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Application of generative AI to create value, cost savings, and enhance competitiveness in a case company engaged in management consultation

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ABSTRACT :
With the rapid development of generative AI, companies have begun to consider how they can create added value with AI-based tools and maintain their competitiveness as technologies evolve. This thesis examines how the studied case company can utilize AI in its strategy to generate value and cost savings and secure a competitive advantage in the management consulting industry. The research aims to determine how the case company can use AI to enhance its processes and what challenges and opportunities are associated with adopting AI.

The research method of this thesis is design science. The study addresses literature related to generative AI and utilizes previous research to find optimal solutions for the adoption of AI in the case company. The empirical part of the research includes a survey, interviews, weekly workshops, and a collection of usage experiences from the case company employees. Several use cases are defined and tested in real-time as part of the case company's business processes. These use cases are defined based on the literature reviewed and the desires and experiences of the case company to meet the company's needs. The research also assesses the risks associated with generative AI.

Key findings of the study show that, despite limitations in existing AI tools in the market, generative AI can offer significant time and cost savings for the company. The research demonstrates that when used correctly, AI solutions can increase and enhance employees' capabilities and resources, improving the company's productivity. Utilizing generative AI reduces energy consumption by employees, allowing them to focus on more strategic tasks instead of routine tasks and enhance their expertise. As a result, the case company can provide more efficient and advanced services to its customers. However, employees must master the tools they use and be responsible for the content produced by AI. If used carelessly, AI can cause security issues and produce inaccurate data. The study shows that adopting AI needs to be carefully prepared according to the company's needs and that the company must create a safe and encouraging culture for AI.

The study results provide confirmation for the case company on which processes generative AI is profitable to use and what are the current limitations of generative AI. The study proves that adopting AI is profitable at this stage but also emphasizes how continuous development and adopting new features are essential to maintaining a continuous competitive edge.

KEYWORDS: artificial intelligence, integration, competitive advantage, productivity, consulting, value creation

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TIIVISTELMÄ:
Generatiivisen tekoälyn nopean kehittymisen myötä, yritykset ovat alkaneet pohtimaan miten he voisivat luoda lisäarvoa tekoälypohjaisten työkalujen avulla ja säilyttää kilpailukykynsä teknologioiden kehittyessä. Tämä tutkielma tutkii miten tapausyritys voi hyödyntää tekoälyä omassa strategiassaan tuottaakseen lisäarvoa ja kustannussäästöjä, sekä turvatakseen kilpailuedun liikkeenjohdon konsultointialalla. Tutkimus pyrkii selvittämään, miten tapausyritys voi käyttää tekoälyä tehostaakseen prosessejaan, sekä minkälaisia haasteita ja mahdollisuuksia tekoälyn käyttöönottoon liittyy.

Tämän tutkielman tutkimusmetodi on suunnittelututkimus. Tutkimus käsittelee generatiivisen tekoälyyn liittyvää kirjallisuutta ja hyödyntää aiempaa tutkimusta löytääkseen optimaalisia ratkaisuja tekoälyn käyttöönottoon tapausyritykselle. Tutkimuksen empiiriseen osaan sisältyy kysely, haastatteluita, viikoittain järjestettyjä työpajoja ja käyttökokemusten keräämistä tapausyrityksen henkilöstöltä. Tutkimuksen empiirisessä osassa määritellään useita käyttötapauksia, joita testataan ja analysoidaan reaaliaikaisesti osana tapausyrityksen liiketoimintaprosesseja. Käyttötapaukset määritellään tutkimuksessa käydyn kirjallisuuden ja tapausyrityksen toiveiden ja kokemusten pohjalta, jotta ne vastaisivat mahdollisimman hyvin yrityksen tarpeisiin. Tutkimus arvioi myös generatiivisen tekoälyyn liittyviä riskejä.

Tutkimuksen keskeiset havainnot osoittavat, että vaikka markkinoilla olevissa tekoälytyökaluissa ilmenee vielä rajoitteita, niin generatiivinen tekoäly voi tarjota yritykselle merkittäviä aika- ja kustannussäästöjä. Tutkimus osoittaa, että oikein käytettynä tekoälyratkaisut lisäävät ja parantavat työntekijöiden kykyjä ja resursseja, sekä parantaa yrityksen tuottavuutta. Generatiivisen tekoälyn hyödyntäminen vähentää työntekijöiden energiankulutusta, jolloin työntekijät voivat keskittyä rutiinitehtävien sijaan strategisempiin tehtäviin ja parantaa asiantuntijuuttaan. Tämän myötä tapausyritys voi tarjota tehokkaampia ja edistyneempiä palveluita asiakkaille. Työntekijöiden tulee kuitenkin hallita käytettäviä työkaluja ja olla vastuussa tekoälyn tuottamasta sisällöstä. Huolimattomasti käytettynä tekoäly voi aiheuttaa tietoturvaongelmia ja luoda epätarkkaa dataa. Tutkimus osoittaa, että tekoälyn käyttöönotto pitää valmistella yrityksen omien tarpeiden mukaan ja yrityksen tulee luoda turvallinen ja kannustava kulttuuri tekoälyyn liittyen.

