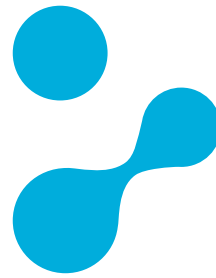


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The ethical and sustainable use of artificial intelligence

A guidebook for Kumppania Oy's employees

DEGREE PROGRAMME IN INTERNATIONAL BUSINESS
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ABSTRACT

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The ability to use artificial intelligence is said to be a new civic skill. Artificial intelligence has already changed humankind and businesses globally. Since the utilization level of AI is massive on a global level, it is crucial to develop specific ethical and sustainable recommendations and guidelines also in business life. These guidelines should be designed to fit the specific industry and work environment efficiently.

This thesis was a practice-based project where the aim was to research the most recent and relevant theory to develop and strengthen commissioners' existing internal skills and knowledge of the ethical and sustainable use of artificial intelligence. The objective was to produce a guidebook series about the ethical and sustainable use of AI for current and future employees to use.

The thesis project was implemented in five different phases including pre-readings, data collection and analysis, conversations with the commissioner, conducting a qualitative employee survey, writing phase and the finalization of the thesis. The thesis was carried out in accordance with ethical regulations and also in cooperation with the commissioner. Accessibility and reliability were taken into account in the entire thesis process.

The data collection process was executed through theory research and based on conversations with the commissioner but also as a qualitative employee survey. The analysis method utilized was a qualitative analysis method, a thematic analysis that supported categorization and analysing connections between data but also detecting the differences between phenomena.

The conclusions are that the ethical and sustainable utilization of artificial intelligence has various micro and macro level factors that affect the short- and long-term usage. Businesses should integrate and adapt a risk management strategy for artificial intelligence to ensure even more ethical and sustainable principles of are obtained.

The final outcome of the thesis was four guidebooks for commissioners' employees on the ethical and sustainable use of artificial intelligence following the principles of microlearning. The four themes of the guidebooks were Ethical and sustainable use of artificial intelligence, Privacy and data protection, Copyrights in artificial intelligence and Artificial intelligence technologies.

Keywords: Artificial intelligence, ethics, sustainability, employee guidebooks, project

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1 INTRODUCTION

Artificial intelligence (AI) means technological and computer systems that are able to perform advanced functions resembling human intelligence such as human processes as learning or problem-solving tasks. AI is one of the greatest developments ever made and will affect humankind long into the future. (Rébé, 2021, p. 1-4.) According to the University of Helsinki's Paju (2022) it is claimed that knowing how to use AI is a new civic skill. AI has already changed and will continue to change the world on a global level, as it will be as useful and necessary as smartphones and the internet are to current society and business life (van Wynsberghe, 2021, p. 213-214). It may not surprise that on a global level, AI is widely used and popular in everyday life with consumers and businesses (Pekkarinen, 2021).

The use of AI has positive as well as negative effects, in which case the ethical and sustainable utilization of it and the guidelines drawn up for these aspects are crucial (van Wynsberghe, 2021, p. 213). Related to this, I noticed a phenomenon in business life, that little knowledge was shared about the utilization of AI ethically and sustainably and so I found the subject of this thesis. The theme is important and current on a global level since AI is a current phenomenon also in the international business environment and it is predicted to be for future generations ahead.

This thesis is a practice-based thesis where the purpose is to research the most recent theory to develop commissioners' internal knowledge of the ethical and sustainable use of AI. The benefits for the commissioners are that the data collection of the thesis could strengthen existing internal AI skills but also develop their risk management strategy against future deviations. This thesis project will be implemented in nine different phases starting with data collection which is conducted based on conversations with the commissioner, a

qualitative employee survey and theory findings. The data will be analysed with a qualitative analysis method called a thematic analysis. The main objective and outcome of the thesis project is to produce a guidebook series based on the over-all data collection about the ethical and sustainable use of AI for current and future employees to use.

2 THE PURPOSE, OBJECTIVES AND RESEARCH OF THE THESIS

2.1 Purpose and objectives

This thesis is a practice-based thesis which is implemented as a concrete project that will be executed in cooperation with the commissioner. The purpose of the thesis is to generate knowledge based on the most relevant and recent theory about ethical and sustainable utilization of AI in business life. The benefits for the commissioner are that they can strengthen internal AI practices that can lead to a more ethical and sustainable use of AI technology and create an internal work culture that supports those factors.

The statistics show that the commissioner industry (communications industry) utilizes widely AI technology. The usage rate of AI within Finland's businesses in the communications industry was 41 % in 2021 (Statics Finland, 2021). Since the utilization of AI is extensive, other benefits are that commissioner can strengthen their internal knowledge of the theme by preparing separate guidebooks for current and future employees to read. Though, since the development of AI moves at a fast phase, updating the guidebooks regularly is crucial.

The main objective and expected outcome of the thesis project is to produce a guidebook series about the sustainable and ethical use of AI for commissioners' employees. The aim of the guidebooks is to provide data in an accessible way, utilizing micro-learning principles which support reading data in a more

efficient method in a busy working environment. Based on conversations with the director of the organization, the guidebooks will also act as reminder of the importance of active data research since the development of AI is rapidly changing.

At the beginning of the project the four guidebook themes were decided based on data collection through theory research, qualitative employee survey and based on conversations with the director of the organization. Agreement was to provide and gather data from the latest theory and research. The four agreed guidebook themes are Ethical and sustainable use of AI, Privacy and data protection, Copyrights with AI and data related to AI technologies.

2.2 Conceptual framework

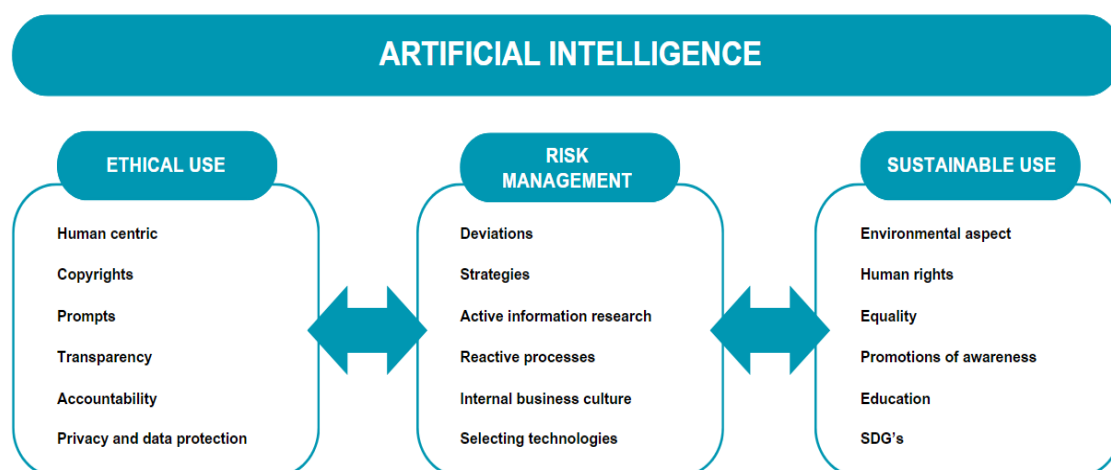


Table 1. Conceptual framework of the thesis

The conceptual framework of the thesis (Table 1) contains the most crucial findings of the data collection and is the basis of the four guidebooks created. Addo et al. (2020, p. 10) poses that AI principles are striving to advance humankind but in a safe way. The definition of AI varies since the ability and functions of it are broad. AI (technological and computer systems) has the ability to act as human intelligence since it can resemble tasks that are natural for humans for example solve problems, perform tasks and use past experiences to make new decisions. AI can be divided into two categories, the most

common that is used is weak AI (narrow) where tasks are relatively narrow and specific and strong AI (general) which means that AI would have the same intelligence as we humans do and could perform without any human intervention.

Customers might unknowingly utilize and interact with AI in everyday life since it is so seemingly implemented in different systems such as algorithms that show us personalized advertisement, shopping recommendations online, computer programs like businesses online chatbots which customers have conversations with that resemble human-like interaction, omnichannel (various interaction methods with businesses) (Huang & Rust, 2021; Cortinas et al. 2021; Adamopoulou & Lefteris, 2020; Bonetti et al., 2023).

All industries and individual users should follow the laws and regulations but also the AI principles that have been established. Ethical use of AI refers to the moral and ethical decisions we make while choosing AI technologies and utilizing them in the safest way possible. It advocates responsibility not only for a specific group or society but also for an individual user. For example, ethical risks in the utilization of AI should be controlled in such areas as transparency in decision-making but also in businesses' internal accountability. Respecting copyrights while utilizing AI is crucial, even though users should recognize that AI developers and copyright owners are still seeking a fair balance between utilization.

