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**EXPLORING THE EU ARTIFICIAL INTELLIGENCE ACT:
PERSPECTIVES OF PROFESSIONALS IN FINLAND**



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ABSTRACT

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As artificial intelligence continues to find its way into our lives, with or without our consent. There has been the need to put safeguards in place to ensure it operates within acceptable standards. Governments and organizations want to ensure the rights of citizens are protected over business interests, hence the introduction of the European Union artificial intelligence act. The European Union's Artificial Intelligence Act (EU AI Act) represents a significant regulatory effort to govern the development and deployment of AI technologies across member states. This master's thesis researches the perspective of professionals in Finland on the EU AI act using qualitative research approach including semi-structured interviews and conventional content analysis. Key themes emerged, highlighting the act's focus on ethics, transparency, accountability, and bias mitigation. The study interviewed 9 professionals in Finland whose work involved AI and had some knowledge about the regulation. The findings suggest that while the EU AI Act is viewed as a critical step towards embedding ethical AI practices and fostering public trust, the study also revealed concerns about the potential impact on innovation and the variability in awareness and understanding of the Act among professionals. These insights contribute to the broader discourse on AI regulation, emphasizing the need for continuous policy development, technological innovation, and interdisciplinary collaboration to address evolving challenges. Future research should consider larger, more diverse professionals, the use of surveys, and comparative analyses across different fields like healthcare, legal, manufacturing and consumer services to further understand the Act's impact and effectiveness.

Keywords: Artificial Intelligence, EU AI Act, bias, ethics, transparency

Glossary

AI	Artificial Intelligence
EU	European Union
GDPR	General Data Protection Regulation
FRIA	Fundamental Rights Impact Assessment
DPIA	Data Protection Impact Assessment
ML	Machine Learning
DL	Deep Learning
HLEG	High Level Expert Group
NLP	Natural Language Processing
DORA	Digital Operational Resilience Act

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INTRODUCTION

1.1 Overview of Artificial Intelligence (AI) and its applications

The term artificial intelligence (AI) has become a common term in the Information technology arena, however, there are different explanations for this term. There is no single definition for artificial intelligence (Čerka et al., 2017). According to (Perucica & Andjelkovic, 2022) the first AI workshop was held in 1956 at Dartmouth under the direction of American mathematician John McCarthy. Any object which mimics the characteristics of humans as a result of the information fed to it can be described as artificially intelligent. (Trotta et al., 2023) defined AI as, a machine with human-like intelligence and capacity for learning. Artificial Intelligence involves the use of computers to replicate human consciousness, identity and thought processes to offer a new level of human-computer interaction (Zhou, 2021). (European Commission. Joint Research Centre., 2020) describes AI systems as being either through the use of symbolic rules or learn a numeric model, and they can also adapt their behaviors by analyzing how the environment is affected by their previous actions. For instance, (Besinovic et al., 2022) explained that, machine learning, deep learning and big data is used by scientists as the basis for AI definition while practitioners use different terms resulting in a confusion of the unique definition. Countries and regional AI regulations have also restricted the definition to suit the scope of their laws (Bradley, 2022). The OECD defines AI as, 'A machine-based system that can for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments and operating with a certain level of autonomy' (OECD, 2024). The confusion for AI definition was due to the subjective nature of intelligence and the field, the AI was being applied (Buiten, 2019). The Oxford dictionary defines AI as 'the capacity of computers or other machines to exhibit or simulate intelligent behaviors; the field of study concerned with this. In later use also: software used to perform tasks or produce output previously thought to require human intelligence, esp. by using machine learning to extrapolate from large collections of data' (OED, n.d.). (OED, n.d.). In their article,

(Kolfschooten, 2022) defined AI as rational behaving systems using their environment and information to determine the best action to take for a given assignment. According to (Lazăr Pleșa et al., 2023) John McCarthy originally suggested in 1955 that ten people study artificial intelligence for two months in order to figure out how to educate computers to develop thoughts and solve issues that could only be resolved by humans

Artificial Intelligence (AI) has become the leader in disruptive technologies causing a lot of transformations which are accelerating the impact of use-cases. Artificial intelligence (AI) has become established far more quickly than other cutting-edge technologies since so many businesses are utilizing it to improve their operations. The pervasive nature of AI can be seen in how people interacts with robots, how crime is solved, who gets a loan and medical diagnosis (Bartneck et al., 2023). This technology has been used to create music, poetry and unique artworks which has enhanced people's lives. AI systems used to be transactional, that is basically input/output, but we now have generative AI in the music and entertainment industry.

AI can now be compared to electricity since it can be found in any household directly or indirectly (Pathni, 2023) This can be seen in voice assistants, televisions, mobile phones, temperature regulation sensor etc. Artificial intelligence usage has seen a rapid increase with the advent of generative AI and use of prompt engineering, causing a concern among stakeholders. According to (Pathni, 2023), the revolution introduced by AI's have resulted in transformations in businesses leading to a spike in their efficiency, however, the autonomy in the AI's performance is an area of concern. The era of AI being a fiction in movies is now a thing of the past and now a common tool available to anyone with internet access. Just like fire, AI can be of good use and can also be used to cause harm making it necessary to have safeguards in its use. In fields like healthcare, AI's have produced potential new drugs, treatment and speed up drug discovery. In the railway sector, AI is used to assist decision making by suggesting appropriate methods to researchers (Besinovic et al., 2022). In the manufacturing sector, it has revolutionized new products designs, innovation and efficiency. In education, AI technologies have produced virtual and customized tutors for students with learning challenges. Concerns of stakeholders include proprietary information, data protection, privacy, risk and obligations (Rakha, 2023). Without robust regulation for AI usage, people and organizations may use it unethically without consideration for human values.

1.2 Introduction to the EU Artificial Intelligence Act

Please The transformations associated with artificial intelligence applies to small things like language translation to bigger one's like diseases prediction. This transformation has made it important to find the right way to use AI to help in

managing our lives. AI development has been compared to the development of genetic engineering and nuclear power which has the potential of existential threat to humans (Pathni, 2023). There has been calls from stakeholders for a proactive intervention to hold governments and organizations accountable due to the risk of AI being used to manipulate and divide societies which may lead to destroying the fabric of humanity. The European Union's quest to ensure trust in artificial intelligence necessitated the introduction of the AI regulatory act (Estella, 2023). Even though some countries in Europe have local legislation on the use of AI, a common law for member states has been developed to address the development, deployment, and use of AI. The EU AI Act aims to establish a trust hub and give citizens assurance regarding AI technologies (Laux et al., 2024). Since the application of the technology is still unfolding, stakeholders are projecting how to mitigate the associated risk by adopting a harmonized regulation based on risk. AI used to be defined in terms of intelligent machines but with time cognition has been included in the definition. The use of AI has the potential to inflict lethal damages to humans due to high risk and some forbidden use, hence the need for regulation. According to (White & Lidskog, 2022), communities have been created which depends on solely AI. These instances are the basis for ensuring that swift and decisive actions are taken to serve the collective good rather than focusing only on profits and unfair advantage.

The issue of legal definition of AI, is central to the regulation of the technology. Although the concept of autonomy might be important in a number of legal issues involving AI, it might be too arbitrary to be the foundation of a legal definition (Buiten, 2019). For this research, the definition of artificial intelligence will be restricted to the white paper by the European Commission. For this research, the definition of artificial intelligence will be restricted to the High-Level Expert Group (HLEG) of the European Commission. HLEG defined AI as "Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans (2) that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal".

1.3 Significance of the topic

The study will contribute to exploring the anticipated societal impact of the EU AI Act on Finnish society with the aim of understanding how professionals perceive the potential effect of the regulation. Exploring these perspectives will reveal the opportunities, challenges of the regulation and compliance with some of

the provisions. In addition, the study contributes to the discourse on ethical AI practices to foster accountability and transparency. Other researchers have focused on AI application in specific sectors, the need to regulate AI, however, this study explores the paradigm shift on the reaction to AI after the regulation starts working. (Jarota, 2023) pointed out that, the EU envisaged the risk arising from AI usage for example in employee onboarding and performance evaluation, there could be a risk of discrimination on the part of the AI. In addition, it seeks to explore attitudes towards the necessity and effectiveness of AI regulation, while considering the intentions and goals of the Act.

1.4 Research Questions

Artificial intelligence regulation has been extensively discussed in various articles with focus on different disciplines. These studies were conducted with no real regulation in place to serve as the benchmark. The European Commission's draft regulation on artificial intelligence has been passed by the European Parliament and will become the first comprehensive AI regulation in the world. Finland as a member of the European Union will be enforcing the regulation after ratification by all EU member states. This research aims to get the opinion and perspectives of professionals in Finland whose work involves some form of artificial intelligence and find out about their views on the European Union AI act and its effect on the Finnish ecosystem. The research questions are:

- How do professionals understand and interpret the provisions and implications of the EU AI Act

To answer the question, empirical research will be conducted to elicit responses from professionals in Finland. To further expand on the research question, the following secondary research question be addressed:

- What are the key considerations addressed by the EU AI Act?
- What is the potential impact on innovation and development?

The research will review the concept of artificial intelligence, overview of the EU AI act and other AI regulations outside of Europe.

