulated. This strategy consists of five steps: hire the right people, keep them, invest in them, empower them, and promote diversity (Bolman & Deal, 2016). They discuss how a lot of

companies know exactly what types of people they are looking for, and as stated it is important to find people that aligned with the organisation's goals and objectives. To keep them, companies could offer benefits like free gym memberships and such to give incentive (Bolman & Deal, 2016). It is also common that companies try to promote within to minimise learning costs, reward well for high performance and protect jobs to raise morale and make employees feel needed (Bolman & Deal, 2016). Bolman and Deal (2016) continue by stating that investment in employees can come in the form of training and education, it can be seen as a long-term investment in employees. This goes hand in hand with the empowerment of the employees. What this means is to keep them informed on what is going on in the company, promoting autonomy, and trying to keep them invested in the company, this relates to the motivation section before (Bolman & Deal, 2016). The diversity promotion is also an important step since a diverse workforce can increase innovation and productivity in an organisation, at the same time, it portrays the organisation in a positive way that makes it attractive to future employees. Furthermore, these strategic steps can improve the relationship between employees and employer, and ultimately everybody wins (Bolman & Deal, 2016).

2.2.3 Political Frame

Through the lens of the Political Frame, Bolman and Deal (2016) describe the organisation as a chaotic jungle, an arena where different parties and groups compete for scarce resources since winning earns them power and higher positions. They further explain that the reason why different members within an organisation are competing for these resources is the different values, beliefs, and overall perception of reality that they possess (Bolman & Deal, 2016). This makes conflict a central aspect of this frame, but it does not necessarily have to be bad. These conflicts often result in members having to bargain and negotiate with each other to move forward and it leads to important goals and decisions being made (Bolman & Deal, 2016). It is named the Political Frame since the competition for resources can often lead to individuals with the same interests forming a coalition to gain more power to get things done (Bolman & Deal, 2016).

In this frame, power comes in different forms, and not just authority (Bolman & Deal, 2016). Other sources of power that Bolman and Deal (2016) mention are control of rewards, coercive power, information and expertise, reputation and personal power. All of these sources of power can be used by individuals to gain resources and increase their power further (Bolman & Deal,

2016). As Bolman & Deal (2016) mentioned earlier, this can often result in conflicts, however, conflicts are viewed differently within this frame. As resources within organisations are scarce, this will lead to people or groups not always getting what they want. So obviously, this will create dissatisfaction. However, it creates the needs for bargaining and compromise and could lead to innovative solutions and decisions that put the organization in a better position than before (Bolman & Deal, 2016).

This frame is relevant to this study because the arrival of AI will provide challenges to organisations. As Fountaine, McCarthy and Saleh (2019) describe, companies' decision-making process will be altered and an exceptional amount of decisions will be based on data, and this might affect power structures within organisations, and data scientists, AI experts, and so on will be more valued within the organisations than before. When power structures are affected, so are resources. Therefore, a prediction could be decision-makers today will get resources taken away from them by AI, which relates to information and expertise as a source of power that Bolman and Deal (2016) mention.

The manager of an organisation also has a part to play as a politician to survive in this landscape of conflicts. Bolman and Deal (2016) present four different skills that managers need to do so: agenda setting, mapping the political terrain, building networks and coalitions, and lastly bargaining and negotiating. Agenda setting is described as important since it gives the manager a chance to outline goals and visions for the organisation that then can be communicated further out. If the manager is skilful, he or she manages to create an agenda which balances different stakeholders' interests and make most of the members happy in the end (Bolman & Deal, 2016). They also state that mapping the terrain is crucial since managers need to know who is with them and against them when they are about to make decisions. Managers who ignore this rule risk their initiatives being undermined by certain individuals with power and this could lead to the decision losing its impact (Bolman & Deal, 2016). An important aspect here is that the manager needs to look at the terrain from different perspectives since it might be perceived differently depending on who within the organisation they ask (Bolman & Deal, 2016). Furthermore, Bolman and Deal (2016) discuss how networking and building coalitions tie in with this since it is the logical next step for a manager who has mapped the terrain. Creating alliances and beneficial relationships with individuals who have a great power source can ease the managers' decision-making process. They also suggest it is important to assess who might

resist, and if need be, forcefully get them in line. Creating a vast network also allows for a better flow of information and can be of great use (Bolman & Deal, 2016).

As mentioned earlier in this section, bargaining and negotiating occurs because of the conflicts that emerge, and this does not exclude managers since they are an essential part of decision making (Bolman & Deal, 2016). Bolman and Deal (2016) describe this skill as something that needs to take place when two or more parties show common interests but having conflicts to meet their needs, which leads to a stalemate and negotiating is required. Furthermore, they state that the manager can choose to claim value or create value. Needless to say, creating value between two parties should be seen as a healthier alternative since it could meet more people's needs. Claiming value can win you benefits but also probably gain you enemies (Bolman & Deal, 2016). As mentioned above, AI will probably affect the power structures and resource allocation within organisations. Therefore, the managers as a politician will change as well. Data will probably have a larger role in how managers are networking and building relations, this could, for example, be done by measuring satisfaction among co-workers and AI could suggest actions to take. If the power structure changes, the manager also has to change the people they try to build a coalition with.

2.2.4 Symbolic Frame

The Symbolic Frame as described by the authors stems from multiple disciplines and is more philosophical in its perspectives. It emphasizes the meaning of things instead of the actual events (Bolman & Deal, 2016). Bolman and Deal (2016) further explain that these events can also be interpreted differently depending on whom you ask. They also suggest that when facing uncertainty, people tend to create symbols to reduce it and move forward. Bolman & Deal (2016) stress that culture is a very important aspect of this frame since it is what glues the different parts of an organisation together. It unites the members of the organisation through myths, values, and symbols (Bolman & Deal, 2016). These symbols sound vague, and they can take many forms. An example of a symbol can be a myth or a story that is told within the organisation. Bolman & Deal (2016) suggest that it can be an origin story that helps solidify the identity of the organisation and legitimize it, making it easier for the members to rally behind it. Such myths are often created when launching an organisation or creating goals and values (Bolman & Deal, 2016). Other symbols include heroes/heroines where stories are told of maybe the founders of the organisation. In rare cases, these people have become living trademarks

(Bolman & Deal, 2016), Steve Jobs is an example of someone who had enormous symbolic value for the company Apple. These symbols are often communicated by storytelling to communicate with members. It enables a culture to grow between the members and serve as a guide for new members on how to fit in (Bolman & Deal, 2016)

Rituals and ceremonies are also two important symbolic acts described by Bolman and Deal (2016) that occur in an organisation. Rituals are something that we humans do per routine, and it does not have to be as mystical as it sounds, it is a way to make sense of the world (Bolman & Deal, 2016). For example, when you get to the office you get a cup of coffee and chat with some co-workers before you sit at your desk. It is simple, but still a ritual. Bolman and Deal (2016) suggest that it gives you as a member of a group meaning and structure. It is a guideline since you do not have to think through every decision you make, you do it as you always have done it and this is why rituals are also important when welcoming new members to a group or organisation (Bolman & Deal, 2016). Introducing them to different forms of rituals helps them in making sense of everyday life within the organisation (Bolman & Deal, 2016). As mentioned by Bolman and Deal (2016), rituals are more of everyday activities, ceremonies, on the other hand, are rarer acts and often initiated when something is to be celebrated. An example could be a product launch within an organisation. Ceremonies are important since they also help in conveying messages regarding the organisation to the external environment, for example, it can help bring new members into the community (Bolman & Deal, 2016). These mentioned aspects of the symbolic frame are also something that applies to smaller constellations such as teams as these different processes take place within teams as well. A lot of teams have their rituals, norms, and values that they have developed over time (Bolman & Deal, 2016).

We believe this frame is also helpful in analysing AI's impact on how we will organise for several reasons. As Fountaine, McCarthy and Saleh (2019) mention, organisations need to change their mentalities and in the end their cultures to be able to adapt to these technologies. Adopting AI into the organisational culture might ease the transition and help reduce the hostility towards new technology. Wilson and Daugherty (2018) suggest that humans and AI will be joining forces in organisations and the notion that "AI will take our jobs" needs to be removed for this to work. Therefore, things like storytelling, myths, and symbols that are centred around adapting to new technology can be important to keeping staff, but also attracting potential employees interested in the organisation.

2.2.5 Motivation & critique towards the framework

As mentioned earlier, this study tries to take a look into AI's potential impact on how we will organise. The Four Frames developed by Bolman and Deal (2016) provide multiple lenses to capture the essence of organisational life from different angles and perspectives. According to them, it should be used as a tool to understand the different organising processes within an organisation (Bolman & Deal, 2016). That is why we thought this framework could be a suitable tool to analyse various opinions on the potential impacts of AI. Since the framework is so broad, it can capture most of the aspects that the latest publications discussed over this subject. For example, some of the publications talk about how organisations will become more flattened by the implementation of AI, which is interesting when looking at it with the Structural Frame. It is a way for us to be able to analyse the data realistically. Although the framework was chosen since it was found to be suitable, some adjustments have been made. We have chosen parts of all the frames that we believe are most relevant for this study and the latest research.

Therefore, it has been decided to cover the basic assumptions on each frame and bring up key elements that define them. To analyse the collected data with the whole framework is not possible within this timeframe, however, it could be interesting to explore in a later stage. We, of course, understand that this has consequences to the conclusion of analysis since some parts of the framework are not covered. Nevertheless, we believe this is the best way to get a meaningful analysis of the result within a limited time frame.