Sustainable use of AI refers to the long- and short-term impacts that the utilization could have on the environment and society. It advocates responsible and environmentally safe ways to utilize AI that includes the overall well-being of our planet, nature, animals and humans on a global scale. For example, promotion of internal awareness of sustainable utilization of AI and enabling regular education for the whole organisation is crucial. By building a sustainable internal business culture businesses have an opportunity to protect human rights and equality, not only internally but also externally affecting humans, nature and animals on our planet.

Responsible integration and implementation of AI can be executed through ethical and sustainable frameworks that are connected to risk management on a micro- and macro-level. By assessing possible risks (through ethical and sustainable aspects) one can analyze the potential outcomes the utilization could have. Risk management strategy supports to develop, evaluate and monitor ethical and sustainable aspects of AI.

The more human-centric approach has been integrated (also as a risk management strategy), the more ethical use can be implemented and obtained in the utilization of AI. By adapting a human-centric approach businesses could also strengthen data and privacy protection overall. Moreover, sustainable risks are associated with minimizing the negative environmental impacts, such as dealing with energy consumption and affecting carbon footprint by choosing more sustainably developed technologies.

The amount of data developers input in training AI computer systems is massive. Human intervention is still necessary and algorithms that AI utilizes are human designed instructions for AI for creating specific functions. Machine learning is based on learning from past experiences, executing tasks and acting according to the algorithms, where deep learning is utilized for example in image recognition programs and Natural language processing (NLP) such as ChatGPT and Google Gemini. (University of Illinois Chicago, 2024.)

Guidelines and accessible data facilitate the implementation of responsible AI practices, for example developing employee guidebooks on the responsible use of AI that can lead to more ethical and sustainable utilization of it. All the above mentioned aspects should be recognised in businesses' risk management strategies but also the potential long- and short-term social and economic consequences should be analysed to maintain the principles of advancing industries and humankind with AI in a safe way.

2.3 Boundaries

Since the theory of sustainable and ethical use of AI is massive, this thesis will be produced with boundaries to maintain the quality of the work. First boundary is to collect data from the most recent theory and studies when possible. Second, the theory is collected based on commissioner's wishes and the results of the employee survey that indicates themes that employees encounter in their work environment and their wishes for specific data.

The most relevant findings from data collection will form the data basis for the four guidebooks. This ensures that the guidebooks are in accordance with the latest and relevant theories but also according to the commissioner's wishes and needs to ensure that guidebooks will be most likely utilized in the future. To guarantee the thesis's quality and maintain a manageable scope of theory, the guidebooks series will contain a maximum of four guidebooks.

2.4 Project plan and schedule

- *Phase 1*

First data collection 01.03.-09.04.2024

- *Phase 2*

Starting thesis agreement process 09.04.2024

Meetings and planning with the director of commissioner 09.04.-20.04.2024

Start writing the thesis 09.04.2024

- *Phase 3*

Qualitative and anonymous survey 20.04.-15.06.2024

Check-up meeting with commissioner 06.06.2024

- *Phase 4*

Second part of data collection 16.06.-01.07.2024

Development of the guidebooks 16.06.-01.08.2024

- *Phase 5*

Last check-up with commissioner and last improvements 01.08.-11.08.2024

Finalization and submitting the thesis 18.08.2024-08.09.2024

2.5 Research questions

The thesis contained mixed research methods, combining a project-based approach with a small qualitative questionnaire. Research questions were developed based on this factor.

Primary question

1. How can commissioner's employees utilize artificial intelligence in an ethical and sustainable method?

Sub-questions

1. Which factors affect the utilization of ethical artificial intelligence in the work environment?

2. Which factors affect the utilization of sustainable artificial intelligence in the work environment?

3. What strategies can be implemented to ensure the sustainable and ethical integration of artificial intelligence within a work environment?

4. What type of sustainable and ethical artificial intelligence technology have been developed?

2.6 The commissioner

The commissioner of the thesis, Kumppania Oy is a communication agency that operates in the communication industry. The agency was founded in 2008 and their headquarters are located in Pori, Finland. Kumppania has eight employees. Kumppania operates with industries such as health and wellness,

health technology, ICT and the social and public sector such as welfare areas. (Kumppania, n.d.)

Kumppania has extensive services and specializes for example in content creation, sustainable transition, website development and customer experience development across various sectors. Kumppania also offers different types of coaching and training. Kumppania has worked with businesses for example Samlink, Oomi, City of Kankaanpää, Karhulinna, Fimlab, OmaSP, City of Kokemäki, Satakunta's welfare area and Kymsote. Kumppania has also acted as a developer in the communication industry for 20 years. (Kumppania, n.d.)

According to the employee survey conducted during this thesis, every respondent had used AI in their work previously in various ways such as:

- brainstorming ideas
- structuring data
- as a search engine
- copywriter
- proofreader
- creating memos
- summarizing data
- translator
- illustrator
- consultant
- forming interview questions
- creating meeting notes
- background data search
- in social media marketing.

3 ARTIFICIAL INTELLIGENCE

3.1 Ethical use of AI

AI is built for the purpose of advancing humankind and its capabilities to increase their knowledge, understanding and skills but in a way that protects all humans from malicious activity (Addo et al., 2020, p. 10). AI ethics means values that strive us to make decisions that lead to fair and safe outcomes (Pekkarinen, 2021). Ethics includes the ethical and societal issues surrounding the

impacts of AI which have an impact from developers to policymakers, straight to end users and society (van Wynsberghe, 2021, p. 213). However, the principles of ethics are changing rapidly since AI technology is developing in a fast phase and therefore new issues can rise rapidly and are intertwined with development (Pekkarinen, 2021).

By reviewing the current literature, it becomes evident that there is still a lack of but also a need for continuously updated information about AI ethics since the rapid development of AI moves on a fast phase and creates new challenges on a global scale.

3.1.1 Human-centric approach

Human-driven processes mean that the systems are developed to mimic a human-like decision making process and behaviour to build a more humane experience and interaction between users and AI systems (International science council, 2020). By reviewing the current literature, it becomes evident that adapting a human-centric approach for example while utilizing AI in service design and development is one method to increase customer satisfaction. Therefore, it is important to build new platforms while focusing on the strengths of humans and AI in an intertwined method. According to Kore (2022, p. Section 3) understanding the strengths of human activity and abilities of AI leads to a more efficient outcome.

AI lacks the capacity to make human-like ethical or moral conclusions (McKendrick & Thurai, 2022). Humans are able to make moral and ethical decisions (human judgement) whereas softwares are able to decrease uncertainty and predict deviations. Humans are able to analyse and learn data in a certain phase and amount at a time, while softwares can rapidly analyse and process massive amounts at a time. Humans are able to learn more efficient interpersonal skills compared to software, such as understanding social and emotional needs and wants and communicating based on these. (Kore, 2022, p. Section 3.) By reviewing the current literature, that indicates that this is one

of the most important factors since while developing services, the better a human is able to utilize AI strengths and their own in an intertwined way, the more humane the end result of the service will be.

While designing a project with AI it is crucial to analyse the usability of data created for example humane aspects such as dislikes and likes (desirability) but also relevance to customer satisfaction (Kore, 2022, p. Section 8). AI can be utilized in various ways such as in various tools, as an assistant and a manager but also as a companion for various tasks. There are efficiencies in personalization, recommendations, recognition and categorization functions but also in creating analyses or rankings, detecting deviations and data creation. Businesses' innovative use of AI may lead to bigger market share and gain leader positions in the industry. (Kore, 2022, p. Section 3.)

Areas that AI still lacks power are for example gaining full transparency (for example where does it obtain the data that it collects), optimizing predictability such as understanding human dislikes and likes (profiling) or understanding social intelligence and communication. Collective intelligence is gained by cooperation between a group of individuals that leads to more intelligent outcomes. Businesses can increase their internal machine-human interaction quality by focusing on collective intelligence for example utilizing AI at all levels of the organization in their tasks to build a more efficient and productive level of operations. The more time businesses invest in learning to use AI efficiently, the more the quality of interaction strengthens on both sides. (Kore, 2022, p. Section 3.)

AI can create deviations by collecting and sharing false data such as misinformation, where the facts are perceived wrongfully and disinformation, where there is intentional misleading of facts (Felländer et al., 2022, p. 6; Farkas & Schousboe, 2024). Social ethics of technology is intertwined with corporate responsibility but also with justice and which enhances empowerment of human-centric approaches (Mantini, 2022, p. 9). European Commission (2018) has set ethical guidelines for trustworthy A.I. that includes human-centric approach to ensure more ethical purpose to system development and usage to

ensure safety and autonomy of justice in the lifecycle (from manufacturing to disposal) and with the users. Understanding whether the utilized software or technology is classified as high-risk is crucial (Covelo de Abreu, 2024, p. 406). Quality AI technology's trade-off is the cost of it (Kore, 2022, p. Section 3).