2 LITERATURE REVIEW

The review process for this study involved using a systematic approach to identify, examine and synthesis relevant materials including journals, conference proceedings and books. In identifying relevant materials, some search phrases and keywords was used.

As part of ensuring resources used for the study will be relevant to the information systems discipline and obtain prior research on the topic, the libraries and databases of Association of Information Systems (AIS) eLibrary, Association of Computing Machinery (ACM), Elsevier's ScienceDirect, SpringerLink and the Institute of Electrical and Electronic Engineers (IEEE) xplora was searched for relevant academic journals, books and conference papers. Google scholar was used to obtain articles which have been frequently cited in relation to AI regulations.

Forward and backward snowballing search strategy was applied in this study to gather relevant resources. The reference list of the main articles identified for the study on EU AI regulation was reviewed serving as chain of links to other related articles, this was a bottom-up approach of backward search. Google scholar was used for the forward search by using the "cited by" option, this led the study to identifying most recent articles on EU AI act and AI regulation globally.

The inclusion and exclusion criteria used for this study is tailored to how best the research question is addressed. For the inclusion criteria, the selected articles were relevant to the research topic and addressed the issue of ethics, accountability, bias and transparency. In addition, articles whose focus was on Europe was prioritised since they were applicable to Finland. The exclusion criteria was based on articles which do not directly address AI regulation, ethical and EU AI act.

The initial search was done by using keywords and phrases across the libraries and databases after which the abstracts were read for relevance to the topic. The selected articles were then thoroughly reviewed first by considering the methodology and then the discussions. The findings was synthesised and key themes identified which also served as the basis for thematic analysis of the research.

2.1 Overview of AI regulation

Researchers on artificial intelligence and implications for humans have explored how ethics and framework can assist in streamlining AI while ensuring compliance to national laws. There is a common assumption that AI is not subjected to any laws since it is just a working tool (Jarota, 2023). However, most laws do not holistically address issues of AI but adopt known frameworks to mitigate

potential risks and threats. The advancement of AI has prompted discussions on regulating this disruptive technology with focus on ethics, policies, and existing frameworks. This review examines the landscape of AI (Buczynski et al., 2022) pointed out the need to regulate AI using hard and soft law theories financial services. Already existing are several laws which regulate Information Technology (IT), fintech and other forms of digital services. As stated by (Erdélyi & Goldsmith, 2022), the pervasive nature of AI technologies in our lives and the innovations associated with it requires a safe regulatory environment. Stakeholders are concerned about the proper usage of AI hence the need for regulation to give assurance to stakeholders on the operations in the AI domain. In the fields of medicine, (Cheng et al., 2021), explained that, AI processing is seen as a Blackbox resulting in difficulty in understanding some of the decisions and results, a proper and safe use of these algorithms can be achieved with regulation to reduce the risk. Using AI brings known and unknown risks to businesses hence auditors and assurance professionals need to ensure compliance and assess its adequacy for businesses. Since AI's are human-made, human centered and human-controlled, any AI regulation should guarantee that there is a fallback plan in the event of non-compliance (Jarota, 2023). According to (White & Lidskog, 2022) without regulation, using and adopting AI has unanticipated and serious implications. The European Union, having seen the risk posed by unregulated AI development and deployment coupled with different laws of its members began working on a common law resulting in the European Union Artificial Intelligence Act. AI should operate with transparency such that, people can trust the outcome of its operations (Estella, 2023). The need to be transparent about artificial intelligence is a concern among AI users, according to (Iphofen & Kritikos, 2021) in order to establish confidence and lessen ambiguity in AI outcomes, humans need to understand how AI algorithms make judgments. The development of economies is now linked to efficiency and better forecasting, the European Commission's attempt to ensure members have a robust economy by leveraging on technologies including artificial. (Goltz et al., 2019) suggests that, it can be statistically proven that, the use of technology and effective governance are closely linked in economies that are developing. The ratification of the EU AI law will provide guidance on how to leverage AI technology while reducing the associated risk. It is also seen as the benchmark for AI regulation compliance using a risk-based approach. (White & Lidskog, 2022) emphasized that, ignorance is a common factor in all choices on the regulation of AI. More often than not, individuals do not necessarily use AI directly but become second party users if an organization uses it for services which they have subscribed. (Flores et al., 2016) argued for the proper use of artificial intelligence algorithms in the criminal justice system of the United States, by suing actuarial risk assessment instruments (ARAIs), the algorithm exhibited bias against blacks. The initial stages of artificial intelligence came with a lot of excitement but its use over time revealed the need for regulation. Artificial Intelligence has gained significant traction and public interest making organizations develop plans to handle this opportunity and challenge whiles laws and government policies are also being considered to address AI

(Wang, 2019). For ethical guidelines and principles, (Floridi et al., 2018) talks about regulation often incorporating fairness, accountability, transparency and privacy as the drivers for ensuring safe usage of AI. The issue of AI regulation peaked after it was noted that its capabilities remain untapped and concerns about what it can be used for when unregulated. Explainability, which has become synonymous with transparency, is at the heart of AI regulation, the black-box processing reduces the trust in AI systems, however, explainability provides a clear information about the computations and how decisions are made. For high risk AI systems, explainability is a mandatory requirement (Miller, 2019). Developers of AI systems will be held responsible for the actions of AI systems underscoring the issue of accountability. A breach of the regulation will result in a fine and penalties in case of non-compliance (Binns, 2018). Various proposed policies and recommendations aim to address AI regulation, for example (Rahwan, 2018) advocated for human-in-the loop system whereby human oversight will be part of ensuring accountability in critical AI decisions. AI regulation will foster global cooperation by promoting internationally acceptable AI standards to ensure fair competition.

2.2 Functional Classification of AI

There are many classifications of AI based on the fields they operate in and capabilities. AI's are grouped into generally accepted three (3) categories based on their functionality:

- **Narrow AI (Weak AI):** This category of AI is designed to handle a specific task and that is simple task. Processing text, speech, and sound to give output is their function. These are mostly embedded in assistive robots.
- **General AI (Strong AI):** These systems learn and apply intelligence to tasks assigned to it. Their way of doing things can be compared to humans.
- **Super Intelligent AI:** This possesses a level of intelligence that is higher than the human brain. It deals with high and complex task which an ordinary intelligent human can not solve. (Brundage, 2015)

This classification of AI helps in putting AI in their correct domain of work. Other classifications are also used based on the context of what the authors seek to communicate. The EU classified AI into four categories of general purpose AI, high risked AI, prohibited risk AI and limited risk AI (Voss, 2021). In addition, there is the technique-based classification which involves classification by the methodology used to develop the AI system.

2.3 Methodology based classification

This involves classifying AI systems based on the methodology used for the algorithm.

2.3.1 Machine Learning (ML)

This AI learns from data, which is called the training data and is the popular methodology used in most AI systems. Due to its extensive application, most research is based on machine learning models. (Ma & Sun, 2020) attributed the popularity of ML to the vast amount of data generated daily from interactions with people and machines could be processed by ML models. ML is further divided into:

- **Supervised Learning:** labelled data is used to train the algorithm in this instance (LeCun et al., 2015). The algorithm uses the data to make prediction by drawing inference and exploring the connection in the data (Ma & Sun, 2020). Supervised ML is used in developing models using big datasets.
- **Unsupervised Learning:** The algorithm in this ML identifies patterns in unstructured data. This is an exploratory nature where only the inputs is fed the algorithm with no defined constraints. According to (Ma & Sun, 2020) data of different format and types is ideal for unsupervised learning processing.
- **Reinforcement Learning:** Systems learn by interacting with their environment and receiving feedback (Sutton & Barto, 2018). This method uses discovery to come up with which action produces the best results by allowing the algorithm to be intuitive. This is further corroborated by (Ma & Sun, 2020) by describing reinforcement learning as observation and interaction with the environment for results optimization.

The ability to use data in whichever format to make decisions and produce results makes ML ideal for exploring AI systems. The processing of these data is based on the design in the complex processing which is effective in prediction than explanation for the results. The types of machine learnings is presented in figure 1.