We are also aware that the four frames are not the perfect model that can describe every organising process that occurs in detail. The frames are Bolman and Deals (2016) interpretation on how organising is done within different types of organisations, and that does not mean that this is the objective truth. When we used the Four Frames, we also interpret the model in our way, which in the end affects how we interpret the results. This model could have been used in a different way that might have produced different results. We could also have used another model to achieve this study's purpose, which also could have provided valuable insights and a different conclusion. However, our search for a relevant model landed us in the Four Frames.

2.3 Chapter Summary

To summarize, current AI applications in business all belong to AI – below human intelligence AI, which could only perform a certain task within a specific domain. This study focuses on AI's potential impacts on how we will organise in the context of organisations, the Four Frames was chosen to support this study. The Four Frames is a framework that tries to describe how organisations are organised, and the authors have divided it into the structural, human resource, political and symbolic frame.

3 Methodology

This chapter will present the research approach, research design, data collection, data analysis, validity and reliability, limitations of methods exploited in this study, and lastly ethical considerations will be discussed.

3.1 Research Approach & Design

This study aims to gain an integrative overview of how AI could potentially impact the way we will organise. AI boom is happening all around the world and organisations are beginning to deploy AI. Meanwhile, researchers start looking into the impact incurred by AI during this transformation. However, since the use of AI in organisations is a relatively recent phenomenon, few mature theories or models are available over this topic.

This study had a qualitative approach and consisted of a literature review and semi-structured interviews. First, a model was chosen to be able to analyse data that is about organising processes, the Four Frames was picked as the best choice. Second, a literature review was done to explore the perspectives presented in the latest publications. Third, eight interviews were conducted with AI professionals to gain their insights based on their personal experience. A combination of a literature review and interviews can help us compare the data to see if the perspectives are similar or different from each other and it also provides more data since this topic is fairly undiscovered. Based on this qualitative data we collected, an inductive approach was used to draw our conclusion on how AI could potentially impact the way we will organise. To collect relevant data from the interviews, an interview guide was created. The guide started with questions on what the respondent works with, how they have contact with AI, and then how they think it will affect organisations. This guide is attached in the appendix of this thesis.

3.2 Data Collection Method

This study used the Lund University library search function “LUBsearch" to find relevant publications. Query ‘(Artificial Intelligence OR AI) AND Organisation’ was used for the first-round search and limiters were used to narrow down the results, which is shown in table 3.1. The accessibility was limited to “Accessible at Lund University” as it allowed us to freely access the hit publications. Afterwards the published dates were restricted to 2016. For quality control consideration, only peer-reviewed academic journals and periodicals that enjoy high reputation were considered. The title and subjects were first used to filter out the publications, then abstract was further read to decide the relevance. Besides, for the generalizability purpose, publications that focus on a specific industry, country, or area were not considered. The search results were ordered based on relevance to the search terms, but if the hit number was larger than 300, only the top 300 publications were checked. Since we found that the hit publications from 151 to 200 in the result list were lowly relevant to this study, for example, when searching ‘(Artificial Intelligence OR AI) AND organisation’, there was no relevant peer-reviewed academic journals and only one relevant periodical article. Therefore, 100 more publications were checked to minimize the risk of missing highly relevant publications. Moreover, to collect as many publications as possible, the Four Frames were used to conduct the second-round search. For each frame, representative concepts were chosen to generate search terms. For instance, ‘organisational power’, ‘organisational politics’, and ‘decision making’ were used to find relevant publications related to the Political Frame.

Table 3.1Publication Search Limiters

Limiters	
Accessibility	Accessible at Lund University
Date Published	20160101 - 20200430
Material Types	Academic Journal - Peer Reviewed
	Periodicals – Harvard Business Review, MIT Sloan Management Review
Language	English
General	not industry specific not country or area specific

The publication search results were presented in table 3.2. In total, 2904 search results were checked and 28 of which were identified as relevant publications to this study. Since there were not many academic journals, articles from Harvard Business Review could provide and supplement insights to this study.

Table 3.2 Publication Search Results

Search Terms	Hits		Checked	Relevant	Publication List
(Artificial Intelligence OR AI) AND organisation	Academic journals	6480	Top 300	8	Neubert & Montañez (2020) Kolbjørnsrud, Amico & Thomas (2017) De Cremer (2019) Robert, Pierce, Marquis, Kim & Alahmad (2020) Maity (2019) Kaplan & Haenlein (2019) Parry, Cohen & Bhattacharya (2016)
	Periodical	941	Top 300	4	Daugherty, Wilson & Chowdhury (2019) Ransbotham, Kiron, Gerbert & Reeves (2017) Fountaine, McCarthy & Saleh (2019) Brynjolfsson & McAfee (2017)
(Artificial Intelligence OR AI) AND organisational structure	Academic Journals	131	131	1	Shrestha, Ben-Menahem & von Krogh (2019)
	Periodical	7	7	0	
(Artificial Intelligence OR AI) AND organisational strategy	Academic Journals	121	121	0	
	Periodical	20	20	1	Davenport & Ronanki (2018)
(Artificial Intelligence OR AI) AND specialization	Academic Journals	180	180	0	
	Periodical	0	0	0	
(Artificial Intelligence OR AI) AND organisation coordination	Academic Journals	24	24	0	
	Periodical	0	0	0	
(Artificial Intelligence OR AI) AND human resource	Academic Journals	2446	Top 300	4	Huang, Rust & Maksimovic (2019) Tambe, Cappelli & Yakubovich (2019) Burnett & Lisk (2019) Wilson, Daugherty & Morini-Bianzino (2017)
	Periodical	223	223	2	Bersin & Chamorro (2019) Beane (2019)
(Artificial Intelligence OR AI) AND organisational power	Academic Journals	69	69	0	
	Periodical	1	1	0	

(Artificial Intelligence OR AI) AND organisational politics	Academic Journals	10	10	1	Faraj (2018)
	Periodical	0	0	0	
(Artificial Intelligence OR AI) AND decision making	Academic Journals	10658	Top 300	3	Jarrahi (2018) Duan, Edwards & Dwivedi (2019) Haenlein & Kaplan (2019)
	Periodical	263	263	4	Agrawal, Gans & Goldfarb (2017) Iansiti & Lakhani (2020) Di Fiore (2018) Wilson & Daugherty (2018)
(Artificial Intelligence OR AI) AND conflict	Academic Journals	21	21	0	
	Periodical	0	0	0	
(Artificial Intelligence OR AI) AND organisational culture	Academic Journals	84	84	0	
	Periodical	4	4	0	
(Artificial Intelligence OR AI) AND culture	Academic Journals	4191	Top 300	0	
	Periodical	246	246	1	Feinzig & Guenole (2020)

To be able to locate respondents to interview for this study, a message was created and put on the social media platform called 'LinkedIn'. The reason that LinkedIn was chosen is that it contains respondents with both a professional and academic background who has experience with AI. It is also a platform that is highly active in Sweden, and it was therefore seen as a good strategy to find relevant respondents. In short, the message said that we were interested in talking with AI professionals (scholars, practitioners, and managers) that are in daily contact with AI for the purpose of a master thesis. After some time, some people in our network on LinkedIn gave information on interesting respondents, and through them, they redirected to relevant people, which in other terms is called a snowball method (Ahrne & Svensson, 2015). Through this method, eight respondents were reached. These eight respondents all have practical experience of AI and have, therefore, based their answers on this.

The interviews were conducted during the weeks 15-17 in April and were approximately 30-40 minutes long. The reason why the interviews were so spread is because of the limited availability from different respondents due to COVID-19 pandemic. Six of the eight interviews were conducted online through tools such as Skype, Zoom, and WebEx. The other two

interviews were conducted over the phone. This, of course, brought certain limitations as it was harder to record a digital voice since the quality is worse. However, as we are only interested in what the respondents think and predict, and not in how they express these predictions, it should not have any major impact on the results of the study.

3.3 Data Analysis

The Four Frames was chosen to analyse data that describes organising processes within an organisation. However, the model uses some metaphorical terms that are difficult to search or elaborate with. Therefore, when searching for articles as previously mentioned different terms were used that relates to the frames, for example, "decision making" that relates to the Political Frame, and "culture" that relates to the Symbolic Frame. It was decided that to be able to analyse both the data from the publications and the interviews, keywords that fit into each frame was created to make the coding easier. Down below are a model that show the different keywords we found and their respective frame.

Table 3.3 Key words from each frame

Structural Frame	**HR Frame**	**Political Frame**	**Symbolic Frame**
Structure	Human resources	Power	Culture
Specialization	Relationship	Decision making	Stories/storytelling
Coordination	Needs	Conflict	Identity
Strategy	Motivation	Resources	
	Transparency		

Seven of the eight interviews conducted in this study were recorded with consent from the respondents so that the data could be transcribed and later analysed in detail. One interview was not recorded since the respondent preferred not to. The different publications were read extensively several times, to create a familiarity with the data and being able to identify the keywords with the help of the previously chosen theoretical framework. When coding the

articles and interviews, each frame was also given colour to easier see directly what the data says. These colours can be seen above. An example of coding is like "… *both google and was amazon have used AI as part of recruitment. But today it's difficult to create an AI that is not biased.*" Even though we were open to other insights and keywords during the coding process, no other keywords were identified.

To get a better overview of the collected data, two matrixes were created, one for the publications and the other for the interviews. The matrixes display the frames covered by each publication or interview and helped us get an overview of what was deemed important.