3.1.2 Copyright

Copyright means that the creator of the work has the legal right to ownership and therefore can decide to give permission for others to copy the work or to withhold that right. Copyright law protects the creator but with works produced with AI can be challenging to determine whether there has been used copyrighted works or not in its training or creation. There have been law cases where it seemed that the judges were having a hard time to side either with the creator that has the copyright under the law or the user/developer of the AI software. (Kallioniemi, 2022.)

The EU (European Union) created a law to regulate the utilizing of AI within its borders. The EU Artificial Intelligence Act has regulated transparency factors for example that the ChatGPT developers should deliver data about which copyrighted materials they are using in its training of the ChatGPT but also to restrict the tool not so use copyrighted material in creation automatically. Also to clear the complexity, ChatGPT should label its content as their own creation to avoid confusion among users. The Act will be implemented at different stages. (European parliament, 2023.)

New laws should prevent confusion, but the future will show how efficiently the laws protect and should there be new changes made that are intertwined with development of AI. There are many cases where a copyright owner has filed a lawsuit against an AI program for unauthorized use for example the case of Silverman, Chabon and Tremblay where there was claimed that an AI program used their books to train their AI. Also, against Stability AI that was claimed that developers had used around 12 million copyrighted images while training their program. (Congressional research service, 2023, p. 4.) According to

Copyright Alliance there are ongoing legal cases against different AI companies for example artists against Midjourney, DeviantArt and Stability AI where claim is that copyrights had been breached by using their art. Another case was Thomson Reuters Enterprise Centre against Ross Intelligence which claimed of illegal use of their unique platform technology. (Loving, 2023.)

By implementing safeguards that detect existing copyrights while creating content with AI or by double checking (for example internet search) does the new content include copyrighted works, users may protect their own usage but also respect existing copyrights while using for example ChatGPT (AI tool) that can use existing works while generating new content. There is still missing legal regulations against analysis tools for example while analysing data and text for example using TDM (text and data mining, an AI tool) since TDM utilizes existing copyright works to make its analysis. YouTube and TikTok users also often exploit existing works without regarding the copyrights, users should be aware of this while producing material on those platforms. (Jodha & Bera, 2023, p. 1739-1743.) An efficient tactic to avoid breaking copyright is investing in extra tools and programs that are created to detect copyrighted material, keeping up-to-date with new advances and trainings (Bukhari & Hassan, 2024, p. 654).

There should be a clearer understanding and new laws created to address ownership since AI programs gather data from the internet and therefore can reproduce but also modify works that are under copyright law. (Jodha & Bera, 2023, p. 1737-1738.) By reviewing the current literature, it becomes evident that there is still a lack of transparency and clarity that could it be accounted for as infringement if the AI work contains even minimum amount of resembling of an existing work.

3.1.3 Efficient and ethical prompts

According to Harvard University (2023) prompts are data that is entered by users into various AI tools to create new content. Prompts can be for example

in the form of questions, commands, pictures, sentences or even a single word. The more exact and efficient the prompt is, the better the outcome. The guidelines on how to create efficient prompts:

Be specific with the choice of words and instructions entered, try to describe very precisely the wanted outcome. What is your goal, what type of data you are looking for, target audience, length, tone of data and affect the form of the data (use of bullet points, essay form, only sentences, nature of language). Avoid being vague or un-interactive in guiding the AI tool. Enter simple, understandable and clear prompts. Set a role for the tool such as mimic a process, human or object while creating this info. Modify the prompt if the first outcome is not satisfying or rephrase or set a new tone and word. Also, one can ask for AI tools to help create an efficient prompt for your specific needs. Be aware of possible mistakes in the produced data could contain and be active in giving feedback since the more feedback the AI tools receive, the more accurate and efficient the tool is going to become. Create a prompt that already resembles the tone and nature of the wanted outcome but remember to respect copyrighted works. (Harvard University, 2023.)

According to Pekkarinen (2018) entered prompts can also become discriminative. What we teach (entered data) the AI, it will duplicate in future outcomes. Using non-discriminatory language in prompts is not only ethical but crucial. Many studies supported this claim many years ago from Yining et al. (2017) to universities such as Harvard Law School (2023) that promoted the utilization of ethical and non-discriminatory use of prompts. Moreover, users should learn how to learn better skills at creating prompts since it has a direct effect on the quality and accuracy of the produced data. Beforehand, it is crucial to analyse the task definition, what is the need and what type of outcome will be acceptable and desirable. (Tampere University, 2024.)

In the prompts use direct words such as “create, write, translate, analyse, search” or with a question and lead it by giving direct instructions such as “do not.” The more you guide the AI tool, the more efficient it will perform. One can also enter background data if needed to lead in the desired direction. These

apply also to the creation of AI images. Important to give specific nature of images such as what type of technique is desired (pencil work, watercolour, crayon) or the style of the image (anime, realistic, cartoon, abstract). Understanding the limits of AI tools is also crucial, as they are efficient but there are still many things that they are not able to do. Crucial aspect is never to enter confidential data (such as personal data) into prompts and always be active to double check the veracity of the data prompts create. (Tampere University, 2024.)

3.1.4 Transparency and accountability

Transparency means actions for example in communication when businesses clearly state about decisions made and actions they have done with their use of AI. The main aspects of AI transparency are to avoid the possibilities for abuse, setting clear lines in proprietorship, the limit of access to data, support data privacy and restrict unfair outcomes. (Larsson & Heintz, 2020, p. 3-6.) European Commission ethical guidelines set that one form of transparency is to provide data to all stakeholders from employees to end-users about the limitations of the chosen systems. Also, about the AI abilities so every level of users are aware of the realistic impacts of the interaction and possible outcomes it may have, positive or negative. (European Commission, 2018.)

By adapting AI transparency tools to internal usage, businesses support ethical utilizing of AI. Businesses should also monitor the operations of AI in continuing phases but also test the systems regularly. (Valonen, 2020.) Therefore, sharing data in a transparent way is key to building a trustworthy AI system and to reassure that accountability issues (such as data protection) are defined clearly. (Larsson & Heintz, 2020, p. 3-7.)

Accountability is an activity that strives to take responsibility for actions on which level businesses follow the standards, principles and regulations set (Béranger, 2021, p. 80). In business life, accountable actions are the openness to internal and external audits, reporting malfunctions and security deviations

but also to analyse and being truthful of the trade-off of usage (Baker-Brunnbauer, 2023, Section 3). Accountability is one of the social responsibilities' businesses share on a global scale. By adapting AI tools businesses can support accountability but also develop operations that are able to identify possible and occurring deviations and failures (Baker-Brunnbauer, 2023, Section 8). Businesses can create internal accountability by analysing the AI technology benefits to its possible risk levels (level of avoidability or impact minimizing options) (Béranger, 2021, p. 31).

Businesses are responsible for explaining the consequences that lead to the malfunction of AI systems that affect users. Which most likely affects positively or negatively their reputation in the industry and among customers. (Béranger, 2021, p. 72.) By focusing activity on internal and external ethical culture starting with awareness of risks (internal and external) and training, businesses are able to build more transparency and accountability in their operations. (Béranger, 2021, p. 57.)

Accessibility to data must be ensured, as understandable text and terms strengthen the ethical principles. Another point of view is for example that the customer should understand the benefits and risks of the service they are using, but also the aspects related to data management. Businesses should only utilize systems that can provide services that support human rights to mitigate the complexity of making ethical decisions concerning AI use. (The Council of Europe Commissioner for Human Rights, 2019.) By reviewing the current literature, transparency and accountability not only supports but enhances AI ethics globally since data access is provided on a global scale for nearly all users and businesses.

3.1.5 Privacy and data protection

Legislation concerning data privacy is going through a revolutionary like change (Miraut Martín, 2021, p. 42). Privacy and data protection rights are about protecting individuals or groups' right to know and control (make choices

to accept or not) the usage of their personal data for example in what way and manner their data is collected, used, stored or distributed (Correia & Rodrigues, 2024, p. 81).

European Commission (2018) ethical guidelines set that it is the providers' responsibility that privacy and data protection must be at all-time secured. The guidelines underline the protection of weaker party rights (usually meaning the subject that the contract is made with). This applies both to the relationship between employee and employer, but also to the relationship between customers and businesses. According to Hermann (2022, p. 56) GDPR (General data protection regulation) sets boundaries, therefore businesses should also follow the same principle while utilising AI. It is crucial to protect the entire data lifecycle of privacy from collecting and storing to sharing and destruction of it.