Types of Machine Learning – At a Glance

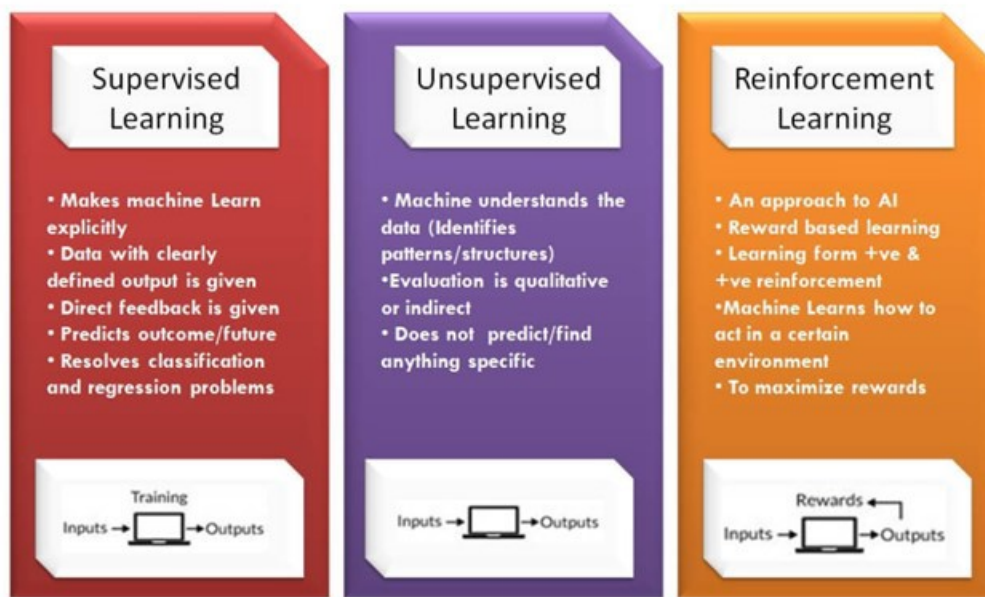


FIGURE 1: Types of machine Learning (Agbese, 2021)

2.3.2 Deep Learning (DL)

A subset of machine learning known as "deep learning" makes use of hierarchical designs to facilitate unsupervised learning. The developed models are applied to classification and related tasks. (LeCun et al., 2015) defined deep learning as a branch of machine learning that uses multi-layer neural networks. DL has demonstrated efficacy in domains including voice and picture recognition. By using hierarchies, it analyses from the basic to the highest level. Hierarchical learning involves understanding both basic and complex features through multiple layers of activations, which can be either linear or nonlinear. This approach aligns with the deep learning techniques used in modern multi-layer neural networks (Usama et al., 2019). Deep learning is used predominately in natural language processing, computer vision and speech recognition. The basis of deep learning is on the concept of how the brain function, using several nodes and touch points. The algorithms in deep learning is neural networks.

Neural networks as the name suggest consist of nodes, which are interconnected to form a network mesh facilitating communication across the various nodes. These nodes are represent a weight adjusted during training. The neural networks

operates with three (3) layers namely, input , hidden and output. A basic illustration of neural networks is depicted in Figure 2.

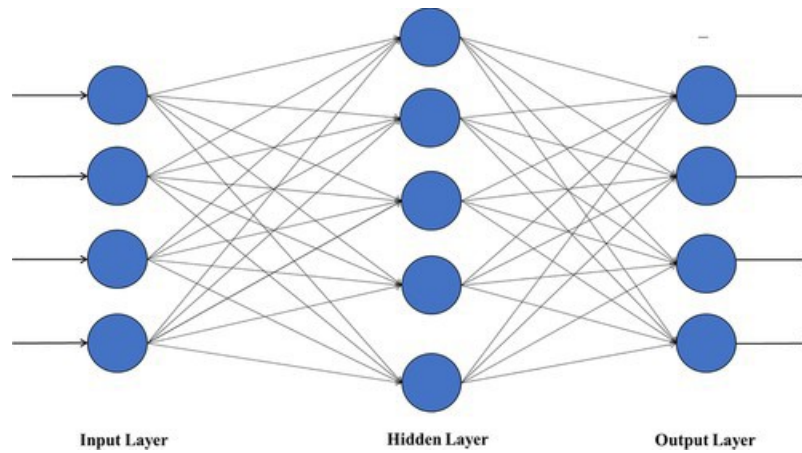


FIGURE 2: Layers of Neural Network (Garg et al., 2020)

In the field of image classification, facial recognition and object detection, deep learning has provided a lot of success (Krizhevsky et al., 2017). Neural networks have also been used in text generation, translation and sentiment analysis resulting in an improved performance of NLP applications (Vaswani, et al., 2023). Deep learning also involves the use of intensive computational resources which requires more memory and compute resources. It also faces the common problem of artificial intelligence blackbox processing the interpretation and validity of their results questionable.

2.4 Global trends in AI regulation

The need for AI regulation has become necessary in Europe due to its high application in every field of discipline. In addition, the United States of America and China have a regulation for using AI and Europe implementing this regulation will protect and help businesses to provide assurance to their stakeholders. Countries like China and the United States of America has passed laws on artificial intelligence regulation. Intentional abuses including deepfakes, cyberattacks, warfare, people-manipulation, espionage, and poor levels of democracy can lead to certain problems (De Almeida et al., 2021). For China's AI regulation, the focus is on content control which was categorized as a secondary risk. China's 2015 internet action guidelines took society and the economy into consideration while allocating resources for AI research and development (Roberts et al., 2021). They seek to solve issues with algorithmic bias and prejudice, information abuse and distortion, content moderation, and transparency. China also considered a balance between service provider obligations and innovation and governance, as

opposed to service user supervision. Further, the Chinese approach is limited to its technological and industrial policies, this is in line with China's New Generation AI development plan with focus on areas like data governance and ethics. The United States has no comprehensive national AI laws although, it is part of the countries with the most AI services. By using the National Institute of Standards and Technology (NIST), safeguards are provided for AI related risk management. The GDPR was used as a compensating law to regulate some aspects of AI technologies in the EU due to the strict data protection rules. (Gasser & Almeida, 2017) advocated for an adaptive regulation for AI which will offer flexible regulatory frameworks thereby producing sandboxes to try and refine these laws. As AI continues to evolve, the use of adaptive regulations will offer a window for timely adjustment when new concerns arise which demands to be checked.

2.5 Key principles and objectives of AI regulation

The need to regulate artificial intelligence was emphasized when, an experiment was conducted to see how these algorithms will behave when unregulated, In an experiment reported by (De Almeida et al., 2021), a game involving two algorithms, it was projected that one would only eliminate the other if there was an extreme lack of resources, however, the weaker algorithms were instantly eliminated by the introduction of a more sophisticated one. By this experiment, the need to regulate artificial intelligence becomes critical since ethical issues need to be considered in the design and deployment of AI systems. Human values need to be embedded in these systems, but in the absence of that, there need to be checks and balances on their use. The lack of regulation to back ethics in artificial intelligence was discussed by (Vakkuri et al., 2019) as lacking practical implementation, since they were just guidelines and principles which had no consequential penalties when ignored. (Munoko et al., 2020) used data and algorithm related concerns to point some ethical issues, they described that people may be unaware of AI capturing their activities, information and trend in terms data concerns while algorithmic concerns involve intelligence, opacity and retrieval. In the absence of regulation, organizations do things their own way without compliance and focus only on profits while giving less attention to the concerns of customers. Using artificial intelligence to perform task is efficient, however, when technology influences human behavior, an ethically acceptable form of that technology is needed (Munoko et al., 2020). Concerns about privacy, safety bias and transparency have been some of the arguments for promoters of AI regulation. AI systems use bigger datasets which have the tendency to include personal data causing concern about data storage and usage when left unchecked. The risk of using

personal data in AI model training is a concern for stakeholders (Mittelstadt, 2019). By knowing the data used to train the algorithms and AI systems, the issue of transparency and explainability can be addressed to give assurance that decisions were made in a fair transparent manner. (Doshi-Velez & Been, 2017) explained that ethical consideration in AI regulation should be transparent to provide explanations related to their decisions. The opportunities and risk associated with AI was graphically summarized by (Floridi et al., 2018) how AI could be used (opportunities) and misused or overused (risks). This was given as 1) enabling human self-realization, 2) enhancing human agency, 3) increasing societal capabilities and 4) cultivating societal cohesion for opportunities while the corresponding risk was 1) devaluing human skills, 2) removing human responsibility, 3) reducing human controls and 4) eroding human self-determination. The model is presented below in Figure 3.

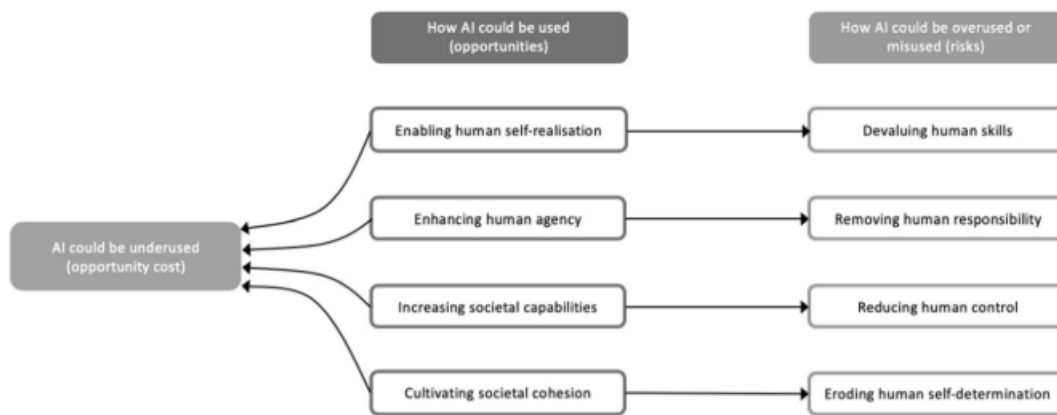


FIGURE 3: Opportunity and risk model of AI (Floridi et al., 2018)

In order for society to maximise the opportunity of AI to foster social progress, there has to be self realisation without devaluing human abilities (Floridi et al., 2018).