3.4 Validity and Reliability

Validity consists of internal validity and external validity, which means that the results exhibit collected data accurately and could be generalized and transferred to other fields (Sekaran, Bougie. 2016). As this study aims to provide an integrated overview, all insights were presented without selection based on the authors' belief and judgement. Although this study had a small number of interviews, respondents from different industries were reached to increase generalizability, and all respondents had AI experiences in their work. The validity of this study is largely dependent on the choice of using the Four Frames as a theoretical framework. If it proves that this framework is inadequate in explaining how AI will affect the way we will organise, there is a systematic error throughout this study.

Sekaran and Bougie (2016) suggest that reliability includes category reliability and interjudge reliability in qualitative data analysis. Category reliability refers to the ability of researchers to formulate categories and classify the data, and interjudge reliability represents the degree of consistency obtained when different coders analyse the same data (Sekaran & Bougie, 2016). Even though we split the publication and interview analysis task to share the workload, peer-review were conducted to make sure the result consistent with both of our interpretations. By doing so, we tried to lower the bias carried by individuals and improve the reliability of this study. One could try to reproduce this same study, however, could come up with different results as the person may have a different interpretation of the Four Frames.

3.5 Limitations

The Four Frames provides a comprehensive tool to analyse organising, however, it is difficult to employ the nominal meaning of the Four Frames to search relevant publications and provide clear explanations to respondents in a relatively short time. Therefore, we interpreted the Four Frames into specific keywords for the search of publications and coding of interviews. This led to the risk of a too narrow scope to depict organising and there is a risk that relevant publications and interview insights were overlooked. Moreover, our interpretation of the model could introduce bias.

Another limitation that arises is that interviews were used to collect data. The interview questions might impose unintended influence over respondents. Furthermore, the interviewers consisted of two people whereas the respondent was only one person, and this can create a sense of power struggle, where the respondents can feel threatened and they could feel coerced to answer in a way that pleases the interviewers (Ahrne & Svensson, 2015). This approach was chosen, however, since the literature is lacking on this subject and interviews with respondents who are in daily contact with AI could contribute their ideas to test the insights gained from publications. The data collected from the interviews also presents an opportunity to find more relevant views.

Furthermore, to keep the respondents away from the publication insights, open questions instead of agreeing or disagreeing questions were designed to gain valuable perspectives from respondents. However, if the interview questions were narrower and more structured, respondents could give more accurate answers, and other data might have been discovered that could be useful to answer this study's research questions.

An alternative or complementary approach to this method would have been focus groups, where respondents in groups in collaboration with the interviewers could discuss this topic (Ahrne & Svensson, 2015). This could yield some interesting insights, but this would be very time consuming and hard to organise because of conflicting schedules and COVID-19 outbreak. One possibility could also have done a case study, for example, one company and how their implementation of AI affected their organising processes. The result could then be more precise in discussing how it is going to affect that particular organisation. This would be interesting to research in a later stage.

3.6 Ethics

Vetenskapsrådet or Swedish Research Council is the largest financier of research in Sweden, and it is an initiative from the Swedish government. They have created four demands that need to be followed when conducting humanity/social science research in Sweden. These demands are called the research ethical principles and consist of the information, confidentiality, consent and the usefulness demand (Vetenskapsrådet, 2017). By actively regarding these demands when conducting research, one can make sure that the study consists of a better-quality material (Vetenskapsrådet, 2017).

The information demand was taken into consideration several times. When reaching out through social media, a text was composed that clearly explained the study's purpose. When in first contact with respondents we explained further how their answers are anonymous, their participation is entirely voluntary and they can withdraw anytime during the process. It was also explained that the interviews will be conducted in English, and we also asked if we had permission to record the interviews for further analysis. This was again repeated at the beginning of the interviews to make sure that the respondents have all the information. The consent demand was also taken into consideration since the respondents both had the possibility to decline in our conversations or when we started the interview. Therefore, we were clear in that they can decline and withdraw whenever they want to. The confidentiality demand was also adhered to since it is only the authors who have the respondent's personal information, and their names and organisations will not be mentioned anywhere in the report. No one else has or will access this information. This information has been stored on our personal computer with password protection, and the transcriptions of the interviews will be deleted after the study is completed. Lastly, the usefulness demands were also regarded and the information was only used for the research purpose and nothing else.

3.7 Chapter Summary

This study consisted of a literature review and semi-structured interviews. The Four Frames was used for conducting a literature review to gain insights from the publications. Then

interviews were conducted to collect perspectives from the different respondents. The interview analysis relied on coding techniques to identify main point of views. Limitations with the selected method is discussed, and lastly The Swedish Research Councils demands on ethics are presented and adhered to.

4 Analysis and Discussion

In this chapter, the insights obtained from publications and interviews will be presented and analysed through the theoretical framework - the Four Frames. The data will then be compared, and different perspectives will be discussed.

4.1 Publication Analysis

4.1.1 Matrix Analysis

The Four Frames was used to sift through all the publications and a matrix was employed to present the mapping relationships between frames and each publication. As table 4.1 shows, the human resource frame is the most discussed topic, one possible reason could be that "Human Resource" is a more searchable word when looking for publications. Comparatively, symbolic has been least discussed.

Table 4.1 Publication Matrix Analysis

Publication	Structural	HR	Political	Symbolic
Agrawal, Gans & Goldfarb (2017)		√	√	
Bersin & Chamorro-Premuzic (2019)		√		
Brynjolfsson & McAfee (2017)	√			
Burnett & Lisk (2019)		√		
Canals & Heukamp (2020)	√	√		
Chui & Malhotra (2018)		√		
Dallemule & Davenport (2017)	√			
Daugherty, Wilson & Chowdhury (2019)		√		

Davenport & Ronanki (2018)	√			
De Cremer (2019)	√	√		
Duan, Edwards & Dwivedi (2019)			√	
Faraj, Pachidi & Sayegh (2018)	√			
Feinzig & Guenole (2020)				√
Fountaine, McCarthy & Saleh (2019)	√	√	√	√
Hagiu & Wright (2020)	√			
Huang, Rust & Maksimovic (2019)	√	√		
Iansiti & Lakhani (2020)	√			
Jarrahi (2018)			√	
Kolbjørnsrud, Amico & Thomas (2017)		√		
Maity (2019)		√		
Moldoveanu (2019)				
Neubert & Montañez (2020)			√	
Parry, Cohen & Bhattacharya (2016)			√	
Ransbotham et. al (2017)	√	√		
Robert et. al (2020).		√		
Shrestha, Ben-Menahem & von Krogh (2019)			√	
Tambe, Cappelli & Yakubovich (2019)		√		
Wilson & Daugherty (2018)	√	√		
Wilson, Daugherty & Morini-Bianzino (2017)		√		

4.1.2 Insights from Publications

Table 4.2 Insights from Publications

Frame	Insights
Structural	1. A new division of labour between humans and AI is going to emerge, AI will free humans from tedious, repetitive, and administrative tasks to take on higher-value activities. AI will take over analytical and thinking tasks, while humans focus on interpersonal tasks. Coordination and control will be moved from managers to AI. 2. Organisations need to be less hierarchical to allow employees from siloed functions collaborate. 3. Organisations need to shift from siloed work to cross-functions collaboration. 4. The implementation of AI will create a need for new roles, for example, CDO (Chief Data Officer). 5. To achieve success in the AI-enabled landscape, organisations need to design and implement new combinations of technologies, human skills, capital assets, and be willing to experiment and learn quickly. 6. Strategies will shift from differentiation towards business network position and data analytics. 7. Organisations need a coherent data strategy to make the most use of data while defend security.
Human Resource	1. Organisations have continuing demand for people who possess soft skills, and need to help workers develop those skills, such as judgement, creativity, effective communication, etc. 2. Organisations need to attract AI skilled talents, but also need to re-train and re-skill current employees. 3. AI could have hidden biases against race, gender, ethics, due to the data used to train AI models contains prejudice. Organisations must protect fairness while applying AI. 4. AI could be used to improve employee engagement.
Political	1. Better decisions could be achieved by combining human judgements and AI predictions. 2. Decision making will be shifted from experienced-based, leader-driven to data driven at the first line workers. 3. Humans have to be aware of the biases that AI carries in decision making.
Symbolic	1. As AI continues to converge with advanced capabilities, organisations need to cultivate a culture of continuous improvement and learning. It is essential that senior management know how to interpret and analyse data.

	2. Organisations have to transform its culture from rigid and risk-averse to agile, experimental, and adaptable.

Structural Frame

AI will drive a new division of labour between humans and machines and requires collaboration between them to deliver better performance. Bolman and Deal (2016) argue that technology is one of the driving forces for change in organisational structure. As AI evolves rapidly, it outperforms humans in many tasks and will take over boring, repetitive, and mundane tasks, and humans will focus on more high-value activities. Wilson and Daugherty (2018) note that AI could help humans improve cognitive skills and creativity, free employees from low-level tasks. In turn, employees are needed to train AI models, explain their results, and ensure their responsible application. Faraj, Pachidi and Sayegh (2018) argue that AI will transform expertise and reshape occupational work and boundaries, routine components of knowledge work will be taken over by AI, and humans are required to ensure accountabilities. According to De Cremer (2019), AI will shift team composition from only humans to a combination of human employees and AI that work collaboratively.

The way to group people into working units will be less based on traditional functions, such as research, manufacturing, finance, etc. Instead, the cross-functional team will be more common as it allows teams to take full advantage of AI's potentials and achieve higher performance. Bolman and Deal (2016) suggest that effective teams search for a full range of essential technical fluency. Cross-functional teams with a mix of expertise and viewpoints could ensure the team addresses broad organisational priorities and deliver better results (Fountaine, McCarthy & Saleh, 2019).