AI can create deviations in data privacy since it can collect, store and use data or give unauthorized access to data (criminal attempts) without implementing user or operator consent (Felländer et al., 2022, p. 5). IoT (Internet of things, connections between items such as smart devices and the internet) unfortunately enables unauthorized online access to our machines connected through the internet or Bluetooth for example in criminal activity. Cyberattacks access data through bugs in software, therefore allowing unauthorized recording or listening to the environment. (Rébé, 2021, p. 29-31.) Access to for example data that is stored on-line, in Cloud-based services is also at higher risk (Haller, 2022, Section 8).

Safeguarding all data is crucial in the complex navigation of privacy and data protection. AI systems developers have the most liable role in security since most security aspects start with building a secure program that is able to resist the possible attacks. (Abidi et al., 2024, p. 65-82.) Wagner (2018) disagrees and claims that liability should not fall only on the developers (Taveira da Fonseca et al., 2024, p. 309). Larsson et al. (2019, p. 16) supports claims that developers should be held responsible only to some extent, combining the views of the previously mentioned researchers.

Protection of anonymity and privacy is crucial but just excluding for example names, ages or identification numbers is not enough in this era of AI's capabilities (Curry et al., 2021, p. 117). Personal data is easier than ever to attach to identify, and this poses a threat. PAPAAYA-project claims that there is already development that ensures that data created can produce quality conclusions and accuracy while also protecting data privacy. (Curry et al., 2021, p. 167.)

Since AI is able to function as a self-learning tool, the human interruption and control is always necessary (Davida & Lubasz, 2024, p. 338). Businesses should invest in data and privacy technologies now more than ever in history. By doing so, businesses might gain competitive advantages in their industry and markets such as growing their customer base. (Curry et al., 2021, p. 117.) Although 22 % of businesses utilize various different technologies to ensure data privacy and protections including in their data management, it is crucial in the era of AI to build platforms that are even more user-friendly but secure and accessible at all levels of processes. Reflection (considering past events) on one's own actions not only in business life but concerning also individual users is crucial. (Curry et al., 2021, p. 303.)

Reactive strategy for AI technology and its maintenance is crucial for example in implementing, monitoring and taking re-active measures that follow functionality and safety (Davida & Lubasz, 2024, p. 358). Businesses can strengthen privacy and data security by analysing threads through data security principles such as the CIA triangle factors: confidentiality (duty of secrecy), integrity (accuracy and non-discriminatory) and availability (accessible at any time) (Haller, 2022, Section 7).

3.2 Sustainable aspects of the use of AI

Sustainable aspects usually answer questions such as how to utilize AI so that it has minor negative effects on society and the environment but also how to achieve the Sustainable Development Goals (SDGs) set by the United Nations. The SDGs are efficient guidelines for businesses to follow to advance

and evaluate their sustainable use of AI. Sustainable AI enhances for example environmental aspects such as a decrease in carbon dioxide emissions levels but also creates new, sustainable and profitable economic models that support society on a holistic (comprehensive) level. (Wynsberghe, 2021, p. 213.)

The SDGs include sustainable principles in societal and environmental actions that individuals and groups can for example integrate into their personal life and for business strategy to protect the planet, society, animals and humans' over-all well-being for future generations to come (United Nations. n.d.-a).

3.2.1 Environmental aspect

ICT (Information and Communications Technology) industry's global emission footprint is forecast to grow up to 14 % (Belkhir & Elmeligi, 2018). Statistics show that AI contributes to producing around 500 000 tonnes of carbon dioxide, just during its training (Statista, 2024-a). The responsibility for building sustainable AI systems lies with developers, their business leaders and employees (Manyika et al., 2019). Not forgetting the accountability of users. For example, user technologies related to Gen-AI (human-centric decisions, creating content and images) contribute over 30 % of the overall AI environmental impact. This figure jumps to over 90 % when considering the depletion of mineral and metal resources. There should be more transparency among manufacturers to demonstrate the realistic environmental costs of their AI technologies. (Berthelot et al., 2024, p. 708-712.)

One aim of the environmental aspect is to reduce the environmental footprint. Organizations can reduce their environmental impacts by choosing renewable energy, striving to save energy, choosing energy-efficient programs and technology. Training AI increases carbon dioxide emissions for example multiple studies confirm that within 40 days the level of CO₂ emissions were 96 tonnes with the training of Google's AlphaGo Zero. One solution for businesses is an energy level tracker tool that can be utilized to evaluate and regulate internal energy consumption. (Wynsberghe, 2021, p. 214-216.)

Moreover, AI models and their level of impact on the water footprint is significant (George et al., 2023, p. 91). According to the AI policy observatory (OECD) the massive amount of water consumption is connected to its data center where water is used for example to cool the technology (Ren, 2023). Businesses should invest in quality software to build and support internal, diverse AI skills at all levels of organisations (Manyika et al., 2019). There are usually trade-offs such as the choice between sustainability and costs (Kihombo et al., 2022, p. 3987- 3990). By reviewing the current literature, businesses should analyse and make in some way challenging decisions, whether to choose the best choice in sustainability and the increase in costs. Hopefully, the future will deliver us with a better balance between these factors.

AI system lifecycle means supporting and developing the entire operating lifecycle from development to maintenance and for safe usage (International Electrotechnical Commission, 2023). Sustainable daily routines strive to reduce paper usage and all types of waste including electronic waste that AI usage produces (Khakurel et al., 2018, p. 8). The main aspect is that sustainable activity should be integrated into businesses' everyday culture and should be a crucial principle (Khakurel et al., 2018, p. 2). By reviewing the current literature, it becomes evident that safe and responsible utilization can be analysed through short- and long-term impacts that occur at various different intervals in time, from daily routines to yearly events.

According to United Nations (n.d.-b) environment program AI has also positive impact on the environment such as advanced technology is able to analyse mass-data, monitor carbon emission footprint levels but can also be used to monitor air quality. Protecting sustainable principles involves developing the AI system lifecycle to be safe and equal for all users on a comprehensive level that ensures that all regulations and principles are met (The Council of Europe Commissioner for Human Rights, 2019).

The commissioner utilizes UX design in their business. Adobe, a software company for example promotes sustainable UX design (User Experience design process), as they pose that using the internet and technology accounts

for 3,7 % of all global greenhouse gas emissions. Adobe promotes that analysing all digital user touchpoints will decrease the environmental impacts of UX processes. For example, by analysing the clicks required in navigation on the website, optimizing the file sizes and deleting unnecessary content but also implementing user testing in the development process. Also, by optimizing streamlined (developing efficient processes) customer journey maps and investing in quality and safe technology. (Adobe, 2021.)

Circular economy is a movement toward sustainable and manageable consumption and to protect humans and the environment (Raimo et al., 2023, Section Preface to “Ecological Transition and Circular Economy”). By reviewing the current literature, it becomes evident that businesses should move towards a circular economy and follow other organizations on how they are changing their industries through their sustainable activity and innovations, also concerning the sustainable use of AI.

3.2.2 Human rights and equality

One goal of the SDGs is to promote and advance the over-all well-being of humankind globally (European Union, n.d.). AI is connected to human rights since it utilizes massive amounts of various types and nature of data about humans, which poses risks to human rights and equality (Baraiski, 2021, p. 350). According to Pekkarinen (2018), an expert at the University of Helsinki, discrimination is one of the biggest problems as algorithms involve risks. As an example, Google-research displayed lower-paying job opportunities for women while comparing the similar displays for men and people of different colour were misidentified by facial recognition software to be non-human (since in training they used Caucasian people only). Reason for discrimination is in the bias data (untrustworthy data) that has been entered into the algorithms while building the software.

One may wonder why acknowledging discrimination related to AI and algorithms related is crucial. What businesses should consider and acknowledge

is that in Finland the Commissioner of Equality is responsible for monitoring discrimination related to AI and algorithms. (Valonen, 2020.) The operation is based on Finnish law, the Equality Act which principle is to prevent acts of discrimination and to establish the legal rights of the victims of illegal conduct (The Equality Act, 1325/2014, Section 1).

According to senior inspector Valonen of the Commissioner of Equality there was a case against an organization in 2017 (they were fined), where the organization's automated system in the credit evaluation process was discriminative since the automation sorted applicants for example based on their gender and native language. Another case where algorithms had been taught to recognize people by using only Caucasian people, which leads to its inability to recognize diverse skin colours correctly to make correct and equal conclusions and is therefore connected to discrimination. (Valonen, 2020.)

The Ministry of Finance of Finland has given ethical instructions about the responsibility that lies with the businesses as they choose to use the specific AI technology (Valtiovarainministeriö, n.d.). Businesses should be aware of the risks of sustainable and ethical issues such as AI capability to act as discriminative. Users should consider and evaluate the various and possible negative effects that the AI system could include from the perspective of equality, even while outsourcing the services. (Valonen, 2020.)