Tutkimuksen tulokset tarjoavat tapausyritykselle vahvistuksen siitä, millaisissa prosesseissa generatiivista tekoälyä on kannattavaa käyttää, ja mitkä ovat generatiivisen tekoälyn tämänhetkiset rajoitteet. Tutkimus todistaa tekoälyn käyttöönoton olevan kannattavaa jo tässä vaiheessa, mutta korostaa myös kuinka jatkuva kehitys ja uusien ominaisuuksien käyttöönotto on oleellista jatkuvan kilpailuedun säilyttämiseksi.

AVAINSANAT: tekoäly, integraatio, kilpailuetu, tuottavuus, konsultointi, arvonluonti

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Abbreviations

AGI	artificial general intelligence
AI	artificial intelligence
CXM	customer experience management
EBIT	earnings before interest and taxes
FiCo	finance and control
GAN	generative adversarial network
GDPR	general data protection regulation
HR	human resources
IAM	intellectual asset management
LLM	large language model
ML	machine learning
MS	Microsoft
NLP	natural language processing
OECD	Organization for Economic Co-operation and Development
PM	project manager
R&D	research and development
SME	small and medium-sized enterprise
XM	experience management

1 Introduction

Artificial intelligence (AI) has emerged as a new and potential tool, generating significant interest in the business market. There is a keen interest in new AI solutions that enhance companies' efficiency and innovation (Haefner et al., 2021, p. 1). New AI tools are constantly entering the market, and AI features are being added to existing software (McKinsey & Company, 2023). Companies are eager to explore these new solutions but are also aware that AI integration requires preparation and planning to maximize the benefits and potential of AI (McKinsey & Company, 2023; Poland et al., 2024, p. 10). How to find the right way to utilize AI to ensure a competitive advantage and make new AI-based processes operate profitably?

1.1 Study gaps and background

This research is a case study for a case company aiming to systematically implement AI in their consulting work to maintain competitiveness and cost efficiency as well as create more value for their services. The case company's employees have been encouraged to try AI tools in their work, but the company has no specific AI strategy planned yet. This study is part of a broader strategy reform the case company is developing.

Generative AI is a type of artificial intelligence that can create new content, such as text, images, and audio, rather than just making predictions based on data (Zewe, 2023). It learns from existing data and then generates new items that resemble the original data, which makes it more advanced than traditional machine learning technologies (Zewe, 2023). Tools like ChatGPT, which are built on generative AI, use vast amounts of data and complex models to produce advanced and varied outputs (OpenAI, n.d.b). Generative AI can analyze and create natural language, recognize patterns, and handle large datasets, making it a versatile and powerful tool (Zewe, 2023).

Generative AI has brought new possibilities, but implementing new AI solutions requires background work. All companies need to adapt the AI solutions to their own practical

needs and analyze how AI-based tools can be used in the best way and according to the company's strategic objectives, as well as help shape the company's strategy and offering.

The study aims to discover how AI could be a natural part of the case company's strategy and internal processes. The purpose of the study is to ensure that the case company does not fall behind in technological development, thereby maintaining its competitiveness and efficiency in the market. The goal of this study is to guarantee that the case company can leverage the current state of AI solutions in the best possible way to achieve advantages in optimizing resource and energy consumption, as well as in generating time and cost savings.

This study is conducted to identify which business processes in the case company can benefit from AI and how it should be implemented, ensuring that the company stays up to date with ongoing advancements in AI technology. This thesis will investigate how time-consuming tasks in specific use cases could be performed faster with AI to utilize the saved resources for more strategic activities. The case company's existing processes will be reviewed to identify process bottlenecks that AI could improve. AI solutions will be tested in practice, and the results will demonstrate the value generated for the company.

1.2 Case Company – PBI Research Institute

The case company PBI Research Institute (PBI) is a research-based management consultancy with a proven track record in industrial investments and project business. The case company's name, PBI, is an abbreviation for Project Based Industry. The main areas of PBI's services are consulting on strategy, experience management, and delivery of infrastructure and industry projects. Its mission is to create and implement new knowledge and work on projects that aim for a more sustainable world. The company focuses on the energy, marine/ports, paper, infrastructure, and logistics industries.