2.6 The EU Artificial Intelligence Act

The European Union's white paper on artificial intelligence regulation gave the extensive stakeholder engagement it undertook before coming out with the proposed regulation. The use of the High-Level Expert Group (HLEG) was a means of ensuring concerns about the law were considered. According to (Samoili et al., 2021) the European Commission defined AI to have:

- Information processing, which involves gathering and analyzing input data.
- Environmental awareness, recognizing and understanding the complexities of real-world environments.
- Achievement of specific goals, the primary purpose of AI systems is to successfully achieve predefined objectives.
- Decision making (including reasoning and learning): with a certain level of autonomy making informed decisions and performing tasks which consist of responding and adapting to changes in the environment.

The effect of the law is yet to be felt since it is not yet operational, however, stakeholders envisage the effect of the regulation when it comes into force. According to (Tallberg et al., 2024) the release of ChatGPT for academic and content creation in November 2022 was part of the catalyst for the debate of AI regulation, resulting in evaluation of citizens attitudes of AI regulation. The regulation's regulatory framework, the scale of the EU's digital market, and its policies on developing technologies make it crucial for research (Justo-Hanani, 2022). (Albawwat & Frijat, 2021) explained that, prior to implementing any new intervention, stakeholders must be persuaded that it would improve their services; this can be done by looking at perceived utility and benefit to their customers. The implementation of quality control and compliance monitoring following the regulation's ratification will enable an assessment of the risks associated with artificial intelligence. Individuals have rights under the GDPR regarding their personal data; nevertheless, these rights extend to AI systems whenever personal data is used, regardless of where the system is developed or deployed. The AI Act encourages innovation by utilizing regulatory sandboxes – controlled environments where companies can develop and test AI systems under regulatory oversight (Gasser & Almeida, 2017). This setup enables the experimentation with AI technologies while ensuring adherence to legal and ethical guidelines.

2.6.1 Summary of key provisions and guidelines

The EU AI regulations text is being finalized as member states consider it for ratification before adoption. Being the first comprehensive legislation in the world, it will influence upcoming AI regulations across the world. The regulation adopted (OECD, 2024) definition for artificial intelligence. For general purpose AI (GPAI), there needs to be provided documentation to show compliance with the EU intellectual property laws. Some AI systems were categorized as banned unless for the purposes of research and security and intelligence work. Some of the

actions classified as prohibited are emotional recognition, biometric processing, social scoring, and others. The regulation was formulated on a risk-based approach with four levels of classification. The regulation classifies AI's into banned, high, limited, and general purpose. The aim was also to promote innovation by using regulatory sandboxes. Breach of the regulation attracts a fine of 1.5% to 7.5% of global revenue. Organizations have a 2-year window to prepare to be compliant, while operators of banned AI must be compliant in 6 months.

2.6.2 Risk-Based classification of AI System

The four risk categories are further explained below:

- **Unacceptable/Prohibited Risk:**

These are AI systems which pose a significant threat to the livelihood and existence of humans by affecting their lives negatively. Issues like human dignity, manipulation of weaknesses and exploitation by these systems are banned within the European Union.

- **High Risk:**

This category can link to essential industry regulation like healthcare, safety and rights related to criminal justice systems, biometric processing, recruitment, and educational research. These areas are required to strictly comply with the regulation on accuracy, data governance, human oversight (Rahwan, 2018), and risk management. Due to its level of sensitivity, it is required for such systems to pass conformity assessment prior to deployment.

- **Limited Risk:**

This class of AI systems must be transparent and explain their processing and results. They pose some amount of risk to users, chatbots which interact gives information to humans as a service. It is required for deployers to inform users that their interaction is with an AI and explain how they operate with options for users to decide on using their services or not.

- **Low/General Purpose AI:**

This pose is minimal or have residual risk which are acceptable to users, however business are encouraged to issue some guidance and apply best practices. They are normally used in the field of entertainment.



FIGURE 4: EU AI Act pyramid of risk(Sisodia, 2023)

2.6.3 Requirements for High-Risk AI Systems

As these risk classification of AI gives a general overview of what is expected of AI developers and deployers in Europe, high risk AI systems had a detailed and strict requirement. Each requirement is outline below:

- **Risk Management:** Providers are obligated to establish and maintain a risk management strategy for the entire lifecycle of the AI systems.
- **Data and Data Governance:** To reduce risks and guarantee appropriate operation, high-quality datasets must be used for AI system approval, testing, and learning.
- **Technical Documentation and Record Keeping:** The act requires high risk AI systems to maintain documented records in compliance with the EU AI act.
- **Transparency and Provision of Information:** Users must be informed about the AI system's capabilities and limitations.
- **Human Oversight:** AI systems must be designed to allow human intervention and oversight to prevent or minimize risks. (Rahwan, 2018)

explained that, human in the loop will ensure AI system will be guided to operate within laws.

- **Robustness, Accuracy, and Security:** AI systems must be robust enough to handle errors, malfunctions, or performance inconsistencies.

According to (Smuha, 2021), the heightened awareness of the risks associated with AI technology has amplified demands for regulators to not only focus on its advantages but also to implement stringent regulation. These regulations are crucial to ensure that AI systems are "trustworthy" encompassing legality, ethics, and robustness(Smuha, 2021).

For limited risk AI systems, the transparency obligation is essential by ensuring that, users are interacting with AI systems and the role it was used in delivering services, for example if it was used in content generation.

2.6.4 Comparison with other AI regulatory frameworks

The EU artificial intelligence Act is a comprehensive regulatory framework which aims to promote responsible and innovative application of AI. The core of the regulation is promotion of human centric AI where accountability, explainability and human oversight is considered. Whiles the EU regulatory framework is based on risk, other countries like the United States of America and China adopted different approaches(Yan, 2024)

2.6.4.1 United States of America

Whiles the US has no centralized AI regulatory law, it uses its already existing guidelines on technology to nationally regulate AI. Directives of the Federal Trade Commission (FTC) and National Institute of Standards and Technology (NIST) framework and guidelines are used as a compensating control for AI regulation. For example, use of AI in medical devices and services is approved by the Food and Drugs Authority (FDA) according to (Pesapane et al., 2018). Some states like California and Illinois have state laws which address the use of AI, the California Consumer Privacy Act and Biometrics Information Privacy Act of Illinois are laws which attempt to address some aspect of AI usage. According to (Shatz & Chylik, 2020) the CCPA places a great deal of responsibility and duties on companies to make sure that customers are aware of and able to use their rights. The US approach is tailored to specific industries and states whiles the EU regulation is a comprehensive risk based approach applicable to all sectors and member states.

2.6.4.2 China

China's artificial intelligence regulation is based on gaining competitive advantage and accelerate development. The regulation was published in 2017 with a three-phased staged rollout to 2030. The milestones are set for the years 2020, 2025 and 2030 with obtaining competitive advantage in global markets, application of AI in all Chinese economic zones and being the AI global leader respectively (Filipova, 2024). In terms of approach, China uses vertical approach by employing separate legislation to address specific AI challenges, whereas the EU takes a noticeably more horizontal approach by applying flexible standards and requirements across a wide spectrum of AI applications (Yan, 2024). Despite the differences, the general idea is to use AI within the territorial laws for the improvement of citizens. The plan for China's artificial intelligence development is depicted in Figure 5.

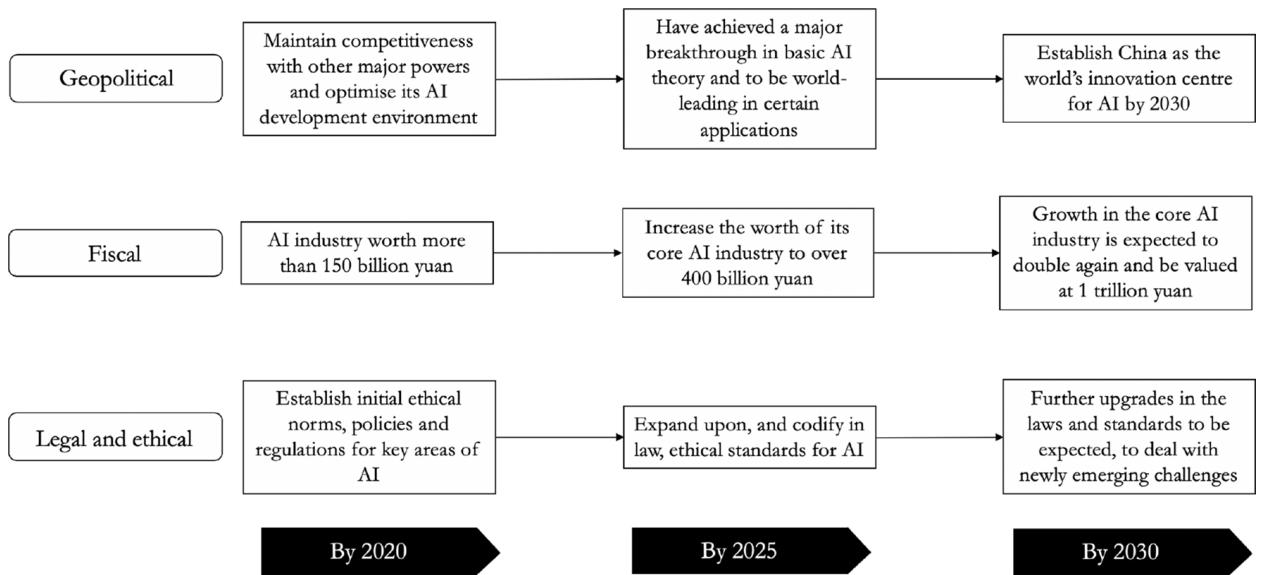


FIGURE 5: China's Artificial Intelligence Development Plan (AIDP) (Roberts et al., 2021)