The organisational hierarchy will be more flattened. According to Bolman and Deal (2016), new technologies allow more flattened, more decentralized, and more flexible structures. Fountaine, McCarthy and Saleh (2019) claim that with the help of AI, employees who are closest to the action become more capable of making decisions that used to be made by managers above them, and this will lead to flattened organisational hierarchies. Teams need to shift from siloed work to interdisciplinary cooperation.

Technology is lowering entry barriers into industries and organisations need to formulate strategies from a new standpoint. Organisations not only face competition from their traditional rivalries but also new data-equipped entrants. Iansiti and Lakhani (2020) argue that the focus

of strategy needs to shift from industry analysis and internal resources management to cross-industry connection and data analytics. As data and algorithms do not respect the boundaries of industries, applying industry analysis to develop strategies is becoming increasingly ineffective. Industry expertise has become less critical, instead, a wide range of capabilities such as data sourcing, processing, analytics, and algorithm development start to play a more important role to build a competitive edge (Iansiti & Lakhani, 2020).

As data has become central to any business, organisations need to establish an effective data strategy to achieve success. Moreover, data strategy will no longer be only for a specified function (e.g. IT department) but for the whole organisation. Dallemule and Davenpor (2017) tell us that organisations need a consistent data strategy to balance defensive and offensive data management. They suggest that defensive data management mainly takes care of data security and governance, while offensive data management focuses on deriving value from data to support business objectives. Hagiu and Wright (2020) predict that businesses which are established on both regular network effects and data-enabled learning will be the most valuable and powerful ones in the future, therefore, it is essential to build a strategy to assess the value of data and collect data that benefits the business most.

Human Resource Frame

AI provides a lot of potentials for human resource practices. Canals and Heukamp (2020) suggest that AI could be used for screening thousands of applicants' CVs to match them with expected skills and capabilities. Bersin and Chamorro-Premuzic (2019) argue that organisations could apply AI for talent assessment. Burnett and Lisk (2019) suggest that AI could contribute to employee engagement measurement and improvement. Daugherty, Wilson and Chowdhury (2019) argue that human experts could train unbiased AI to promote diversity in the workplace. Maity (2019) notes that AI will enable organisations to identify personal needs based on employee performance analysis and provide personalized training solutions.

With the adoption of AI, organisations need to emphasize people's soft skills in recruitment and training. Bolman and Deal (2016) suggest that one of the basic human resource strategies is hiring the right people. Huang, Rust and Maksimovic (2019) argue that since AI can perform many analytical and thinking tasks, human workers tend to do interpersonal and empathetic tasks, and, therefore, recruitment should emphasize people skills. Kolbjørnsrud, Amico and Thomas (2017) suggest that organisations have to seek out candidates who are both willing and able to collaborate with AI and show strong skills in collaboration, creativity and good

judgement. Agrawal, Gans and Goldfarb (2017) note that organisations will have continuing request for people who shows the abilities of ethical judgement, emotional intelligence, artistic taste, defining tasks well, etc., and the focus of employee training in the future could shift from prediction-related skills to judgement-related skills.

However, challenges exist in AI application within human resource domain and organisations must make sure to use it ethically. Tambe, Cappelli and Yakubovich (2019) identifies four challenges when using AI in human resource practices: the complexity of human resource phenomena, small data sets to train workable AI models, questions relate to fairness, ethical, and legal constraints, and employee reactions to management decisions via AI models. Robert et. al (2020) argue that unfairness is intertwined with decreased worker effort and increased worker turnover, organisations must pursue fairness while employing AI within human resource domain. They suggest that organisations should make AI transparent – let employees know the underlying AI mechanics, explainable – provide descriptions about AI's decision/action to the employee, visual – represent information through images and charts, and provide employees with opportunities to communicate and give feedback to AI.

Political Frame

Decision-making is one of the illustrations of exercising power in an organisation (Bolman & Deal, 2016). Better decisions are expected to be achieved by leveraging both AI and humans than using either one alone. Agrawal, Gans and Goldfarb (2017) suggest that AI delivers the most value in prediction, which could facilitate task automation or add value to human-led judgement tasks. According to them, a task can be disassembled into different components: data, prediction, judgement, action, outcome, feedback, as Figure 4.1 shows. With advances in machine learning-based predictions, humans will not be required to conduct predictions and able to make considered decisions based on machine forecasts. Jarrahi (2018) argues that advantage of humans is intuitive decision making while AI excels at addressing complexities, one way to cope with uncertainty in decision making is to combine AI's ability in collecting and analysing information with human's intuitive judgement and insight. Parry, Cohen and Bhattacharya (2016) note that humans are subject to personal biases and beliefs and can often overlook patterns that are central for decision making, comparatively, AI can deal with complexity and identify latent patterns, which could assist humans to achieve better decisions.

Figure 4.1 Task Components (Agrawal, Gans & Goldfarb, 2017)

Decision-making power will be scattered to all levels across the organisation. Bolman and Deal (2016) identify several sources of power, information and expertise are one of these sources, and power flows towards people who could access the information. Fountaine, McCarthy and Saleh (2019) argue that decision making will shift from experience-based, leader-driven to data-driven at the first line. As they suggest, with the broad adoption of AI, employees at each level in the hierarchy will enhance their judgement and intuition with AI's recommendations to achieve better answers.

Ethical and legal issues also need to be fully addressed in AI-based decision making. Duan, Edwards and Dwivedi (2019) argue that ethical and legal issues have become a major challenge around the application of AI, especially against responsibility and explainability of decisions produced by AI. Neubert and Montañez (2020) suggest that ethical virtues, such as prudence, temperance, justice, courage, faith, and love, should be applied in AI-based decision making. For example, to achieve justice, organisations should review AI algorithms for bias as well as examine the data used for training AI models to identify and eliminate biases.

Symbolic Frame

To extract the full value from AI, investing in technologies and developing AI talents are not sufficient, a strong data-driven culture is also required. Feinzig and Guenole (2020) note that with large amounts of valuable data and advances in AI, organisations are in the middle of an analytical revolution. They suggest that in order to excel with analytics, organisations need to build an analytical culture that is promoted by top management and fully embraced by all employees. One way is to dedicate daily time to develop routines and activities that help employees cultivate analytical habits (Feinzig & Guenole, 2020).

Organisations are expected to establish an agile, experimental, and adaptable culture. Fountaine, McCarthy and Saleh (2019) suggest that a test-and-learn mentality should be encouraged among employees so that they could learn from failure and incorporate early feedback for improvement. Since AI is not a plug-and-play technology, it may not show good performance at the very beginning and it requires time to improve. Employees also need time to adapt to the applications of AI. A continuous improvement and learning culture will encourage employees to experiment with AI and gain new opportunities to improve their performance (Fountaine, McCarthy & Saleh, 2019).

4.2 Interview Analysis

4.2.1 Matrix Analysis

In order to get an overview of the content from the interviews, a similar matrix as the one in the previous section was created. This was done for comparing the data from the interviews against the collected publications.

Table 4.3 Interview Matrix Analysis

	Structural	**Human Resource**	**Political**	**Symbolical**
Respondent 1	√	√	√	√
Respondent 2	√	√	√	√
Respondent 3		√	√	√
Respondent 4		√	√	
Respondent 5	√	√		√
Respondent 6	√	√		√
Respondent 7	√		√	√
Respondent 8	√	√	√	√

4.2.2 Insights from Interviews

Table 4.4 Insights from Interviews

Frame	Insights
Structural	1. AI accelerates structure, but it is not a driver. 2. Structure revolving around products/projects, not departments. 3. "As the world becomes more complex, hierarchal structures become more obsolete" - Respondent 2. 4. AI developed to specific teams, could be an enabler for high performing teams. 5. AI driven decisions will remove the need for top down controlling and coordinating.
Human Resource	1. AI should be seen as a support function, not a co-worker. 2. Be transparent towards your colleagues as to why the AI is introduced, could lower scepticism. 3. Recruit people without the human bias. 4. AI can give people a chance to focus on more important tasks, and repetitive tasks can be automated. 5. Jobs will be replaced by AI, but jobs will also be created. 6. Prevent people from being displeased within organisations based on data – staff satisfaction. 7. CV screening and recruitment success rate will be more effective and efficient. 8. Can be used to evaluate people's emotions, hear rate etc and make recommendations, for example via a smartwatch. 9. Data can be used in Theory X style or Theory Y style.
Political	1. AI used as a tool in decision making, easing the process. 2. Decision more and more based on data. 3. Roles will change = power structure changes. 4. Data can challenge people's authority and comfort level. 5. Data driven decisions could be a cause for conflict. 6. A lot of hours spent on decision making could be reduced because of reliable data. 7. Use the same strategies in marketing in B2B as B2C, AI predicting customer behaviour. 8. "AI will be a vital part in strategizing and planning for the future" - respondent 4. 9. "Don't make AI apart of the power structure" Respondent 8.
Symbolic	1. Introduce AI in small scale, get people used to the idea. 2. "Culture is driven by humans, not AI" - Respondent 1. 3. Make senior management aware of the importance of technological change.

	4. AI in the company identity can be attractive to potential employees. 5. Culture will change, since the implementation of AI will require people of different backgrounds then now in management roles. 6. Culture can either be quite great in that data makes is transparent, or it will become a fearful culture, if management uses data to control its staff, a double-edged sword. 7. Involve people in the process and educate them, maybe through something like storytelling to build up trust.