Since the decision-making processes can be automated with AI accountability and responsibility to utilize safe technology becomes crucial since there can occur social-legal consequences if deviations occur or data protection fails (Larsson et al., 2019, p. 16). Even though technology makes decision-making and data analysis processes more efficient, the process always acquires the intervention of humans (Covelo de Abreu, 2024, p. 408). Larsson et al. (2019, p. 36) pose that before commercial launch all AI decision-making programs and their created content should be evaluated.

3.2.3 Promoting awareness and education

Promoting awareness is one key factor of the SDGs. Optimizing internal and external communication and collaboration between businesses can increase awareness that relates to sustainable principles. Open and truthful interaction and communication (intertwined with transparency) between consumers and businesses advances corporate social responsibility (CSR). (Gonçalves-Sá & Pinheiro, 2024, p. 58.)

Promoting awareness has also a positive impact on society. Business life needs innovators to promote awareness since this develops the entire sustainable business ecosystem that affects the digital transformation of future years to come. Building strong networks and collaborations to enhance internal and external sustainable practices is crucial for increasing awareness, since innovations are usually linked to quality collaborations. (Costa & Matias, 2020, p. 2.)

Businesses' internal awareness of sustainable factors has a straight impact on environmental issues. Awareness can be reached through motivation, sustainable activity, following the most current developments and by using responsible data. Employees have responsibility to educate themselves but also employers to enable access to education and training to build a more sustainable working culture. Educated employees are able to develop, monitor and sustain the benefits of sustainable practices and culture. (Dantas et al., 2021.)

Businesses can have active roles in promotion and sharing their internal knowledge by positioning themselves as a promoter, sharing knowledge as an awareness creator and distributor, much like universities do (Costa & Matias, 2020, p. 7-9). Promoting sustainable principles to society and business life for example through marketing (such as social media) or business websites could increase the positive social impacts of the business (Hermann, 2022, p. 48-50). Also, possible international collaboration could enhance internal

innovation since it is connected to having a more dynamic strategy (Costa & Matias, 2020, p. 12).

3.3 Risk management

AI related risk management is a crucial part of utilizing AI since risks and deviations affect businesses' economics, market share, customer experience and reputation. By integrating risk management to the big data ecosystems (massive size of data) and to strategies businesses can categorize the origin of risks since big data ecosystems show us that utilized devices, data collection process and aggregators (services, advertisers) but also all levels of users (management, employees, customers) pose a risk. (Addo et al., 2020, p. 14.)

AI related risk management's main factor is to define a reactive strategy and plan for possible deviations. These types of strategies include for example identifying possible risk, learning from past deviations, collecting risk data, following new recommendations and evaluating the impact of possible risk but also creating possible solutions for them. (Addo et al., 2020, p. 71-72.) Businesses should integrate a capability-oriented strategy to increase internal innovation, awareness and skills to increase ethical and sustainable practices, including risk management (Costa & Matias, 2020, p. 7).

European Sustainability Reporting Standards (ESRS, established 2023) set that all large businesses (excluding small businesses) are liable to inform about risks that could affect the business and social environment (European Commission, 2023). Although, pioneers making internal AI regulations can be found even before 2019, as some companies have drawn up internal principles for their AI use. By focusing on decision-making by examining and comparing various options in technology, businesses can decrease risks. By building a strategic internal accountability businesses may increase responsible decisions and activity. (Larsson, 2019, p. 581-582.)

International Organization for Standardization (ISO) are integrable, standardized and high-quality operating instructions and actions (such as ISO/IEC 42001, ISO/IEC 23894, ISO/IEC 23053) that strive to decrease risk by enhancing reliability and quality of data (ISO, n.d.). One possibility is to integrate sustainable softwares into business operation such as an environmental footprint reporting system and its management, life cycle assessment or sustainable management system. Also, researchers highlight the importance of auditing. (Larsson et al., 2019, p. 23.) Businesses can support ethical and sustainable standards of AI for example by utilizing internal or external audits for AI systems. Continual internal monitoring at all levels keeps the data flow up to date which increases also the human-driven processes within AI systems. (McKendrick & Thurai, 2022.)

AI systems can be built on trained algorithms which reacts to entered data to perform the specified tasks (McKendrick & Thurai, 2022). Algorithm biases are AI systems defaults such as wrongful and possible unfair conclusion that the AI systems makes without proper training (Manyika et al., 2019). Associate professor of computer science Žliobaitė presents that developers and professionals should teach the algorithm not to react to certain signals to avoid ethical issues such as biases (Pekkarinen, 2018). Biases can be avoided by bullet-proofing the AI system by implementing human decision-making processes into the systems for example implementing false negative and positive rates among different and various groups of data to balance false biases (Manyika et al., 2019).

Moreover, digital platforms pose a threat since a large amount of data is shared through various platforms (website, AI tools) but can we assume that they make always correct conclusions and results. User should also determine if the created content is offensive or whether it meets the regulations required by laws. Though evaluating is challenging since there are cultural and judicial differences between countries. (Larsson, 2019, p. 583-584.) Businesses could integrate API encryption (a secure and encrypted application programming interface) to secure digital platforms that AI can access (Gutiw, 2023).

Accountability is linked also to businesses' cybersecurity handling, which makes it crucial to invest in since it is able to support quality and safety of operation (Béranger, 2021, p. 72). Businesses face the complexity of continuously changing ethics, principles and regulations. But without renewed legal and societal regulations and principles, there might not be an ethical use of AI. (Felländer et al., 2022, p. 1.)

To avoid ethical issues developers and users should process all the collected data before entering it into the system and try to develop and maintain decision-making processes that avoid making false biases to build a more ethical and sustainable AI system (McKendrick & Thurai, 2022). Also, collecting feedback internally and externally from end-users is crucial since feedback can create possibilities to decrease risks. In a way then AI and humans create a new type of collaboration since feedback can be used to alternate utilization simultaneously developing the technology. (Kore, 2022, Section 5.)

4 PROJECT IMPLEMENTATION

4.1 Phase 1: First data collection and methodology

At the beginning of the project in March 2024, the goal was to read articles, professionals' blogs, theory and studies related to the topic as widely as possible, in order to strengthen a deeper understanding of the theme. The analysis method chosen was a qualitative analysis method, a thematic analysis. The first data collection produced a large amount of theory that was categorized into different themes. In this phase writing the first draft of the theory part began, but it was continued after the second part of the data collection had been finalized since the wishes of the director of the organization and employee survey affected the theory part widely.

4.2 Phase 2: Specific agreement with the commissioner

The purpose of the meetings and conversations with the director of the commissioner in April (three conversations and a meeting) was to get guidance and to collect wishes and specifications from the commissioner. Collected information was utilized to develop the four guidebooks. The conversations were the basis of the agreements below:

1. *Visuality*: Commissioner gave an example of a guidebook and visuality preferences, this data was used as a guideline for creating the guidebooks.
2. *Structure*: Guidebooks will be structured to resemble micro-learning principles; short text that is fast and easy to read.
3. *Length*: Minimal amount of text in one page and to be noticeably short (example 5-10 pages in one guidebook) but have a quality summarizing of the themes.
4. *Survey*: An employee survey will be executed at the beginning of the project (starting from the end of April) to gather employee wishes and opinions.
5. *Themes*: The commissioner's wishes were included in the work, for example the theme copyrights
6. *Check-up meetings*: Halfway check-up in June 2024, agreed that the theory part and draft of guidebooks are ready to give possible comments and suggestions.
7. *Quality cooperation*: Author wishes to have open communication where feedback is seen valuable. Author is available for meetings and conversations at any time when needed.

4.3 Phase 3: Qualitative and anonymous employee survey

A qualitative (using words to describe) survey differs from a quantitative (using figures to describe) survey since there are more possibilities for the participants to give more empirical answers that are based on their own experiences (Tuomi & Sarajärvi, 2018). Based on the previous, the survey was conducted as a qualitative survey to ensure that the employees had an opportunity to discover different themes included in the main topics but also to write their

answers in words and give more empirical answers compared to a qualitative survey.

The aim of the survey was to collect employees' wishes concerning the guidebooks and use that data to develop them. The survey questions were formed in such a way that the results would be helpful while creating the guidebooks' themes but also their contents. The survey questions were formed based on a literature review. According to Silverman (2022) using open questions and conducting an anonymous survey (alongside closed questions if needed) supports collecting more empirical data from participants in qualitative research. Connecting the survey questions to the research questions supports the validity and reliability of the research.

According to the director of the organization, no research permits had to be filed for conducting the survey in their company. The anonymous survey (Appendix 4) was agreed to be noticeably short so that employees could arrange time to answer the survey. As agreed the director forwarded the link and the author's greeting text (including introduction of the author and thesis but also the description of the purpose of the survey) to employees at the beginning of the process at the end of April. The survey was open from 20.4.-15.6.2024. The survey was created with SurveyMonkey-tool which assures that they have taken various security aspects into account and are safe to use. The survey was answered by six employees (Kumppania has eight employees, 75 % answered the survey). The results of the survey supported deciding the final themes and content of the guidebooks.