2.7 Previous studies on professionals' attitudes towards AI regulation

Some professionals believe that, AI as disruptive technology will replace most jobs which will require workers to improve their skills in order to be relevant for their organizations (Vasiljeva et al., 2021). The public opinion towards AI regulation is based on confidence in institutions tasked to ensure compliance (König et al., 2023). In the fields of audit, (Albawwat & Frijat, 2021) explained the need to regulate artificial intelligence due to the use and processing of sensitive data whose leakage will be costly to the audit firm and the AI owner. (Adamyk et al., 2023) claims that, modern decision aids and expert systems should not be the only sources of information used by auditors, as this could expose them to liability for incorrect decisions. (Munoko et al., 2020) explains that, as the AI processes more data, its computation becomes complex and opaque making it difficult for even its developers to understand which eventually raises the concern of explainability hence making regulation a necessity. In terms of law, (Chamberlain, 2023) argues that, "if a risk assessment is to be fair and requirements based on risk proportionate, is it at all possible to determine risk beforehand in fixed categories?" raising questions about the approach adopted by the European Union. In the field of health, (McKee & Wouters, 2022), raises the concern of artificial intelligence has the potential to deskill healthcare professionals, whose performance could suffer if the product is unreliable or malfunctions. (McKee & Wouters, 2022) further explains that, AI also ignores context and uncertainty when classifying input data that is subject to inter-observer variability and this could lead to issues with case processing transparency. AI regulation will benefit neuroscience in terms of its application to neuroethics and AI ethics which can be used to detect, evaluate and recommend viable techniques for handling ethical issues (Farisco et al., 2022). In terms of patients' rights, (Kolfshoeten, 2022) explains that, AI is commonly used to exploit people by overriding human values like dignity and personal autonomy due to the lack of openness its processing. For occupational health and safety, (Jarota, 2023) explained the need to regulate artificial intelligence to tackle the challenges of accidents due to improper communication with workers. Issues of psychological risk from algorithmic management of employee information particularly genetic screening is a basis for regulating AI (Jarota, 2023). The issue of trust, transparency and explainability is consistent among different disciplines of AI users.

2.8 Factors influencing professionals' perceptions of AI regulation

Application of artificial intelligence is common in every sector; it contributes to economic growth and development. Topical issues regarding the use of artificial

intelligence is safety and risk involving the abuse of the fundamental rights of citizens and unethical business practices (Justo-Hanani, 2022). The strategy of the EU is to be a leader in global AI regulation by relying on the “Brussels Effect” (Finocchiaro, 2023). This issue of ethics influencing AI regulation was explained by (Iphofen & Kritikos, 2021) in terms of algorithms and morality in connection with lack of transparency. The black box processing concept of AI algorithms is an intellectual property of organizations; however, regulation will allow auditors to check and certify the compliance, thereby ensuring that transparency. Cyber terrorism like killer drones, slaughterbots, hacks and deep fakes due to AI, gives enough basis to regulate (Goh & Vinuesa, 2021). Medical treatment from AI needs to be reviewed by another practitioner, justifying the need for regulation (Ploug & Holm, 2023). The United Nations (UN) internally regulated the development of “good artificial intelligence” to ensure trust in the technology by giving their developers approvals on models and data to use (Fournier-Tombs, 2021). The core theme among professionals who advocate for regulating artificial intelligence includes ethics, trust, and responsibilities. These factors affect people’s perspective on artificial intelligence regulation. By regulating AI, there will be confidence in AI systems since there will be expected to meet the criteria of regulation, standards, organizational values and ethical guidelines. Several challenges are faced by stakeholder when they attempt to regulate AI, these challenges revolve around technicalities, innovation balancing and geographical differences. (Binns, 2018) explained the challenge of technicalities in terms of the rapid development of AI which makes it difficult for regulators to match up. AI is being used at places the human mind has not yet anticipated, this makes regulating such areas challenging and businesses capitalize to the disadvantages of people. In terms of global disparities, (Bayamlioğlu et al., 2018) explained levels of technological advancement and regulatory approaches across countries create inconsistencies and potential regulatory gaps. As (Veale & Zuiderveen Borgesius, 2021) highlighted, the enforcement framework and the risks associated with maximum harmonization potentially overriding legitimate national AI policies are of significant concern. These issues need to be prioritized in the legislative process to ensure a balanced and effective regulatory approach. The focus of the argument on how technological advancement has been used to negatively affect democracy contrary to its positive impacts. National policies on AI has evolved over time and difficult for government to regulate it comprehensively (Justo-Hanani, 2022). (Buiten, 2019) explained that, knowledge about the training data, testing and processes followed to arrive at a decision as an approach to reducing bias. The proposed model is depicted in Figure 6.

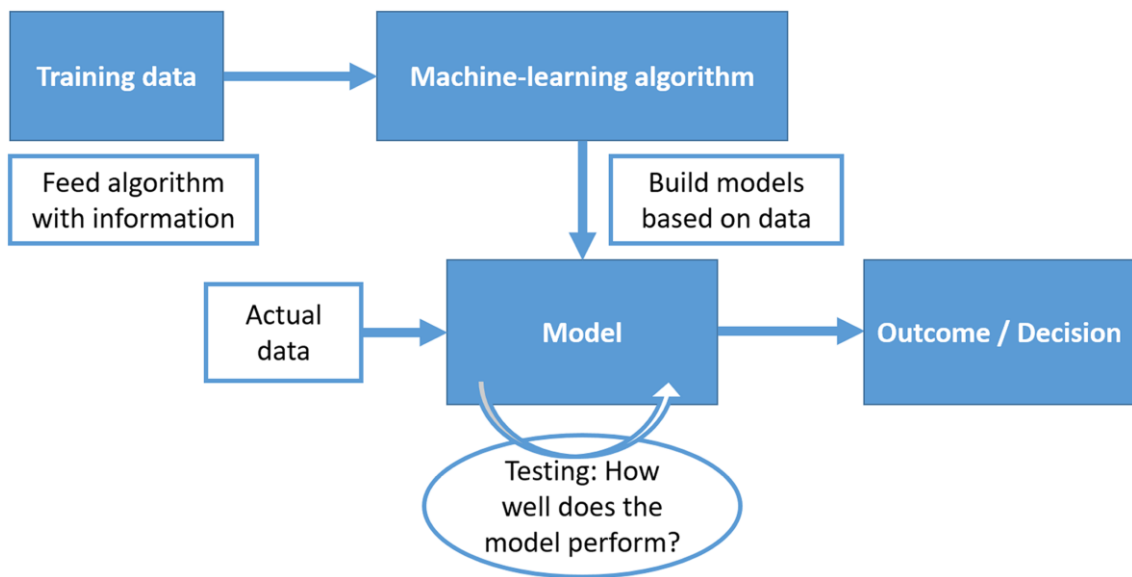


FIGURE 6: Proposed bias reduction model(Buiten, 2019)

Explaining the model further, (Buiten, 2019) emphasized that, the omission of key data will result in the poor performance of the algorithm.

3 METHODOLOGY

3.1 Research Design: Qualitative Research Approach

The adopted research strategy for the study is qualitative. As captured in the thesis title, the perspective of professional in Finland is part of the research, this aspect is a subjective area which requires a suitable approach to support the research objectives. This approach is an inquiry method which seeks to understand human perspectives, experiences, and reason for a phenomenon. Contrarily, quantitative approach focuses on figures and statistical analysis, qualitative research aims to provide reasons for certain human actions. The research uses qualitative research design where semi-structured interviews is used to explore the perspectives of Finnish professionals regarding the EU Artificial Intelligence Act. By using this approach, the study seeks to get an in-depth understanding of their views, experiences, and insights. It further explains the methods used in addressing the research questions and the use of interviews as a data collection tool. The choice of semi-structured interviews is outlined in this section. The use of interview allows participants to express their thoughts and experiences in their own words (Brinkmann & Kvale, 2018). Professionals whose work involves the application of artificial intelligence were interviewed for the research. The aim is to generate knowledge about the implications for AI systems when the EU AI regulation is ratified by member states. The choice of qualitative studies for this topic was also due to the exploratory nature of the research. Qualitative and interpretative research strategy will be used for this study (Eriksson & Kovalainen, 2008). The definition of artificial intelligence was given in the pre-questionnaire sent to interviewees before the interview, this was the adopted definition given by the European Commission's HLEG to give a better understanding of what is considered under the law to be AI.

This chapter involves the gathering of empirical data for the research analysis.