Structural Frame

The structural frame was, as identified by us, the least mentioned frame by the different respondents. What was discussed, however, gave some interesting insight into how organisations might have to revise their organisational structures in the future.

When one looks at innovative companies like Google or Amazon, a flat structure is often described as something that accompanies it as Respondent 1 mentions. It almost feels like a more flattened structure has become a trend, and it is often associated with positive aspects. This, however, does not mean that AI is the main aspect as to why organisations are becoming more flattened like the adhocracy structure as presented by Mintzberg (Bolman & Deal, 2016). "*AI is an accelerator of structure, not a driver*" - Respondent 8. The reason as to why more organisations are becoming more flattened could be that a lot of companies today have trouble when trying to align their goals and visions along with the external circumstances (Bolman & Deal, 2016)

AI is not the main driver of this change and challenge that organisations are experiencing with their structure and strategies, but it does accelerate it as part of the constant technological development. As respondent 2 mentions, "*As the world becomes more complex, hierarchal structures become more obsolete since the environment changes too fast for it to react*". This could be a suggestion that organisations have to change the way they coordinate and control. Bolman and Deal (2016) suggest that both a vertical and lateral coordination could be necessary when an organisation is facing a complex and fast-paced environment. However, if respondent 2 is right, organisations should coordinate even more lateral and informal in order to align their structure with the environment (Bolman & Deal, 2016). This resembles what described as Adhocracy by Bolman and Deal (2016), a loose fitted structure that is coordinated through lateral coordination. This structure is well aligned with a rapidly changing external environment as mentioned above (Bolman & Deal, 2016). Interesting to note that only respondent 2 mentioned a great deal on how AI will make structures more flattened and the top-down chain

of command will disappear, other respondents focused more on how roles and teams will change.

Two of the respondents mentioned how teams could become flexible and focused on short-term goals rather than long-term goals. According to respondent 8, teams are going to be more focused on the products or projects they are working with right now. When the product or project is finished, the team structure will change. This description resembles the adhocracy structure but brought down to team level instead of organisation level (Bolman & Deal, 2016). Bolman and Deal (2016) do mention that self-managing teams that coordinate and control themselves could be the forms of future teams. However, it is not mentioned if these teams change objectives as often as the adhocracy structure does. It could be possible that these self-managing teams can be so independent since they have an AI tool that helps them.

AI's effects on roles within organisations are something that all of the respondents mentioned. As respondent 5 suggests, "*A lot of personnel will disappear since AI will take over in the form of automatization of tasks, however, new roles will be created that will revolve around the implemented AI*". This suggests that the division of labour will change, and new roles will have to be created to fulfil the need of newly implemented AI processes in organisations. Some of the respondents suggest that the roles might disappear will be those that are "*repetitive and boring*". An example is that managers will have less administrative tasks to do, and instead can focus on their staff more. To conclude, according to various respondents, the majority does not choose to focus all that much on the structure of an organisation, but all agreed that teams and roles will be affected by AI.

Human Resource Frame

Human resources were almost mentioned by all the respondents, and many of the aspects that are mentioned in the Human Resource Frame by Bolman and Deal (2016) were discovered when the data was analysed.

All the respondents agreed that it is too early, or you should not at all treat the AI as a co-worker. Instead, it should be treated as a support function that helps with tasks in the organisation. As previously stated, AI will take over some jobs that humans inhabit today, and this could cause suspicion among employees towards new technology. It's quite clear that you could create some conflicts in the workplace if you decide to fire some of your staff because you have implemented AI, this is bound to make people uncomfortable and even angry.

Therefore, AI should be viewed as a technology and it is not a machine that inhabits a level of human intelligence.

The Human Resource Frame emphasizes that the organisation's needs and the employees' needs have to be aligned with one another (Bolman & Deal, 2016). If this does not happen, people will be displeased and the daily operations will be most likely to fail (Bolman & Deal, 2016). A keyword that appeared in several of the interviews was transparency. The management team or whoever decides to implement AI in the organisation needs to be very clear as to why, when, and how it is done. "*People are really scared of this, but you need to show them and learn them in a small scale, that this is not dangerous*". "*Engage them in the AI and make sure they learn*" - Respondent 8. By introducing AI in small scale, and informing the staff on what is going on, you serve both the organisation's needs and the employees' needs. By being transparent, you can also allow employees to come with suggestions on how to optimise AI, or how to use it to benefit everyone involved. The employees' needs can be further improved by using data to measure how satisfied they are. "*Can we start to understand, predict, and prevent people from leaving us based on data in our systems....*" - Respondent 3. The AI systems implemented in an organisation can help, as Bolman and Deal (2016) would say it, "getting it right" by keeping the members of the organisation satisfied and also trying to understand what motivates them.

However, this could backfire since not all people are comfortable in being measured and calculated into data and it could gradually lead to a situation or even culture where people feel like they are constantly monitored by the management. "*Big brother is watching you type of culture*" - Respondent 3. This depends on what type of organisation we are looking at. An organisation that has a culture of looking at its employees through the lens of theory X will probably start to monitor their people even more since they do not trust them in their daily activities, and AI could help in making sure that every staff member does his or her job correctly, or else they will be sanctioned (Bolman & Deal, 2016). However, a theory Y approach could be much more valuable. The AI could help people evolve both professionally and personally by being used as an evaluation tool for performance. The AI can be used by the employees themselves to see what they need to work on and what they do well. It could also be used as a tool when doing their tasks, so they become more efficient and effective, therefore, minimising the need for supervision from management.

According to other respondents, AI will also have a big impact on how organisations attract and recruit future employees. All the respondents mentioned how AI already has to some extent been introduced in CV screening in different companies. "*For example, AI in CV screening saves countless hours, that you know can focus on other stuff*" - Respondent 5. These new tools create both opportunities and challenges for organisations. AI can help organisations in hiring the right people and keeping them as Bolman and Deal (2016) suggest. AI helps in finding people that are aligned with the organisational needs (Bolman & Deal, 2016). The promotion of diversity within the workplace is something that probably will be improved since the CV-screening process will have less human biases involved, there are cases where the data that AI is built upon is biased in itself. This can create a problem when trying to promote diversity, and organisations have to be cautious in how they use this data to make decisions.

As mentioned in the Structural Frame, roles will also change which can be a problem since people might be removed from their jobs. However, roles will also be created. There is a notion among the respondents that AI will only take away the most boring and tedious roles that organisations have to offer, and instead, humans can focus on more important tasks. This could potentially lead to increased motivation among the members of the organisation, and overall increase performance since people get involved in tasks where they can feel that they are evolving (Bolman & Deal, 2016).

Political Frame

After studying all the transcribed interviews, it is very clear that decision making will be most likely affected and even to some extent taken over by AI tools. "*I think, organisations will be based on a predictive model, for example, engage with a client*" – Respondent 7. "*Decision making will be autonomous in time*" – Respondent 3. What this suggests is that AI can be used as guidance to what an organisation should do in certain situations if the data used for training the model is accurate. This brings both positive and negative aspects to decision making processes. On the positive note, decision making will probably be more accurate since it will be based on collected data. However, some of the respondents suggest that trust and belief in data might challenge people's comfort level and ultimately their power in the organisation.

Bolman and Deal (2016) suggest that information and expertise can be a source of power. As previously mentioned, AI will create new roles, so having access to information and expertise about AI tools and being in one of these roles will probably grant people more power. As Respondent 3 suggests, "*People that work with data science and data management will have a*

much bigger role in organisations". This notes that people with data and AI backgrounds will have more authority in the future since AI tools will become more important for organisations, and one could argue that the power structures of organisations will change. This is nothing negative, but this could cause a lot of conflicts within the organisation since this will challenge the status quo and the political landscape could potentially be overhauled. People in organisations that do not have access to information and expertise will most likely cause conflict since they now have to fight for the even more scarce resources and possibly even their positions (Bolman & Deal, 2016). Several respondents here pointed out that AI should be used with caution and that in the end humans are still in control, or as respondent 8 put it, "*Don't let it be a part of the power structure*". The conflicts that will arise must be bringing out something positive and innovative. Always doing what AI suggests and not discussing and negotiating with your organisation members could lead to worse outcomes.

Decision making that affects the external environment was also mentioned as something that could be changed by AI. "*B2C already have AI that, for example, suggests to customers what future products to buy, this will also be present in B2B*"- Respondent 8. A lot of organisations that engage in B2B could benefit from using AI's predictions based on their customer's behaviour. According to respondent 8, this is already widely used in the B2C market in forms of advertisement, search engine, etc., and there is no reason as to why this would not be further developed. Other respondents also suggest that AI and data will be a vital part of how organisations plan and strategize for the future since AI can use historical data about how the organisation has interacted with the market and customer before. Based on the results, it can suggest a plan for how the company should act in the future to be successful.

This brings us to the final topic which is as Bolman and Deal (2016) describe it, the manager as a politician. Even though this topic does not cover the organisation as a whole, we deemed it important since almost all the respondents brought it up. As mentioned previously, task automation will allow employees to take care of higher-value activities. "*We have a lot of line managers whose administrative tasks can be automated, and they could focus on their staff* "– Respondent 4. This will give managers more time to interact with their staff members, and it might ease the process of building networks and coalitions within the organisation (Bolman & Deal, 2016). The process of creating an agenda also has the potential to be more automated since AI could take part in the strategic work of shaping the goals and visions for the organisation. This also gives the managers more time to focus on conveying the agenda to the

organisational members and creating coalitions (Bolman & Deal, 2016). The new roles created in the organisations will change the political terrain as well, therefore, the managers have to change how they map the terrain since the power of resources will probably be shifted to other players (Bolman & Deal, 2016). It is difficult to predict how bargaining and negotiating will be affected. Data will be more vital when making decisions, however, the accuracy of the data will determine the level in which value is being created when the bargaining and negotiation take place. The AI tools could perhaps be used as a guide to help managers create value rather than taking it (Bolman & Deal, 2016).