Results of the survey:

All participants answered that they utilize AI in their work environment. Participants wished for a listing of different AI technologies that could be added to the guidebooks and a brief introduction to the theme was seen useful. Participants gave wishes and suggestions for guidebooks such as clearly written data, concrete examples, visually appealing, illustrative examples, and wished that the guidebooks would not contain long texts. Ethical utilization of AI was more familiar than the theme sustainable utilization.

In the survey question three, percent figures were utilized to describe the survey results to the readers more clearly and to analyze best decisions about the most popular themes that the guidebooks would contain. Themes participants thought would be important to write about (they were asked to choose at least 3 options which explains the percent figures):

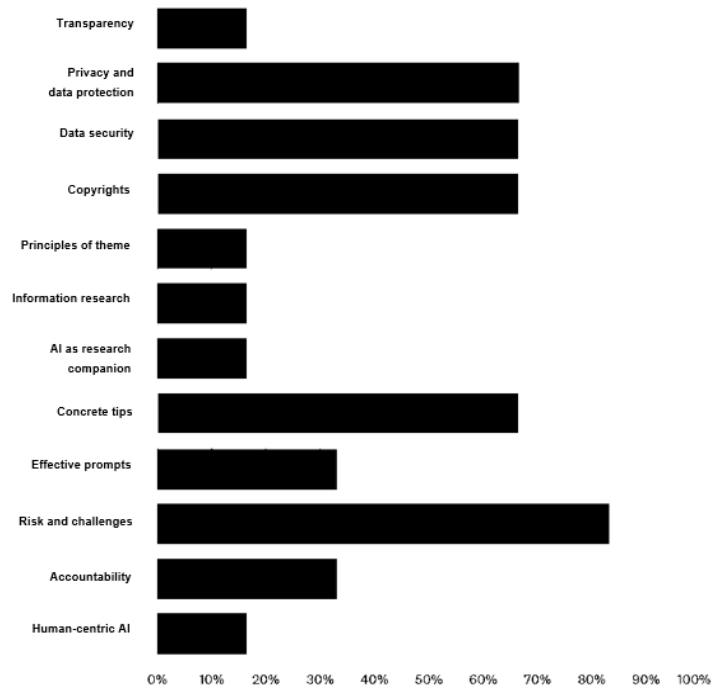


Figure 1. Results of the employee survey

The result of the survey (Figure 1) was as following:

- | | |
|---|--|
| a) Transparency 17% | g) AI as a research assistant 17% |
| b) Privacy and data protection 67% | h) Concrete tips 67% |
| c) Security and information security 67% | i) Effective prompts 33% |
| d) Copyright 67% | j) Risks and challenges 83% |
| e) Principles of the thesis theme 17% | k) Accountability 33% |
| f) The importance of information research 17% | l) Human-centric artificial intelligence 17% |

As a conclusion, the most preferred options for content was privacy and data protection, security and data security, copyrights, concrete tips, risks and challenges.

4.4 Phase 4: Second part of data collection

The second part of data collection was conducted in June 2024 after new conversations with the director of the organization and the employee survey results, since this impacted the theory part and the four guidebook themes were decided based on these. The missing theory was collected by reading literature. The analysis method chosen was again the qualitative analysis method, a thematic analysis.

Collected data was divided into four categories based this time on the guidebook themes that were decided in this phase; Ethical and sustainable use of AI, Copyrights and AI, Privacy and data protection, and AI technologies. The decision to categorize the collected data in separate Word-documents under different themes was carefully considered since the categorized data about a specific theme could be more efficiently found while writing the guidebooks. Therefore, this method supported time management and the progress of the work.

The need for a listing of AI technologies was evident based on the conversations with the director of the organization and the employee surveys whom both encouraged and supported the making of the listing (the idea got excellent feedback). The aim was to provide a listing of different AI technologies and whether there could be found information concerning the ethical and sustainable aspects of a specific tool or program. The AI tools and programs presented in the listing were chosen based on the employee survey results to ensure that the listing would be useful for the employees (survey question 1, where employees wrote about in what type of tasks they have utilized AI). The listing was crucial to develop as a guidebook since the literature review indicated that evaluating the risks before purchasing an AI tool for work is a crucial part of the AI risk management strategy that supports obtaining ethical and sustainable principles of AI.

The chosen method for the AI technologies-guidebook was to create a listing of AI technologies by collecting data through Google-search. This method was

seen as the most efficient way to present this type of data and to take into account the commissioner's wish to create very short guidebooks and to utilize micro-learning in all of them. The listing was created using Google-search since there was no literature to be found that would be helpful in collecting the required amount and type of data. Google-search was found to be the best tool for collecting this specific data.

Also, since the AI technology market is extremely large, it was crucial to collect data about AI technology (specifically for the commissioner business) in a more accessible way. The AI technology industry is growing fast and the market sizes are in the billions. Market sizes of the technologies that form the listing below: computer vision 25,80 billion USD (derived data from for example images, videos), machine learning 79,20 billion USD (for example gathers data, creates algorithms) and natural language processing 36,42 billion USD (generating human language) (Statista-b, 2024).

Below is the listing of AI technologies and information on whether data related to any ethical and sustainable aspect (can be positive or negative aspects about news, articles, corporate processes, legal issues, innovation, development, usage) that could be found through Google-search. The listing (Table 2) was executed with Google -search by utilizing words; *(name of the software/program), sustainability/ethics, AI technologies for businesses.*

NAME OF PRODUCT	DESCRIPTION	INFO ON ETHICS/SUSTAINABILITY
ANALYTICS		
Microsoft Power BI	Analytic tool	Yes
Retention Science	Analyse customer behaviour	No
Crayon AI	Analytic tool	Yes
Aible	Analytic tool, summarizations	No
Smart Moderation	Content moderation	No
Tableau	Data analytic	Yes
AUTOMATION		
Zapier	Process automation	Yes
AI Agent	Personal assistant	No
AgentGPT	Task automation	No
HyperWrite Assistant	Task automation	Yes

iSmartRecruit	Automate requirement	No
CONTENT CREATOR		
Jasper	Writing assistant	Yes
Surfer SEO	Content creation	No
Frase	Research, writing	No
MarketMuse	Content creation	No
Lately	Social media post generator	No
Copy	Writing assistant	No
LANGUAGE MODELS AND RESEARCH		
ChatGPT (OpenAI)	Chatbot	Yes
Gemini Google	Chatbot	Yes
Einstein GPT	Sales communication	Yes
NICE CXone SmartAssist	Customer interaction	No
Microsoft Copilot	Chatbot	Yes
DATA VISUALIZATION		
Luzmo	Chart generator	Yes
Microsoft Power BI	Data visualization	Yes
Tableau	Data visualization	Yes
Qlik	Data visualization	Yes
GRAMMAR TOOLS		
Grammarly	Grammar check	Yes
Wordtune	Writing tool	No
ProWritingAid	Grammar check	No
Quillbot	Rewriting tool	Yes
EMAIL MANAGEMENT		
Emailtree	Email writer	No
Lavender AI	Email writer	No
Phrasee	Email marketing	Yes
Mailbutler	Email management	Yes
SaneBox	Email management	No
SCHEDULING		
Reclaim	Time management	Yes
Clockwise	Time management	Yes
Motion	Task/time management	No
Emplifi	Scheduling	Yes
HubSpot AI	Efficient workflows	Yes
PRODUCTIVITY TOOLS, TRANSCRIPTION AND MEETING ASSISTANT		
Fireflies	Meeting assistant, voice analytic	Yes
Eightify	Summarize YouTube videos	Yes
Airgram	Meeting, transcription	No
Seenapse	Idea creation tool	No
Docugami	Document management	No
Podium	Manage operations	Yes
Otter	Automatic transcription	Yes
Krisp	Optimize meeting audio	No

Rationale	Decision making tool	No
PROJECT MANAGEMENT		
Asana	Develop projects	Yes
Upmetrics	Business planning	No
Any.do	Task management	No
Numerous	Excel/Sheet plug-in	No
PRESENTATIONS AND DESIGN		
Canva	AI tools included	Yes
Gamma	Slide decks	No
Appy Pie Design	Design tool	Yes
Tome	Slide decks	Yes
Slidesgo	Presentations	Yes
Decktopus	Presentations	Yes
Storydoc	Presentations	Yes
IMAGE GENERATOR		
Dall-E	Text-to-image	Yes
Midjourney	AI images	Yes
Stable Diffusion	AI images	Yes
Looka	Logo and brand maker	Yes
Aragon	Selfies to professional headshots	Yes
Getty	AI images	Yes
Adobe Firefly	AI images	Yes
VIDEO GENERATOR AND EDITOR		
Descript	AI videos	No
Fliki	Text to video	No
Synthesia	AI videos	Yes
Wondershare Filmora	AI videos	No
Runaway	AI videos	No
VOICE AND MUSIC GENERATOR		
Murf	Text to voice	Yes
Elevenlabs	AI voices	Yes
Splash Pro	Music generator	No
AIVA	Music generator	No
Wondercraft	AI videos	Yes
Adobe Podcast AI	Audio	Yes
Descript	Audio	Yes
RESEARCH COMPANION		
Aomni	Research tool B2B sales	Yes
Mem	Knowledge management	Yes
Genei	Research tool	Yes
Consensus	Search engine	No
Perplexity AI	Research tool	Yes
MARKETING AND SALES		
Qualifier	Lead identification	No
Byword	Purpose-built SEO	Yes