3.1.1 Selection criteria for participants

The interviewees were selected based on their work and knowledge which involved AI testing, data privacy, regulatory risk, and compliance. Purposeful sampling was used to select the interviewees (Patton, 2002). This was to ensure that interviewees were selected based on the research questions and offer relevant and insightful answers. Their work is impacted by artificial intelligence and any major change in that space is felt by them. The aim was to have a diverse

perspective on the effect of the EU AI act in Finland. The interviewees were scouted based on recommendations, LinkedIn and colleagues. The roles of the interviewees varied from consultants to trainees to ensure “elite bias” was avoided as suggested by (Myers & Newman, 2007). Considering the EU AI regulation, being a new law, the choice of the interviewees had to be selected such that they will be part of the first professionals to consider the regulation in their work.

The interviewees were identified and contacted using colleagues who worked in organizations in Finland based on 1) people who use of artificial intelligence and 2) persons who assess the usage of artificial intelligence by organizations. After the first interview, a snowball approach was used to contact other interviewees using the previous interviewee as a reference. This approach produced seven (7) respondents with various degrees of experience and professional background. The sample size was restricted to seven due to the limited knowledge about the EU AI regulation. A lot of people were yet to examine the law and determine how it was going to affect them, hence the need to carefully select respondent with knowledge on the regulation.

3.2 Data Collection

Data was collected using semi-structured interviews from a developed interview question template. This format allows flexibility in interviews by exploring the interviewees experiences and perspectives while ensuring all questions are addressed. In addition, this style is interactive and allows the interviewer to get rich, in-depth data. Data was collected by conducting individual interviews to get their insight and perspective on their professional perspective on the European Union regulation of artificial intelligence regulation. (Hill & Anderson, 1993) outlined these three criteria, 1) Conversation must take place in person, 2) It has to take place in a research setting and 3) It needs to involve asking a question, as events which constitutes interviews (Myers & Newman, 2007) describe interview as a useful research instrument for data gathering widely used in qualitative information systems study.

This section outlines the selection of participants and how the interview was conducted. Due to the aim of the study seeking the perspective of the European Union’s regulation of artificial intelligence, the interviewees were people whose work is impacted by AI. The information about the interviewees is presented in Table 1.

TABLE 1: Job title of interviewees

Interviewee	Job Title	Experience with AI	Duration of Interview (minutes)	of Transcribed pages
I1	Cybersecurity Compliance Analyst	7	17:43	3
I2	Senior Software Engineer	8	21:27	3
I3	Operational Risk Consultant	3	24:57	5
I4	Manager	5	18:11	3
I5	Risk Advisory Trainee	2	15:33	2
I6	Senior Consultant	5	11:39	2
I7	Consultant	7	28:03	4

Further, experience and knowledge in regulatory issues and AI was considered, this resulted in having a diverse range of roles including management members from trainees to managers.

3.3 Data recording and transcription procedures

The interviews were conducted individually using zoom, Microsoft teams online meeting platform, phone interviews and face-to-face methods. The choice of language for the interviews was in English and the duration of the interviews was between 20-30 minutes with an average time of 20 minutes. The designated time for the interview was 30 minutes. Every interview was recorded using the zoom application or mobile phone and transcribed in English. The interviews were conducted between March-May 2024. The interview was based on nine (9) open-ended questions with a focus on the themes in the questions. The themes of interest were knowledge EU AI act, innovation and competition, ethical considerations, partnership, research and development, implementation challenges and significantly affected discipline. An interview guide with open-ended questions is used to steer the discussion. The interview began by explaining to the interviewee the purpose of the interview and the interviewees were given assurance

of the adherence to all academic ethics including the protection of their identities. In some cases, the EU AI act is explained to the interviewees and their knowledge about it is sought. To allow for the free expression of opinions, the interviewees were anonymized in the analysis and referred to as Interviewee 1-7 (I1-I7). The interview questions were shared with the interviewees prior to the interview, so that they can familiarize themselves with themes due to the recent nature of the EU AI regulation. The questions are based on, 1. Knowledge about the European Union AI Act and 2. The effect on people and organizations after the implementation of the law. One mock interview was conducted to streamline the interview questions to elicit answers aligned with the themes.

3.4 Data Analysis

3.4.1 Conventional content analysis approach

The choice of conventional content analysis was due to the limited literature on people's reaction and thoughts on the EU AI act in Finland. This approach is used by researchers to gain new insights (Hsieh & Shannon, 2005). In addition, the research's aim of studying the effect of the implementation of the European Union AI act from a professional viewpoint, made semi-structured interviews the best option. To get insights from the interviews, the transcriptions were analyzed into themes. This process involves organizing and interpreting data to make conclusions and outcomes clear. Key phrases were used to develop the themes, these were common in the responses of the interviewees. Conclusions drawn from the data are valid because the interview information was verified and complete. The responses were analyzed individually to understand the perspectives and to identify patterns. The interviews were compared to spot similarities and differences.

4 RESULTS

The findings from the study were obtained through the analysis of the empirical data based on the themes. A total of 7 professionals were interviewed for the study using the same interview questions to get their views on the topic. Their responses were analyzed with the aim of seeking their perspectives on the EU AI act in Finland. No hidden meanings were inferred from the responses, but rather all answers were taken at face value. The interviewees are people whose work involves some form of artificial intelligence, that is assessing the usage of AI, using AI to develop solutions and services. Themes were pre-defined and based on common occurring topics. The responses were analyzed for similarities and differences. Additionally, other themes came up which provided a new theme category from the interviews resulting in the expansion of themes. The effects of the EU AI act were found to be diverse based on interviewees' field of work with some now trying to understand the regulation for its long-term and short-term effects. The findings from the research and themes is addressed in this chapter.

4.1 Background and Perspectives

4.1.1 Knowledge and understanding of artificial intelligence and the EU AI Act

As part of the interview process, the interviewees were asked about their work background, use of artificial intelligence in their work and knowledge about AI regulations. This is because the focus of the research is on artificial intelligence, regulation and specifically on the EU AI regulation. After years of deliberation about a common regulation for AI, professionals working with it have started sharing their views on the effect. The interviewees were given the definition of artificial intelligence by the High-Level Expert Group (HLEG) of the European Commission to streamline the interview and put the answers within that context. Some of the professionals expect the law to gain traction in the coming years.

Interviewee 2: "I use AI in my work especially as a software engineer as a help, boost of productivity. It is also used as a boost in productivity in generative AI. I have no idea about the European Union AI regulations. I think regulation is good because people use AI to cause harm. However, I still need details of the new regulation".

According to the interviewee, the benefit of AI is known to them and use it in their work, however, they have no knowledge about the law which is going to regulate artificial intelligence. The interviewee sees regulation as a good thing

because it will reduce the harm caused by malicious use of AI and will need the details of the new regulation to see how it affects their work. Other interviewees also mentioned that they have heard about the EU AI act but do not know what it is about.

Interviewee 1: "I have heard about it but I haven't got chance to read about the standards but I am aware they have released some standards about AI management".

Interviewee 6: "I have a basic understanding of its concepts but no deep knowledge. I am familiar only with the high-level elements discussed within the institution I work at, which is, the risk-based nature of it. I just know it is made of four levels of general-purpose AI, high risk, prohibited, and limited, I am not sure but have to confirm."

Interviewee 3: "So basically it's a risk based approach to help individuals to protect their rights and freedoms in the European Union, so that's kind of its objective and also to foster innovation for European companies with these regulatory sandboxes but the main thing is that, it is going to have like a categorization of different systems AI, basically four categories are with unacceptable AI systems that are not allowed to be used in the EU, then we have the high risk AI systems that are okay to use but have certain implications, and we the, am not sure about the new names may be limited risk and general AI systems, so basically a categorization of these different kinds of AI systems and requirements and also there is going to be apparently the listing of all these AI systems that are CE marked, so basically they are certified this will help organizations', if I have I understood it correctly, basically the CE will help organizations to say OK we have this list and we can see that we have been talking with this AI company, it's on this list and its better than an un-certified".

Considering the responses by the interviewees, people are aware of the coming into effect of the EU AI act, however, they have not reviewed the details of the regulation and how it affects their organizations and work. Although artificial intelligence usage has seen a massive increase, the growing processing capabilities was the driver for the need for the regulation. The interviewees unanimously confirm their knowledge about the existence of the act, however, because the regulation was just accepted, they are yet to familiarize themselves with the details.

4.1.2 Areas of clarity and confusion

The analysis reveals that professionals view the EU AI Act as a comprehensive regulatory framework aimed at addressing critical challenges in AI use. Key themes include ensuring ethical AI use and data protection, enhancing transparency and accountability, promoting trustworthy AI, and navigating the implementation challenges. However, there was no clarity on what the law sought to address. From the interviews,

Interviewee 4: "This question will be partially answered as I stated earlier, I am yet to see the details of the law, but I believe the challenges the AI act aims to address are related to the development and deployment of AI technologies. I believe the main goal of the act is to limit the malicious use of AI and incentivize what is called 'Trustworthy AI.' I know there may be other issues, but this is what readily comes to mind."

Interviewee 7: "Well, from my understanding, it will address the challenges of you know, it's not possible to do anything we want to, like ethical use, personal data of people, and their rights. For example, the unacceptable risk AI systems, you are not allowed to use this for real-time monitoring of people so basically, it sets limits."