Symbolic frame

During the interviews, the Human Resource Frame and the Symbolic Frame were often discussed in combination, therefore, they are to some extent intertwined and some of the topics covered in the Human Resource Frame will be repeated but instead analysed through the lens of the Symbolic Frame. As respondent 8 said, "*People are really scared of this, but you need to show them and learn them in small scale".* According to the respondents, this also could be applied to how to introduce AI into organisational culture. AI should not be forced to be a part of the culture; it needs to come naturally through learning and engaging with it. Or as respondent 1 put it, "*Culture is driven by humans, not AI*". This is again coming back to how AI should be treated as a support function, rather than a colleague to make the best introduction. AI will not change the entire internal environment of the organisation. Instead, it should be seen as a new technology that will help in the daily activities of an organisation and slowly helps it evolve.

According to Bolman and Deal (2016), rituals and ceremonies are symbolical acts that give structure and meaning to each day and help the members of the organisations connect with each other, and through interaction creating a culture that binds them together (Bolman & Deal, 2016). These rituals can, for example, be simple routines that people in the organisation have like checking the email first in the morning. A good way to introduce AI to the organisation could be to try to incorporate it into rituals that the organisation has. An example from respondent 7 was chatbots that were used in an airline to help with small administrative tasks. The experience with the bot was described as superb and therefore it became a part of the company routines and it became a norm to interact with this bot.

However, it is not only the employees of an organisation that need to be engaged and involved for AI to find its place in the organisational culture, this applies to senior management as well.

"*There are no excuses for executives not to be interested in what AI can do for their company*" – Respondent 1. It is emphasized that not only the people with engineering or data science background should be involved in the AI tools, everyone should be engaged to reach its full potential. If the managers of an organisation do not engage with AI, it can be difficult to convince the rest employees to engage. Perhaps this manager is viewed as a hero or heroine within the organisation as described by Bolman and Deal (2016), and if this person dismisses AI, then this is probably going to have an impact on the culture and the people in it. So, top management must be willing to change, if they do not, why should anyone else (Bolman & Deal, 2016)?

Bolman and Deal (2016) also discuss how to use stories as a symbolic act to help bring in new members to the organisation and attract others from the external environment. The respondents did not really mention this aspect of symbolic acts within the organisation, they did, however, mention that it can be important to portray stories on how AI is a part of the organisation to the external environment. "*We are seeing this now as well, people who apply for jobs will probably be more interested if you show that you work with new technologies, it is an employee's market, not the other way around*"- Respondent 5. Telling a story to the external environment through your brand can be important to attract potential talents. Here relating to the Human Resource Frame and how this is one human resource strategy to attract the right people to the workplace (Bolman & Deal, 2016). If organisations start to make AI a part of their brand identity, they will show the world that this is something they have knowledge of and deems important. This will probably bring positive effects to the organisations as AI grows and becomes more usual.

According to the respondents, the brand identity that is being created in combination with AI will attract people from different backgrounds, e.g. data scientists. This could accelerate a change in culture since these people bring other assumptions on how the world works. These assumptions, if allowed, could challenge the groups/organisations already set perspectives, and therefore the culture in the organisation is beginning to be altered and evolves (Bolman & Deal, 2016). Of course, this depends on several aspects, for example, the willingness of management to accept AI and that the AI is unbiased when being used in recruitment.

In the Human Resource Frame, the ethical challenge of having data on your staff and how to use it was brought up, but this can also affect the culture of an organisation according to respondent 3. "*To have data on your staff can be dangerous since they can feel that it threatens their integrity"*. The collected data can be used to coordinate and control people within the

organisation. It could give people who have access to data the power to control others who do not have this information in an organisation. This could lead to a fear or resentment towards top management as they might use this data to suppress or sanction their employees. Of course, the data can also be used for good, but there is a risk that people want to take advantage of this resource. Therefore, the way data is handled within the organisation will potentially affect how people interact with one another and what they chose to share. If you fear that information will be used against you, you will probably choose not to disclose anything to anyone.

4.3 Comparison of Publications and Interviews

For the purpose of testing insights from publications with AI professionals, this study compared perspectives obtained from publications and interviews. The results showed that there are both consensus and disagreements, however, exclusive insights were found both in the publications and interviews. These insights are valuable to understand how narrow AI will affect organising within organisations. In the model below the results are disclosed.

Table 4.5 Comparison between publications and interviews

Frame	**Insights**		
	Consensus	**Disagreement**	**Exclusive**
Structural	AI will change the division of labour. Some roles will disappear, but new roles will be created. Organisations will be less function-oriented and more product-oriented. Organisations need to adjust their overall strategies and have a workable data strategy in place.		Organisations will be more flattened(P) AI's effect on resource distribution will raise conflict (I) Organisational success leans more on network effect and data analytic, instead of traditional differentiation strategy. (P)

Human Resource	Be transparent as to why AI is implemented to lower employee resistance. Start small scale. Recruitment processes will be affected by AI, for e.g. CV Screening Engage current employees in AI implementation process and help them gain relevant skills. Data can be used to help and empower employees, but also to control and survey them (I)	Employees should see AI as colleagues (P) AI should be seen as support functions and tools, not co-workers (I)	Continued demand for people with soft skills (P) Staff will be more motivated since boring and repetitive tasks have been automated (I).
Political	Humans will make better decisions based on proposals generated by AI. Decision making will be more data driven.		Roles change = Power structure change, people who can interpret data will have more resources, challenge status quo. (I) Data driven decisions can be cause of conflict because of lack of understanding (I).
Symbolic	Organisations need to develop a data driven culture. In order to do so, top management should embrace data analytical mindset. Involve employees with rituals, ceremonies, etc.		Culture is driven by humans, not AI (I) AI will shape the identity of an organisation, which will attract potential employees. (I) People with diverse background will inhabit new roles, and this will influence culture. (I)

			Organisations should promote a test-and-learn culture. (P) A fearful culture can be developed if a handful of people only have access to data (I)

P* *stands for publications;* ***I* *refer to interviews*

4.3.1 Structural Frame

Within the Structural Frame, no disagreements were identified between publications and interviews. The publications and respondents agree that roles and the division of labour will be affected by the implementation of AI. Both coordination and control of the workforce will be less formal and less restrictive, and there is a chance that more lateral coordination rather than vertical will be witnessed. The possibility that organisations might be organised towards products or projects was also discussed. One of the insights from publications was that organisations will be more flattened; however, respondents did not mention that part.

4.3.2 Human Resource Frame

The publications and interviews shared several perspectives. Transparency on why AI is going to be implemented into organisations is deemed important in both publications and interviews as this could minimise conflicts and suspicions among employees. Adopting AI in small scale and encouraging employees to engage with AI to develop necessary skills for the future was also a relevant aspect. AI could be utilised to help employees improve performance, satisfaction, etc. However, it could also increase supervision and control. Lastly, AI shows promises for human resource practices, such as recruitment, training, etc., but ethical issues must be fully addressed for those practices.

The disagreement lied in the opinion if AI should be seen as a colleague or not. Publications believe that treating AI as colleagues could promote trust and collaboration between humans and AI, respondents see AI as a tool that should be used to support employees in tasks.

The exclusive insights found in the publications, discussing people's soft skills such as judgement, emotional intelligence, etc, needs to be emphasized. This was not mentioned by any

of the respondents. The interviews present the insight that employees will be more motivated in their workplace, since the repetitive tasks will be handled by AI and they get to focus on more fulfilling tasks.

4.3.3 Political Frame

There were no disagreements found in the Political Frame, they both agreed that decision making will be more data-driven and better decisions could be achieved by human and AI's joining efforts.

No new insights were found in the publications, however, the interviews presented two insights. First, changes in roles mean that power and resource distribution in organisations could be changed accordingly. Second, data-driven decisions can be a cause for conflicts since this could question people's authority.

4.3.4 Symbolic Frame

In the Symbolic Frame, no disagreement was found, either. Instead, both the respondents and publications agreed that a data-driven culture needs to be created in the organisation, and it is important that this culture is embraced by all the organisational members. Furthermore, rituals and ceremonies should be facilitated to incorporate members to develop AI culture.

Interviews brought up several interesting perspectives. First, culture is driven by humans, AI does not shape culture but only being used to reinforce the culture that humans prefer. Second, AI could help organisations develop a culture that attracts potential talents. Third, people from different background could step into roles that used to be held by people with certain experiences, for instance, a data scientist could act as COO, and this could render a different culture. Fourth, limiting data access to certain people could create a fearful culture.

4.4 Chapter Summary

This chapter presents the analysis process and results. Matrix structures was used to display the mapping between the Four Frames and publications or interviews. Generally, each publication covers limited frames. Due to the interview questions were designed to gain insights

within the Four Frames, each interview covers more frames but the respondents showed a tendency to talk more over certain topics. Consensus and disagreements were identified between publications and AI professionals, this study also found insights that covered by only one party. All these three categories of insights - consensus, disagreement, and exclusive - formed the overview this study aims to provide.