Jasper	Marketing	Yes
InsideSales	Automate sales process	Yes
Anyword	Copywriter	Yes
AdCreative	Content creation and editing	Yes
Zia	Sales assistant CRM	Yes
SocialBee	Social media management	Yes
Seamless	B2B sales	Yes
CUSTOMER SERVICE		
Glassix	Customer support	No
Chatbase	Customer service	Yes
LiveChatAI	Communication	Yes
Ultimate	Customer service automation	Yes
Podium	Leads, communication	Yes
WEBSITES		
Wix AI	Website builder	Yes
Divi AI	Website builder	No
Framer AI	Website builder	No
CodeWP	Website builder	No

Table 2. List of AI technologies for businesses according to Google search

4.5 Phase 5: Finalizing the thesis

Second check-up and last approval with the commissioner was 1.8.2024 where there was a 1,5 week period to give suggestions and feedback (which was attached to the thesis) but still left time to make those changes in the thesis and finalize it before the last submission on 18.8.2024. The thesis blog was created and published on 18.8.2024. The last phase included the final proofreading and last suggestions from the thesis counselor from SAMK. After finalizing the work, the final version of the thesis and guidebooks was sent to the commissioner.

5 ARTIFICIAL INTELLIGENCE GUIDEBOOK SERIES

The final outcome of this thesis was a guidebook series about the ethical and sustainable utilization of AI. The guidebooks were limited and classified for internal use only by the director which is why only the cover pages of the

guidebooks are presented in the thesis. All guidebooks' contents are based on the data collection executed in the thesis process. The guidebooks are distributed to employees in a digital format but can be printed if the employee wishes. All guidebooks were created with Canva-tool and Microsoft Word.

The themes and the numeral order of the guidebooks were decided based on the commissioner's wishes. Therefore, two of the guidebooks' themes Copyrights and also Privacy and data protections (guidebook 1 and 2) are actually sub-themes to the main themes. The reasoning for this chosen method is that these themes were the most desired ones, therefore making them into their own guidebooks served the purpose of the thesis better. The aim was to create each guidebook to be accessible and user-friendly.

5.1 Guidebook 1: Privacy and data protection

The second guidebook's (Appendix 1) theme is Privacy and data protection. The guidebook presents a brief introduction of the theme and the most relevant and recent data about what types of risk businesses should take into account while attempting to utilize AI in a way that supports privacy and data protection. The guidebook contains summaries about different themes and reminders about sub-themes to support work. The content also includes a view to different laws and regulations, a memo to support work and themes such as the responsibilities of the individual user analysed in different aspects and the reliability of information. The content has been created to be user-friendly and accessible both in terms of digital format and language. The guidebook contains a reference list with links to support continuous information search.

The guide is thirteen pages long and data is displayed utilizing micro-learning methods but also considering the visual appearance of the work. Table of contents of the guidebook:

- Privacy and data protection in the era of artificial intelligence
- Ethical And Legal Obligation
- Memo for work

- To support the memo
- Active search for information
- Anticipatory approach
- Information management

5.2 Guidebook 2: Copyrights

The third guidebook's (Appendix 2) theme is Copyrights. The guidebook presents the most relevant and recent data about copyright owners and AI technologies but also displays the most relevant law cases about the theme since those could affect future recommendations or even laws that might be changed. The guidebook contains summaries about different themes and reminders about sub-themes to support work. The content also includes a view of different laws and regulations, a memo to support work and themes such as the most recent law cases on a global scale and examples of effective strategies. The content has been created to be user-friendly and accessible both in terms of digital format and language. The guide contains a reference list with links to support continuous information search.

The guide is nine pages long and data is displayed utilizing micro-learning methods but also considering the visual appearance of the work. Table of contents of the guidebook:

- Copyright
- Laws and regulations
- Law cases
- Anticipatory approach
- Memo for professionals

5.3 Guidebook 3: AI technologies

The fourth guidebook's (Appendix 3) theme is AI technologies. The guidebook presents the most relevant AI technologies (based on survey) and the sustainable and ethical data that can be found through Google-search to support

making even more informed decisions while choosing AI technologies. The content has been created to be user-friendly and accessible both in terms of digital format and language.

The listing contains following data:

- name of the developer business
- name of the technology, tool or product
- short description of main functions
- link to the website
- confirmation section: whether there is information about ethics or sustainability to be found (displayed in words: yes or no)

5.4 Guidebook 4: Ethical and sustainable use of AI

The first guidebook's (Appendix 4) theme is Ethical and sustainable use of AI. The guidebook presents the most relevant and recent data about both themes, but at the same time highlights their sub-themes. The content includes themes such as a human-centric approach, ethical prompts (and examples of them), sharing information with stakeholders, monitoring of deviations, transparency and accountability. This guidebook also contains data about the environmental effects of AI and human rights aspects. The content has been created to be user-friendly and accessible both in terms of digital format and language. The guidebook contains a reference list with links to support continuous information search.

The guide is twenty-one pages long and data is displayed utilizing micro-learning methods but also considering the visual appearance of the work. Table of contents of the guidebook:

Ethical AI

- Transparency in the use of AI
- Ethics and AI
- Human-centric AI
- Effective and ethical prompts

Sustainable AI

- Sustainable utilization
- Environmental effects
- Human rights
- Information sharing

Conclusion

- Risk management

6 DISCUSSION

6.1 Evaluation of the process

The feedback from the director of Kumppania was as following: The cooperation has been effortless and the work has progressed efficiently and quickly. The survey results are useful Kumppania. Kumppania gained good content for their internal instructions, especially from the perspectives of copyright, data protection and environmental responsibility. The work will be used in the future and is seen as valuable to the staff. The work can also be used for creating content for the board, the management team and to various roles in production. The idea for an AI technology listing is excellent as an idea.

The thesis gained constructive feedback from the commissioners to improve the work even more. Changes were made to respect the commissioners' wishes and was seen as valuable feedback. The thesis was important to both since the commissioner has gained guidebooks that summarized the most recent theory about the theme from the massive theory basis. In the future the guidebooks can serve also as drafts that are easier to update as AI's development moves rapidly and updates are necessary. The author gained professional growth and knowledge of the important themes and can now utilize the knowledge in the working life after graduation.

The theoretical part proved the importance of creating internal instructions on the ethical and sustainable use of AI, which highlighted the relevance and importance of the thesis even more than was thought of at the beginning of the process. The objectives and research questions of the thesis were met since the data collection produced the data that was required since the data collection found various factors and aspects that affect the ethical and sustainable use of AI. All the goals set at the beginning of the thesis process were achieved (also including schedule, ethical aspects and accessibility and reliability).

The thesis process has proven that future research and development is ongoing and recent steps have been taken to develop the technology of AI. According to Finnish center of artificial intelligence (n.d.) the next generation solutions are already in development for example deep learning technology that does not need human intervention such as supervision from human developers. The theory shows that future development is near in the future which means there is a crucial need for active and continuous theory research but also a constant need for updating regulations, guidelines and instructions also in the business environment.

6.2 Professional growth

This thesis was executed in cooperation with the commissioner and their employees. The thesis plan was implemented on schedule and comprehensively according to the plan. During the process I learned many new things such as various new theories concerning AI and how concretely risk management strategies of AI impact the business in various different factors. I strengthened my exciting skills such as project management skills and scientific writing skills in English. Again, I learned how important it is to be flexible and change ready made plans if necessary, deviations can always occur and do also occur in working life.

One challenging part was that the theory base of the theme was massive. Therefore, making clear boundaries for the thesis was crucial. Another

challenging factor was staying objective since reading the negative ethical and sustainable impacts of AI was surprising. Protecting humankind, animals and the planet should be a priority in the development of AI but this duty has not always been fulfilled. Objectivity improved with active control of my own thoughts, since objectivity affects reliability and validity. Still after the process I want to learn more about the ethical and sustainable use of AI and take new university courses related to the theme.