Interviewee 3: "The regulation seeks to streamline the use of AI in EU with Finland inclusive. The issue of ethics, I think, will be a challenge the regulation will address. The ethical use of AI has been central to AI challenges, organizations and individuals have complained about how AI is used to process their data which they have no control over. This can be explained also in terms of transparency in the models and algorithms used. For transparency, there are concerns about the test data used to train the model while its application goes beyond the boundaries of the test data. For example, there have been concerns about how some AI systems pick candidates for interviews. All these factors coupled with the pervasive nature pose risks which need to be addressed."

The professionals acknowledge that implementing the EU AI regulation will present challenges, particularly in the development and deployment of AI technologies. It is also clear from the responses that the regulation seeks to prevent malicious use of AI technologies. Ensuring that AI systems comply with ethical standards and transparency requirements while fostering innovation will be complex.

4.1.3 Effects on Organizations in Finland

The conventional content analysis reveals that Finnish professionals have a nuanced view of the EU AI Act. They recognize the importance of compliance and monitoring, see market opportunities and the potential to leverage Finland's technological reputation, and acknowledge both the challenges and supportive measures for innovation within the regulatory framework. The need for comprehensive integration with existing regulations like the GDPR is also highlighted, ensuring a robust and cohesive approach to AI governance. These insights underscore the multifaceted impact of the AI regulation on the Finnish technology sector and its broader implications for AI development and deployment.

Interviewee 4: "As an EU member state, Finnish companies will need to align their operations with the AI regulatory framework set by the EU. I also see that there can be potential market opportunities for Finnish companies in the technology sector. This is when they can tell customers their AI systems are compliant and do only good things. Finland is noted for good technology due to some of the big Finnish companies who have done good business abroad, so this is also a good opportunity I will say."

Interviewee 2: "From what I have heard, this regulation also has problems with the development of AI because, it is restricting it, that is what they say apparently that, the US and China where there is not so extensive regulation, they are innovating and here we are kind of restricted by these regulations, so potentially to be bad but I am not sure for the innovative part, but at least on paper, one of the objectives for the regulation was to foster innovation in the EU so basically if there is this regulatory sandboxes to help companies develop these AI systems, but let's see."

As expressed by the interviewees, the establishment of rules and standards has both advantages and disadvantages. However, ongoing, and continuous application of the law will lead to organization and professionals getting the best from the law.

4.1.4 On innovation and technological development

To understand how the regulation will impact innovation and development, the interviewees gave their views based on their area of work. (Voss, 2021) argues

that the EU AI act will maintain legal stability to encourage investment and AI innovation. This can be viewed as a check on originality and promotion of development. This question captures the different perspectives by the interviewees to strike the balance between innovation and development.

Interviewee 2: “I think it is going to make not very smart people very smart, so certainly that will help them especially those people who only know how to use prompting, I mean prompt engineering is a thing now where you write your question with the context and you keep replaying the same thing over and over and you try to refine that thing as much as possible”.

Interviewee 1: “For example, on innovation, movies will be completed in a month’s time and there will be virtual actors, you won’t even need real humans to be playing as actors and things are going to look real”.

The answers were similar but in different domains, while the respondent saw the benefits of the law, they could not readily relate it to their field of work but rather opted for other easy disciplines like media and entertainment. This implies there is an anticipated effect on innovation and development, but the focus of the professionals is restricted to prevention of adversarial use of AI systems.

4.1.5 Accountability, Explainability/Transparency, Bias and Ethical Consideration

Addressing the issues of AI accountability, explainability, bias, and ethics is crucial for the responsible development and deployment of AI technologies. The EU AI regulation also factored this quartet in design of the AI act. These concepts are interrelated and collectively ensure that AI systems operate transparently, fairly, and under appropriate oversight. As AI continues to evolve, ongoing research, regulation, and ethical scrutiny will be essential to mitigate risks and enhance the benefits of AI systems for society. In terms of the role in the EU AI regulation, interviewees gave their perspective as follows:

Interviewee 3: "The act itself embodies ethical considerations by restricting organizations from misusing personal information, such as through real-time monitoring, with strict rules even for law enforcement. Its core principle is transparency, exemplified by requirements for limited risk AI systems like chatbots and deepfakes to clearly indicate they are not real people. High-risk AI systems will undergo Fundamental Rights Impact Assessments (FRIA) and conformity assessments to enhance transparency, though achieving complete transparency remains challenging due to the "black box" nature of AI. Data privacy responsibilities lie with data controllers and processors, who face fines for misuse of personal data. Addressing bias is uncertain, but transparency, human oversight, and training may help mitigate biases in AI systems".

Interviewee 3: "The issues outlined, I believe is the core of the regulation, I checked your issues you raised, and I think it is same or similar. Ethics and transparency go hand-in-hand, for example AI was sued in the US for being biased when it comes to the conviction of crimes. It was noticed that the algorithm tends to convict people of color easily prompting lawyers to investigate further, it was traced to bias in the training data so I believe regulation will help address some of these issues. Recently, due to generative AI, people are producing a lot of contents which have become contentious making people doubt the originality of art vs AI produced results, the law will make people accountable by declaring if AI was used in the work process or it is purely intellectual property. It is difficult to separately explain these issues but just like I have said, they work hand-in-hand."

The interconnected nature of these issues underscores the need for a holistic approach to AI regulation, with regulatory authorities playing a central role in enforcement. These insights highlight the critical elements that the EU AI Act seeks to address, contributing to the responsible development and deployment of AI technologies. While there are challenges, particularly in achieving full transparency, the regulation sets high-level guidelines that promote responsible and fair use of AI. As pointed out by (Estella, 2023), trust is the basis for the EU AI regulation whiles commitment to these four deliverables addresses the bottle-necks.

4.1.6 Identified challenges in complying with the EU AI Act

In identifying and addressing the challenges, the respondent was unanimous in their responses, they were unable to point a common issue which will be a challenge, however, gap assessment, compliance strategy and classification of systems these organizations use were identified as some of the areas which can be improved to reduce any unforeseen challenges. These insights underscore the importance of proactive and strategic planning to ensure that organizations are well-prepared to meet the requirements of the AI regulation challenges.

Interviewee 5: "As with most new regulations, organizations should start by understanding the requirements of the act, then perform a gap assessment to identify what needs to be done to achieve compliance in their operations. Finally, they should develop a strategy to ensure future compliance. I think it should include everything that needs to be considered and not only capacity development."

Interviewee 3: "Yeah so basically for now, it hasn't come into force yet and when it will come into force there is going to be this basically 2-year transition with a few exceptions so during this transition time organizations need to act, so they can already start the preparation. One of the first things will be for example to identify every AI 0.system the organization uses to kind of have it documented, ready to know who owns the system, so when the regulation comes into force, it already the first step has been done so at that place, you don't need to start to identify do the inventory so you already have it and also the draft of the regulation is online so it's possible to have a look at it, prepare yourself and also there is for the categorization of the AI systems, there are already those, like if it this kind of system, its high risk so basically the organization has already identified, they can start to categorize them and when they have done that, they can see ok like, this is like no risk so basically you don't have to do anything with it, so you know this is a high risk AI system so when the regulation comes to force, we have for example 2 years to make it compliant. So, we know that we need to do FRIA, let's start doing that, that is kind of identify and categorize the AI systems that are already in use."

Interviewee 4: "I think organizations are already planning for this law, so far as they have been compliant with the GDPR, this will be a bit easier for them. This can be done by getting the compliance departments to examine the regulation and then classify their AI systems according to the law. After that, they can use the 6 months - 2 years window of compliance to address any

pressing issues. They also have to develop the capacity of their staff to handle the regulation such that it does not cost them too much money."

The response although different from followed the same theme of classification challenges, conformity assessments and increased administrative costs. (Justo-Hanani, 2022) questions complexity of existing laws with the EU AI regulation.

4.1.7 Recommendations for improving AI regulation and implementation.

The provided responses highlight varying views on the feasibility of AI regulation, its impact on specific fields, and its intersection with existing regulations like the GDPR. This analysis identifies key themes and insights derived from the responses on improvement for the EU AI act.

Interviewee 3: "Already some AI systems with the GDPR have requirements, for example in HR if you use AI system for recruitment, you have the implications and the requirements that an individual can also not accept that they are being processed automatically and it has implications that you have to do this kind of data protection impact assessment (DPIA) so they already have some implications but I don't know yeah possibly content creators will be impacted very much, it will also depend if it is a B2B or B2C maybe I am not actually sure, I have to think about it."

Interviewee 5: "Without examining the regulation in detail, my personal view is that creating thorough regulations at this stage, when AI is constantly developing, is nearly impossible. However, it must be acknowledged that the AI act sets high-level boundaries that will likely apply widely across the industry. With my limited knowledge, I believe the implementation will be a bit difficult."

Interviewee 6: Yes, in the fields of healthcare, there will be upholding of ethics and safety will be paramount. Patients' data will not be left for AI systems to process without safeguards. If well implemented, there will be trust in AI health diagnostics resulting in an improvement of patients' outcomes. I think one untapped field is the public sector, where governments lose a lot of money due to bureaucracy and inefficiency. The AI systems with proper regulation can be used to manage social assistance and welfare programs."