5 Conclusion

5.1 Research Purpose

AI is reshaping business (Brynjolfsson & McAfee, 2017) and changing competitive landscape (Iansiti & Lakhani, 2020). AI could bring changes to an organisation in tasks and occupations, business processes, and business models. Besides, AI lowers the entry levels of industries and organisations not only have to cope with traditional competitors but also firms with data and AI capabilities. This notes the importance to research how we will be organising within the AI context. This study has aimed to increase the understanding of how AI could potentially impact the way we will organise and help organisations to prepare for AI's potential effects.

To achieve this purpose, a literary review was conducted to collect relevant perspectives. Furthermore, those perspectives were tested through eight interviews with AI professionals, who were from different sectors with AI experience. The Four Frames were used to collect and analyse data. This allowed us to incorporate insights from both research and practice to present a relatively integrated overview.

5.2 Research Questions

Research question: What impacts does AI bring on the way we will organise?

Conclusion: The results of this study show that AI has great potential in affecting how we will organise in the context of organisations. Investing in technology and talents is not sufficient to achieve success, it creates a need for organisations to adapt their overall settings to create a context that enables AI to reach its full potential. AI could drive a new division of labour between human and machines and requires collaboration between them. Organisations will become more flattened with more lateral coordination and new roles will be needed. Organisations could employ AI in various HR practices but only if fairness could be guaranteed. Organisations also need to emphasize employee soft skills since more analytical and repetitive

tasks will be taken over by AI. AI is significantly inferior at tasks that involve skills such as judgment, emotional intelligence, etc., this requires human soft skills. Better decisions could be made through joining efforts of humans and AI, and this allows employees at each level within an organisation to gain support from AI to make decisions. Organisations need to develop an agile and test-and-learn culture to fully exploit the potential of AI. It is important that this culture is embraced fully within the organisation, or else AI potential will be lost.

The majority of the predictions from both the publications and the interviews are in consensus. Examples of what the publications and interviews agreed upon are: decisions will be more data-driven and accurate, organisations will be less function-oriented and more product/project-oriented. There is a disagreement, however, in how AI should be treated in the workplace. The publications argue that AI should be treated as a colleague, while the respondents just see it as a tool for support functions. This could be problematic since organisations have to choose how to introduce AI and an inappropriate introduction could create more obstacles. Both the publications and the interviews presented unique insights that proved to be beneficial to understand AI's impact on organising. It is important to note that these insights need to be combined to fully comprehend and prepare for the impact of AI as each organisation is organised within its specific context.

During the interviews, both the authors got the feeling that the respondents had a slightly different view on AI, as they see it as an everyday tool and part of digitalization. When reading the publications, however, they present AI as a revolutionising technology that shows great promises and try to push an agenda to implement it. It might be due to the fact that the respondents focus more on the practical applications of AI in their organisations based on their actual situations, while the publications emphasize the promises and opportunities of AI. Again, it is pointed out that is a feeling the authors had during the interviews.

The key insight this study has discovered is that AI has a great potential impact on how we will organise, and organisations need to be prepared. The people who are in charge of organising must equip an integrative lens to be able to see all the consequences and opportunities of AI's arrival. Every organisation has its context in which they operate and might react to AI differently from what this study has found. However, this study could serve as a guide for the future.

5.3 Practical Implications

This research aims to provide perspectives that organisations could utilize to strategize and prepare for the future. To this end, insights regarding organisational structure, human resource, decision making, and culture were presented to illustrate AI's potential impacts on different aspects of how we will organise. Organisations could formulate their strategies and practices based on those findings. This study also contributed to providing further academic research into comprehensive understandings of AI's impact on organising.

5.4 Future Research

This is a relatively unexplored research field that has a lot of potential. This study aims to be a tool for all organisations when preparing for the AI era. It would be interesting to test the results in a single organisation to see if the results and insights could be used to prepare for AI in the coming 10-15 years. It could also be beneficial to find respondents from other sectors and perhaps even countries to see how their perspectives differ. To further test the validity of this study, it could be beneficial to conduct a similar study within 10 to 15 years, to see if the predictions of this study align with the happenings in the future.

Moreover, this study used a single model - the Four Frames and slimed it to fulfil the time limitation. A study with the original model could gain more relevant insights about, for example, how society, group, events could be impacted since we chose to only focus on organisations. Also as mentioned, our interpretation of the Four Frames might be different from others, and this will, of course, affect our results. If other researchers decide to conduct a similar study, they might come up with other interesting insights due to their different interpretations.

Lastly, the same study could be conducted by using a different model that describes how AI could potentially affect the way we organise. Another model could bring up different findings and new insight to the research field, and thus be beneficial for future research.

References

Agrawal, A., Gans, J. S., & Goldfarb, A. (2017). What to Expect from Artificial Intelligence, *MIT Sloan Management Review,* vol. 58, no. 3, pp. 23-26, Available online: http://resolver.ebscohost.com.ludwig.lub.lu.se/openurl?sid=EBSCO%3abth&genre=article&issn=15329194&isbn=&volume=58&issue=3&date=20170401&spage=23&pages=23-26&title=MIT+Sloan+Management+Review&atitle=What+to+Expect+From+Artificial+Intelligence.&btitle=MIT+Sloan+Management+Review&jtitle=MIT+Sloan+Management+Review&series=&aulast=AGRAWAL%2c+AJAY&id=DOI%3a&site=ftf-live [Accessed 25 March 2020]

Ahrne, G., & Svensson, P. (2015). *Handbok i kvalitativa metoder,* Stockholm, Liber AB.

Bersin, J., & Chamorro-Premuzic, T. (2019). New Ways to Gauge Talent and Potential, *MIT Sloan Management Review*, Winter2019, vol. 60, no. 2, pp. 1-7, Available online: http://resolver.ebscohost.com.ludwig.lub.lu.se/openurl?sid=EBSCO%3abth&genre=article&issn=15329194&isbn=&volume=58&issue=3&date=20170401&spage=23&pages=23-26&title=MIT+Sloan+Management+Review&atitle=What+to+Expect+From+Artificial+Intelligence.&btitle=MIT+Sloan+Management+Review&jtitle=MIT+Sloan+Management+Review&series=&aulast=AGRAWAL%2c+AJAY&id=DOI%3a&site=ftf-live [Accessed 20 March 2020].

Bolman, L. G., & Deal, T. E. (2017). Reframing organisations: Artistry, choice, and leadership, 6th edn, San Francisco: Jossey-Bass.

Brynjolfsson, E., & McAfee, A. (2017). The Business of Artificial Intelligence – What it can and cannot do for your organization, *Harvard Business Review*, January 2017, pp. 3-11, Available online: https://eds-a-ebscohost-com.ludwig.lub.lu.se/eds/pdfviewer/pdfviewer?vid=9&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 22 March 2020].

Burnett, J. R., & Lisk, T. C. (2019). The Future of Employee Engagement: Real-time monitoring and digital tools for engaging a workforce, *International Studies of Management & Organisation*, vol. 49, no. 1, pp. 108-119, Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=15&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 22 March 2020].

Canals, J., & Heukamp, F. (ed.). (2020). The future of management in an AI world: Redefining Purpose and Strategy in the Fourth Industrial Revolution, IESE Business Collection, Imprint: Palgrave Macmillan.

Chui, M., & Malhotra, S. (2018). AI Adoption Advances, But Foundational Barriers Remain, *McKinsey Insights,* Available online: https://www.mckinsey.com/featured-insights/artificial-intelligence/ai-adoption-advances-but-foundational-barriers-remain [Accessed 25 March 2020]

Dallemule, L., & Davenport, T. H. (2017). What's Your Data Strategy? *Harvard Business Review*, vol. 95, no. 3, pp. 112-121, Available online:

https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=18&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 25 March 2020]

Daugherty, P. R., Wilson, H. J. & Chowdhury, R. (2019). Using Artificial Intelligence to Promote Diversity, *MIT Sloan Management Review*, vol. 60, no. 2, pp. 1-6, Available online: http://resolver.ebscohost.com.ludwig.lub.lu.se/openurl?sid=EBSCO:bth&genre=article&issn=15329194&isbn=&volume=60&issue=2&date=20190101&spage=1&pages=1-6&title=MIT%20Sloan%20Management%20Review&atitle=Using%20Artificial%20Intelligence%20to%20Promote%20Diversity.&btitle=MIT%20Sloan%20Management%20Review&jtitle=MIT%20Sloan%20Management%20Review&series=&aulast=DAUGHERTY%2C%20PAUL%20R.&id=DOI: [Accessed 19 March 2020]

Davenport, T. H., & Ronanki, R. (2018). Artificial Intelligence for the Real World, *Harvard Business Review*, vol. 96, no. 1, pp. 108-116, Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=22&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 15 March 2020]

De Cremer, D. (2019). Leading Artificial Intelligence at Work: A matter of facilitating human-algorithm cocreation, *Journal of Leadership Studies*, vol. 13, no 1, pp. 81-83. Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=24&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01[Accessed 22 March 2020]

Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019). Artificial Intelligence for Decision Making in the Era of Big Data – Evolution, challenges and research agenda, *International Journal of Information Management*, vol. 48, pp. 63-71, Available online: http://resolver.ebscohost.com.ludwig.lub.lu.se/openurl?sid=EBSCO:edselp&genre=article&issn=02684012&isbn=&volume=48&issue=&date=20191001&spage=63&pages=63-71&title=International%20Journal%20of%20Information%20Management&atitle=Artificial%20intelligence%20for%20decision%20making%20in%20the%20era%20of%20Big%20Data%20%E2%80%93%20evolution%2C%20challenges%20and%20research%20agenda&btitle=International%20Journal%20of%20Information%20Management&jtitle=International%20Journal%20of%20Information%20Management&series=&aulast=Duan%2C%20Yanqing&id=DOI:10.1016/j.ijinfomgt.2019.01.021 [Accessed 22 March 2020]