PBI's research-based consulting is based on advanced analytics and scientific research. The company works closely with world-leading universities, and their owner, the PBI Foundation, finances new research in business and industrial management. To stay competitive, PBI aims to bring new knowledge to the market and transfer research results to practical application. Keeping up with the development of new technologies supports their objectives.

The case company expects that generative AI could enhance its processes by improving efficiency and reducing time consumption. The current tasks in PBI include, for example, creating and analyzing different data and documents, researching new topics and customer fields, and evaluating and improving business processes. Some of the tasks are experienced resource-intensive, which limits employees' ability to focus on expanding their expertise. The case company expects that through the use of AI, PBI could offer more advanced and efficient services for their customers and maintain competitiveness in the management consulting field. PBI aims to remain at the forefront as the adoption of generative AI continues to expand.

New AI technologies will be used during the research process, but the main point of the study is to create a good base and knowledge for using AI in PBI. AI integration is not meant to be rushed; instead, new solutions will be implemented according to a well-defined schedule. This study will play an essential role in planning the subsequent steps to ensure a seamless AI integration.

1.3 Research objectives and questions

This thesis aims to investigate the current AI tools, solutions, and technologies and find suitable AI solutions for the case company. The main objectives of the research can be summarized as follows:

1. Evaluate how PBI can leverage generative AI effectively by assessing the current state of AI integration in the consulting industry and project management.

2. Analyze how generative AI can optimize PBI's internal processes, reduce manual work, and improve efficiency.
3. Examine the use of generative AI in management consulting to enhance data-driven outcomes, decision-making, and value creation.

With these objectives, the aim is to find out how AI can strengthen the company's strategy and what the business case is for applying AI in various company functions. In detail, the study will explore how AI-based tools can be applied in both internal administrative and development work, as well as in customer work. The thesis will find out how AI can reduce time-consuming and manual work in analyzing data and analytics, how AI can be used for retrieving and producing information, and how it can function as an advisory resource in various functions.

Based on the research objectives mentioned above, this study has two central research questions that guide the investigation of how PBI can effectively utilize generative AI to enhance its operations in the field of management consulting. The research questions are as follows:

1. How can PBI use generative AI to improve its processes and reduce operational costs in management consulting?
2. What are the challenges and opportunities for PBI in applying generative AI, and how can they secure a competitive advantage in the consulting industry through AI adoption?

The first question aims to find out what kind of AI solutions should be used and in which functions to maximize the potential of AI. The target is to improve PBI's processes and gain cost benefits through the new tools and process design. Process improvement covers both aspects, improving efficiency and quality, as well as increasing innovativeness. With these aspects, it can be assumed that the company generates more

value for itself and its customers, reduces costs through better efficiency, enhances creativity, and improves outcomes and decision-making.

The second question addresses the importance of considering the possible risks in using AI and seeks to determine what kind of risk management the implementation and use of AI requires. It also drives the investigation of possible opportunities, like competitive advantage and expansion of expertise and knowledge. The question aims to uncover employees' and customers' perspectives on AI, ranging from positive to skeptical views, while also identifying key factors essential for maintaining customer trust.

This thesis's expected contribution is to provide a comprehensive and empirical understanding of AI's role and potential for the case company. It will provide practical implications and recommendations for adopting or improving AI use in a company's processes. Furthermore, the thesis aims to guide the company in keeping pace with evolving AI solutions.

1.4 Scope of the research

The research carries out a high-level analysis of the use of AI in consulting management at a general level and will focus on four use case areas in more depth. The use case areas are about various company sections that go through the different operations of the case company comprehensively. These use case areas will be presented next:

1. **Knowledge management and proprietary knowledge** (=tuning/training an LLM model on the company's cloud) and its implications for both value creation in sales and delivery, for the company's brand and IAM (intellectual asset management), as well as impact on company valuation.
2. **Efficiency and augmentation of analytics** (=tuning/training of XM analytics) and its implications for project delivery, offering development and value propositions

3. **Efficiency and augmentation of administration** (=sales, marketing, Finance & Control)
4. **Strategy and board work** (=experimenting with gen AI as an advisory management team member/board member)

The first use case area aims to utilize the company's previous knowledge by using the archives to produce new materials. The case company has a large amount of previous data that is hard to find and utilize manually. As a research-based company, PBI also exploits academic research in their project work. AI-based knowledge management could make the data and material processing much more efficient. AI can also augment human analysts by providing tools and feedback to improve their skills and performance.

The second use case area is related to experience management (XM) analytics. Experience management is an essential and significant part of PBI's business. PBI handles large data files, and this thesis will find solutions to handle the data more efficiently and precisely. There is a higher risk of human errors in data handling when the data is processed manually. It is assumed that AI could handle the data faster and with lower error risk.