The respondents demonstrated little knowledge about how the regulation can be improved and made little suggestion to that effect. This can be attributed to the low knowledge about the details of the regulation.

By addressing these issues, the EU can lead the way in establishing a balanced and effective approach to AI regulation, ensuring that AI technologies develop in a manner that is safe, ethical, and beneficial for society.

5 Discussion

5.1 Interpretation of findings in relation to research questions

The study explores the perspectives of professionals in Finland regarding the regulation. By seeking to address ethical, transparent, and accountable use of AI systems, this regulation represents a significant regulatory step. The interviews provided insights into the thoughts, knowledge, and perspective of people in Finland while revealing the challenges, perceived impact, and benefit. The understanding of the interviewed professionals was evident in the responses given where there was mixed knowledge and understanding about the EU AI act. It could be deduced that professionals who deal with data protection and GDPR were most aware of the details of the law since it was in the scope of their work. Other professionals had minimal knowledge about the law but had some idea about it. In terms of the implications, the professionals believed, it was going to enhance Finland's gains in green and sustainable IT and AI services. The track record of companies in the country who adhere to best practices in IT service delivery will benefit from this law and will also give them an advantage in the IT market ecosystem.

5.2 Implications for the implementation of the EU AI Regulation in Finland

The interviewed professionals emphasized the importance of the EU AI Act in enforcing ethical AI practices. The act was seen as the safeguard to prevent the misuse of AI technologies and also protect the right of citizens by ensuring consent is sought prior to the use of AI systems. The act will serve as AI systems police which will ensure compliance with the laws and any deviations corrected. The law will foster trust among citizens especially where data processing and transparency is important, data protection impact assessment (DPIA) and fundamental rights impact assessment (FRISA) which is applied in the law will also get a lot of citizens to subscribe to organizations which become AI regulatory certified. This relates to the explainability of the AI systems captured in the EU regulation. Data controllers and processors will be obliged to disclose data used for training their AI systems and this will ensure responsible data governance practices. There was uncertainty about the regulation dealing with bias since these are based on data used for training the system, and human oversight will not be adequate to control it. (Mehrabi et al., 2022) explained that, diversity and

inclusiveness should be deliberately enforced to assist in developing unbiased datasets.

5.3 How the findings contribute to the broader understanding of AI regulation

The study underscores the importance of accountability in terms of compliance for the effective regulation of AI. It also reveals the extent of knowledge and understanding of the regulation by outlining the core principles of the regulation. The connection with existing regulations like the GDPR and DORA demonstrates the importance of cohesiveness regulations to avoid laws which operate in isolation. Aspects of the EU AI act overlap and corroborate other existing laws as part of a broader legal and regulatory ecosystem. The results corroborate the idea that, to guarantee uniformity and comprehensiveness, successful AI regulation necessitates harmonization with current laws and policies. These views shared by Finnish professionals contributes an important contribution and benchmark to measure the broader understanding of the EU AI regulation. It underscores the need to ensure AI governance by focusing on bias mitigation, data privacy, ethics, explainability and transparency and regulatory integration. The perspective suggests that while the EU AI act may be the pacesetter in comprehensive AI regulation, there should be a continuous effort in policy development and interdisciplinary collaboration to address new and evolving challenges which may arise later.

5.4 Discussion of unexpected findings or contradictions

Although the study's main goals were achieved by examining the opinions of Finnish professionals toward the EU AI Act, the analysis revealed a few surprising results. These results add to our understanding of the consequences of the Act and point out areas that stakeholders and policymakers may need to investigate more closely. Contrary to the expectation that the EU AI Act would be seen as enabling innovation through its regulatory sandboxes and guidelines, some professionals expressed skepticism. They questioned whether the regulation might, in fact, stifle innovation due to its strict requirements. This was captured by (Cave et al., 2019) who questioned the balance between innovation and regulation. Surprisingly, the study also found that there is a variability in awareness and understanding of the EU AI act among professionals. While some professionals demonstrated a deep understanding of the Act's provisions and implications, others admitted to having only a superficial knowledge or being largely unaware of specific details. This demonstrates that effective regulation does not rely on the creation of only rules but requires a broad understanding and

acceptance. According to (Gasser & Almeida, 2017), technological regulations can be demystified by holding workshops, seminars and provision of detailed guidelines in targeted outreach. Another underestimate area was the public sector, interviewees omitted this critical sector where governments handle a lot of services which can benefit from the regulation. The potential for the EU AI Act to enhance efficiency and reduce bureaucracy in the public sector was mentioned but not extensively discussed by many professionals. This was unexpected, given the significant impact AI can have in streamlining government operations and improving public services. Governments mixed reaction to the adoption of AI can be enhanced when there is a regulation thereby leveraging efficiency gains from AI.

5.5 Limitations and future research

There are some limitations that need to be noted, even though the study offers insightful information about the opinions of Finnish experts regarding the EU AI Act. The limitations have an impact on the findings' generalizability, depth, and scope. They also point up areas that require more research. The sample size was limited to a relatively small group of professionals who worked in the field of information technology. Other professionals like lawyers and doctors could not be included in this study although efforts were made to include diverse professionals. As a result, the sample may not fully represent the broader population of professional perspective on the EU AI act. The limited size affects the generalizability of the results, future research could benefit from a larger and a more diverse sample for fair representation.

In addition, the study also found significant variability in interviewees knowledge and understanding of the regulation. This variability may have affected the accuracy and depth of answers with a potential of skewed understanding of the EU AI act. Individuals with comprehensive knowledge about EU AI regulation should be considered for future studies. The use of semi-structured interviews and conventional content analysis, while these methods are suitable for exploring complex issues, they have inherent limitations, such as potential interviewer bias and the subjective nature of qualitative data analysis. Other methods like focus groups or surveys, could triangulate the data and provide a more robust understanding of the topic in future. Expanding the sample size, including participants with varying levels of expertise, employing multiple research methods are recommended to build on the current research to offer better insights into AI regulation.

6 Conclusion

The exploration of Finnish professionals' perspectives on the EU AI Act has provided valuable insights into the perceived impact, challenges, and potential benefits of this regulatory framework. The findings suggest that while the EU AI Act sets a robust framework, continuous efforts in policy development, technological innovation, and interdisciplinary collaboration are essential to address evolving challenges (Gasser & Almeida, 2017). While the act represents a significant step forward, ongoing research and adaptation are crucial to ensuring that AI technologies are developed and deployed responsibly, fostering innovation while safeguarding public trust and ethical standards.

The literature review for the study produced the basis for the study defining artificial intelligence and its application. Fundamental concepts of artificial intelligence regulation and countries which already have regulation in place. The key findings relate to the themes anticipated by the European Commission such as support for safe and ethical AI.

6.1 Answers to Research Questions

The aim of the research was evaluating the perspective and effect of the European Union artificial intelligence regulation in Finland using professional workers. The research questions for thesis were:

- How do professionals understand and interpret the provisions and implications of the EU AI Act?
- What are the key considerations addressed by the EU AI Act?
- What is the potential impact on innovation and development?

The answers to the questions are presented in chapter 4, which documents the responses of the interviewees. The common response was safety of AI systems and protection of people's rights. On the consideration by EU, bias and transparency was highlighted by most respondent as critical to the regulation, few had an idea about accountability of AI. The perspectives of professionals in Finland provide a nuanced view of the EU AI Act, highlighting both the benefits and challenges of this pioneering regulatory framework. While there is broad support for the principles underlying the Act, its successful implementation will require careful consideration of practical challenges and proactive measures to support businesses and promote innovation. This conclusion synthesizes the perspectives

of Finnish professionals on the EU AI Act, providing a balanced view of the regulation's potential impacts and offering recommendations for its effective implementation.

7 REFERENCES

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APPENDIX 1: INTERVIEW FORM AND QUESTIONS IN ENGLISH

Master of Science- Information Systems Science

Interview Questionnaire

Thesis Topic: Exploring the EU Artificial Intelligence Act: Perspectives of Professionals in Finland

Background:

The European Union parliament has passed the EU AI ACT and is awaiting ratification by the EU member states. The European Commission's High Level Expert Group HLEG) define AI as:

"Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans (2) that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behavior by analyzing how the environment is affected by their previous actions."

This interview seeks to obtain from respondents, the perceived effect on society, individuals, and businesses in Finland when the act is implemented.

Interview Questions

1. What is your understanding of the EU AI Act?
2. In your opinion, what are the key challenges or barriers that AI act aim to address?
3. What are the implications for AI development and deployment in Finland?
4. How do you think the EU AI Act address issues of:
 - a. Ethical considerations
 - b. Transparency/Explainability
 - c. Accountability
 - d. Bias
5. How can organizations plan for compliance with the implementation?
6. Are there specific areas or fields where you expect to see significant changes or improvements because of AI regulation?
7. For those companies operating in Finland, who should be responsible for ensuring that they are following the EU AI Act?

8. To what extent do you believe this new AI legislation will work together with other recent digital legislative measures? For instance, the Digital Operational Resilience Act, General Data Protection Regulation?

9. How do you foresee the implementation of the EU AI Act influencing global AI governance frameworks?