A blog called “Ethical & Sustainable AI” was established on 18.8.2024 to strengthen the social influence of the thesis and impact a wider audience of professionals interested in the current and relevant theme. The blog was created in Webnode-service. The blog will be written in 2 languages, Finnish and English. Link to the thesis blog: <https://ethical--sustainable-ai.webnode.fi/>

As a small side study, AI was utilized only in the thesis guidebook 4 creation to obtain more depth in the thesis and to test how ethical and sustainable utilization effects usage and how to control possible deviations. AI was not utilized in any other part of this thesis and was only used in the making of the first guidebook (approved by the thesis counselor). The AI tool Google Gemini was used for making summarization from a small amount of text from this thesis theory part and making example bullet points of them.

The small study showed that while the AI can make good suggestions there were times that it did not perform well. The importance of double checking the summarized AI text is crucial since there occurred mistakes that changed the core message of the original text. In working life, this could have a significant impact on quality of work, customers and the work environment since truthful and trustworthy (linked to ethics and sustainability) communication is fundamental to business success.

6.3 Reflections on data management and ethics

The thesis does not present confidential data about the commissioner seen as trade secrets or confidential information or conversations without permission. All data and notes were created digitally with Microsoft Word and stored in Microsoft OneDrive-service. Access to all digitally stored data was protected with a password which only the author had access to. An updated firewall and virus protection had been installed on the computer to protect data security and was kept updated throughout the entire process. All the survey data and its analysis notes will be destroyed after receiving the grade of the thesis, but no later than 01.11.2024.

Anonymity must be protected, as it is promised to participants. The results will not present, target or display data based on a specific participant. Survey participants always had the right to refuse to answer questions or not participate. The survey was carried out anonymously in order to increase the privacy protection of the participants and no risks occurred in securing anonymity. Survey results and analysis were stored safely on the service provider SurveyMonkey-website and analysis on the OneDrive-service provided by SAMK.

This thesis was published in Theseus, where anyone can find the thesis as a public and open publication. This thesis is made accessible by following Theseus and SAMK's guidelines.

7 CONCLUSION

We encounter and interact with AI in various ways at the moment. The extent of it is a bit difficult to even grasp. There is no "one easy" solution while navigating the complexity of AI, especially in the ethical and sustainable aspects. AI technology offers us a wide range of positive effects and opportunities.

Simultaneously, it is crucial to understand and be aware of the negative impacts of utilization to ensure the safe utilization of AI.

Transparency and accountability protect consumers and theory indicates that responsibility lies not only with developers but also with the users. Consumers and professional users should re-position technology and themselves in a new way, as AI technology is no longer just a non-symbiotic tool since its utilization creates reactive interactions affecting various outcomes (Kore, 2022, Section 3). I agree with Kore, we should re-position ourselves to ensure to teach AI to be more efficient but also at the same time safer for all. All users should be aware of the positive and negative outcomes that utilization can have on the environment, humans and business life.

The internal ability to adapt to the rapidly changing development of AI is crucial. Risk management supports mitigating the negative impacts that AI can cause. Minimizing and evaluating the risks of AI brings users closer to internal risk control. By identifying and monitoring potential risks in a proactive method, businesses can minimize potential negative impacts. Professionals should follow global events, innovations, news and developments. Creating and continuously updating internal guidelines and regulations for the ethical and sustainable use of AI as a part of AI-related risk management strategy is crucial.

The development of AI regulations is still ongoing. Questions still remain after the thesis process, how can we as a society, as individuals and in business life help to create laws and regulations that are efficient to protect the ethical and sustainable use of AI at this moment in time but also how to ensure that the laws would be able to be changed as rapidly as the development of AI moves. This question still remains to be answered.

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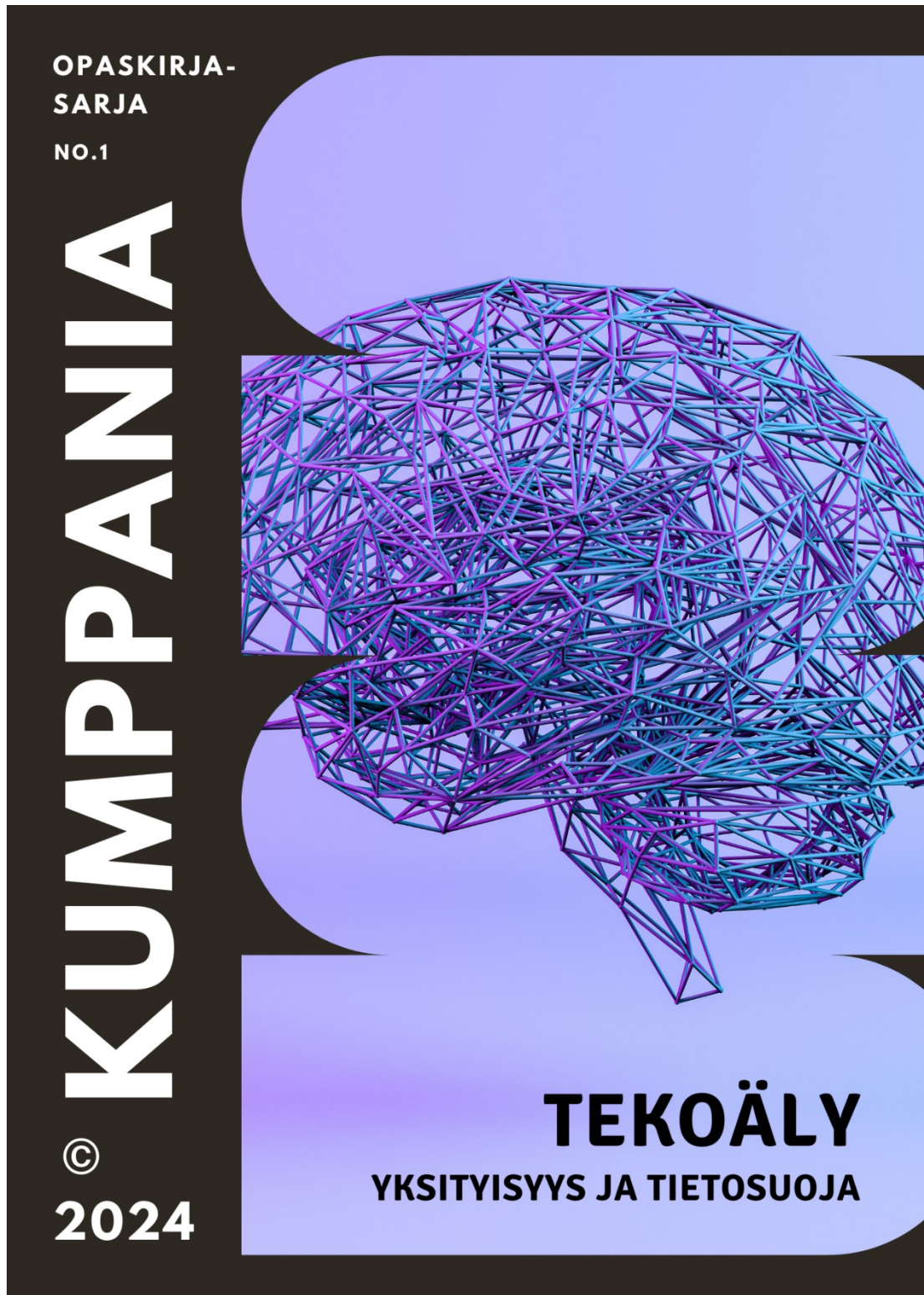
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APPENDIX 2: GUIDEBOOK 2



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APPENDIX 5: ANONYMOUS SURVEY FOR EMPLOYEES

Thesis: Using artificial intelligence ethically and sustainably. Guidebook series for Kumppania Oy's internal use. This is an anonymous survey for employees. Thank you for participating!

1. What types of work tasks do I use/could imagine using artificial intelligence?

- a) I do not use artificial intelligence in work tasks
- b) Other comment, write in the comment field

2. Which of the themes is more familiar to you? You can choose both options if you want.

- a) Ethical utilization of artificial intelligence
- b) Sustainable utilization of artificial intelligence

3. Utilizing artificial intelligence ethically and sustainably is a very broad topic. Which theme/themes do you think would be important to write about in the new guides? Choose at least 3 options.

- a) Transparency
- b) Privacy and data protection
- c) Security and information security
- d) Copyright
- e) Principles of the thesis theme
- f) The importance of information research
- g) Artificial intelligence as a research assistant
- h) Concrete tips
- i) Effective prompts
- j) Risks and challenges
- k) Accountability
- l) Human-centric artificial intelligence
- m) Write your own suggestion in the comment field

4. What wishes would you have regarding the artificial intelligence technology section?

- a) For example, listed options about different programs could be added to the guides
- b) I don't need more information about the theme
- c) A brief introduction to the theme could be useful

5. What wishes and/or suggestions do you have regarding the guides?

- a) I have no wishes or suggestions for guides
- b) I have wishes (write in the comment field)