Faraj, S., Pachidi, S., & Sayegh, K. (2018). Working and organizing in the age of the learning algorithm, *Information & Organisation*, vol. 28, no. 1, pp. 62-70. Available online: https://www.sciencedirect.com/science/article/abs/pii/S1471772718300277 [Accessed 25 March 2020]

Feinzig, S. L., & Guenole, N. (2020). Data-Driven Cultures Start at the Top, *Harvard Business Review Digital Articles*, 2/19/2020, pp. 1-4, Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=32&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 25 March 2020]

Fountaine, T., McCarthy, B., & Saleh, T. (2019). Building the AI-Powered Organisation, *Harvard Business Review*, vol. 97, no. 4, pp. 62-73, Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=36&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 15 March 2020]

Hagiu, A., & Wright, J. (2020). When Data Creates Competitive Advantage? *Harvard Business Review*, vol. 98, no. 1, pp. 94-101. Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=38&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 20 March 2020]

Haenlein, M., & Kaplan, A. (2019). A Brief History of Artificial Intelligence: On the past, present, and future of Artificial Intelligence, *California Management Review*, vol. 61, no. 4, pp. 5-14, https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=41&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 20 March 2020]

Huang, MH., Rust, R., & Maksimovic, V. (2019). The Feeling Economy: Managing in the next generation of Artificial Intelligence (AI), *California Management Review,* vol. 61, no. 4, pp. 43-65. Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=43&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 20 March 2020]

Iansiti, M., & Lakhani, K. R. (2020). Competing in the Age of AI – How machine intelligence changes the rules of business, *Harvard Business Review*, vol. 98, no. 1, pp. 60-67, Available online: https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=45&sid=c40327b5-f5e2-4989-9650-7d23358bd93e%40pdc-v-sessmgr01 [Accessed 25 March 2020]

Jarrahi, M. H. (2018). Artificial Intelligence and the Future of Work: Human-AI symbiosis in organizational decision making, *Business Horizons*, vol. 61, no. 4, pp. 577-586. Available online: http://resolver.ebscohost.com.ludwig.lub.lu.se/openurl?sid=EBSCO:edselp&genre=article&issn=00076813&isbn=&volume=61&issue=4&date=20180701&spage=577&pages=577-586&title=Business%20Horizons&atitle=Artificial%20intelligence%20and%20the%20future%20of%20work%3A%20Human-AI%20symbiosis%20in%20organizational%20decision%20making&btitle=Business%20Horizons&jtitle=Business%20Horizons&series=&aulast=Jarrahi%2C%20Mohammad%20Hossein&id=DOI:10.1016/j.bushor.2018.03.007 [Accessed 19 March 2020]

Kahn, J. (2020). The Quest for Human-level A.I., *Fortune,* vol. 181, no. 2, pp. 62-70. Available online: https://eds-b-ebscohost-com.ludwig.lub.lu.se/eds/detail/detail?vid=32&sid=dfbd3117-0e70-4450-b105-672a885d2bde%40sdc-v-sessmgr02&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=141248685&db=bth [Accessed 20 March 2020]

Kaplan, A. & Haenlein, M. (2019). Siri, Siri, in My Hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence, *Business Horizons*, vol. 62, no. 1, pp. 15-25. Available online: http://resolver.ebscohost.com.ludwig.lub.lu.se/openurl?sid=EBSCO:bth&genre=article&issn=00076813&isbn=&volume=62&issue=1&date=20190101&spage=15&pages=15-25&title=Business%20Horizons&atitle=Siri%2C%20Siri%2C%20in%20my%20hand%3A%20Who%27s%20the%20fairest%20in%20the%20land%3F%20On%20the%20interpretations%2C%20illustrations%2C%20and%20implications%20of%20artificial%20intellige

nce.&btitle=Business%20Horizons&jtitle=Business%20Horizons&series=&aulast=Kaplan%2C%20Andreas&id=DOI:10.1016/j.bushor.2018.08.004 [Accessed 21 March 2020]

Kolbjørnsrud, V., Amico, R., & Thomas, R. J. (2017). Partnering with AI: How organizations can win over skeptical managers, *Strategy and Leadership,* vol. 45, no. 1, pp. 37-43. Available online: https://www-emerald-com.ludwig.lub.lu.se/insight/content/doi/10.1108/sl-12-2016-0085/full/pdf [Accessed 16 March 2020]

Maity, S. (2019). Identifying Opportunities for Artificial Intelligence in the Evolution of Training and Development Practices, *Journal of Management Development*, vol. 38, no. 8, pp. 651-663. Available online: https://www-emerald-com.ludwig.lub.lu.se/insight/content/doi/10.1108/JMD-03-2019-0069/full/html [Accessed 29 March 2020]

Naudé, W., & Dimitri, N. (2019). The Race for An Artificial General Intelligence: Implications for public policy, *AI & Soc*, Available online: https://doi.org/10.1007/s00146-019-00887-x [Accessed 1 April 2020]

Neubert, M. J., & Montañez, G. D. (2020). Virtue as a Framework for the Design and Use of Artificial Intelligence, *Business Horizons*, Available online: https://doi.org/10.1016/j.bushor.2019.11.001 [Accessed 20 April 2020]

Oxford English Dictionary (2020). Oxford University Press, Available online: https://www-oed-com.ludwig.lub.lu.se/ [Accessed 2 March 2020]

Parry, K., Cohen, M., & Bhattacharya, S. (2016). Rise of the Machines: A critical consideration of automated leadership decision making in organisations. *Group & Organisation Management*, vol. 41, no. 5, pp. 571–594. Available online: https://doi.org/10.1177/1059601116643442 [Accessed 7 March 2020]

Ransbotham, S., Kiron, D., Gerbert, P., & Reeves, M. (2017). Reshaping Business With Artificial Intelligence, *MIT Sloan Management Review,* vol. 59, no. 1, pp. 1-17. Available online: https://sloanreview.mit.edu/projects/reshaping-business-with-artificial-intelligence/ [Accessed 8 March 2020]

Robert L. P., Pierce, C., Marquis, L., Kim, S. & Alahmad, R. (2020). Designing Fair AI for Managing Employees in Organizations: A review, critique, and design agenda, *Human–Computer Interaction*, DOI: 10.1080/07370024.2020.1735391 [Accessed 10 April 2020]

Sekaran, U., & Bougie, R. (2016). Research Methods for Business - A skill-building approach, Chichester: Wiley.

Shrestha, Y. R., Ben-Menahem, S. M., & von Krogh, G. (2019). Organizational Decision-Making Structures in the Age of Artificial Intelligence, *California Management Review*, vol. 61, no. 4, pp. 66-83. Available online: https://eds-b-ebscohost-com.ludwig.lub.lu.se/eds/detail/detail?vid=19&sid=dfbd3117-0e70-4450-b105-672a885d2bde%40sdc-v-

sessmgr02&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=138097009&db=bth [Accessed 26 March 2020]

Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial Intelligence in Human Resources Management: Challenges and A path forward, *California Management Review*, vol. 61, no. 4, pp. 15-42. Available online: https://eds-b-ebscohost-com.ludwig.lub.lu.se/eds/detail/detail?vid=12&sid=dfbd3117-0e70-4450-b105-672a885d2bde%40sdc-v-sessmgr02&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=138097012&db=bth [Accessed 16 March 2020]

Wilson, H. J., & Daugherty, P. R. (2018). Collaborative Intelligence: Humans and AI are joining forces, *Harvard Business Review*, vol. 96, no. 4, pp. 114-123. Available online: https://eds-b-ebscohost-com.ludwig.lub.lu.se/eds/detail/detail?vid=8&sid=dfbd3117-0e70-4450-b105-672a885d2bde%40sdc-v-sessmgr02&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=130332126&db=bth [Accessed 3 March 2020]

Wilson, H. J., Daugherty, P. R., & Morini-Bianzino, N. (2017). The Jobs that Artificial Intelligence Will Create, *MIT Sloan Management Review*, vol. 58, no. 4, pp. 14-16. Available online: http://resolver.ebscohost.com.ludwig.lub.lu.se/openurl?sid=EBSCO%3abth&genre=article&issn=15329194&isbn=&volume=58&issue=4&date=20170701&spage=14&pages=14-16&title=MIT+Sloan+Management+Review&atitle=The+Jobs+That+Artificial+Intelligence+Will+Create%3a+A+global+study+finds+several+new+categories+of+human+jobs+emerging%2c+requiring+skills+and+training+that+will+take+many+companies+by+surprise.&btitle=MIT+Sloan+Management+Review&jtitle=MIT+Sloan+Management+Review&series=&aulast=WILSON%2c+H.+JAMES&id=DOI%3a&site=ftf-live [Accessed 14 March 2020]

Appendix A

Interview questions:

1. Could you please give us an introduction about your work?
2. Could you please tell us your view about what narrow AI is?
3. What changes do you think AI will cause to the structure and strategy of organisations?
4. What changes do you think AI will impact the way human resource functions operate?
5. What changes do you think AI will cause to organisational culture?
6. Do you think AI will affect decision-making, resource distribution, and power structure within an organisation?
7. What else do you think AI will change the way your organisation managed?