The third use case area seeks to enhance quality and streamline administrative processes. Presently, numerous sales-related tasks are time-consuming and repetitive. Efficiency could be increased if AI assists in routine tasks, allowing sales personnel to concentrate on marketing and acquiring new customers. Additionally, AI could enhance the quality of marketing materials by ensuring consistency in visual presentation. The quality is further enhanced as AI corrects typos and assists in structuring the text for optimal clarity and consistency.

The final use case area focuses on strategy and board work. AI could aid in decision-making and act as an advisor and innovation source. As an additional board member, AI could offer complementary insights and guide the thought process, providing potential

ideas that encourage deeper consideration. AI's quick responses can enhance individual decision-making, saving management time and preventing potential missteps by offering alternative directions.

Additionally, this research will investigate prompt engineering, as it is an integral part of successful LLM (large language model) use. When AI is utilized correctly, it can deliver better responses and generate higher-quality materials (White et al., 2023). The thesis investigates the optimal methods for prompting to provide improved answers presented in an enhanced format.

The research will not focus on how AI works in terms of coding language and will not dive into data integrations. Instead, it will explore the broad application of AI across various company processes and address specific process bottlenecks. Additionally, the study will guide sustaining ongoing development in AI integration, considering the continuous evolution of AI solutions. Ultimately, this thesis aims to assist the company in initiating and expanding its utilization of AI within its strategic framework.

1.5 Structure of the thesis

This thesis consists of an introduction, literature review, methods, results, and conclusion. The Introduction provides information about the case company, outlines the research topic, and introduces the research questions and objectives. The literature review offers an in-depth analysis of existing research on AI, covering critical concepts, historical developments, and AI’s applications and impacts on business, and identifies the research gaps. The methodology section introduces the research process and the data collection methods used, ensuring transparency and reproducibility. The results section presents the findings from empirical research conducted at the case company, including survey results and case studies, demonstrating the impact of AI implementations. The conclusion part summarizes the key findings, discusses implications, offers

recommendations for future research, and evaluates the achievement of research objectives.

2 Literature review

This section introduces the literature related to generative AI. The purpose of this section is to give a comprehensive understanding of the current state of AI, how it has evolved to the current point, and the prospects for the future in the field. This part introduces the key concepts and essential terms related to this thesis. As an important part, this section goes through the current research to explore the effects that the use of generative AI has been found to have on the operations of businesses across different areas. Finally, this section reviews the risks and ethical considerations related to the field. That part will discuss the challenges faced related to generative AI.

This part of the thesis is essential, as it reviews the existing knowledge, establishes a theoretical framework for the study, and provides a comprehensive background on the topic. The current research demonstrates the relevance of this research, as it shows that positive and significant associations between the use of generative AI and productivity have been found (Czarnitzki, 2023, p. 188), but also because there are many risks and ethical considerations that need to be considered on a case-by-case basis in AI integration.

2.1 Overview of the field and critical concepts related to generative AI

What is generative AI, and what makes it so special? This part focuses on opening the essential terms and concepts related to artificial intelligence. Opening the terms related to generative AI and the concepts behind it has been considered an essential part of this thesis to support the goal of AI transparency.

A few years ago, before generative AI became widely known, conversations about AI were usually related to machine learning (ML) (Zewe, 2023). Machine learning is a subdivision of artificial intelligence and makes AI adaptive, as it provides the ability to improve performance by learning from experience (Roos & Hagström, n.d.). Zewe (2023)

explains that ML models can learn to make predictions based on the given data, while generative AI is able to generate completely new content, such as text, images, and audio (Zewe, 2023; Feuerriegel et al., 2024, p. 111). A generative AI system is essentially a tool that learns from a data set and then produces new items that resemble the original data (Zewe, 2023). Zewe (2023) explains how generative AI is more advanced than traditional machine-learning models:

> *Generative AI can be thought of as a machine-learning model that is trained to create new data, rather than making a prediction about a specific dataset. A generative AI system is one that learns to generate more objects that look like the data it was trained on.*

Artificial intelligence (AI) as a concept can be vague because it can be used to refer to almost anything from statistics and analytics to hand-coded if-then statements (Roos & Hagström, n.d.). Artificial intelligence can be divided into two categories: ”narrow AI” and ”artificial general intelligence (AGI)” (Roos & Hagström, n.d.). Narrow AI refers to AI that can solve one problem at a time, while AGI refers to machines that are able to solve any intellectually solvable problem (Roos & Hagström, n.d.). AI researchers aim to develop workable AGI, but all AI technologies currently belong to the narrow AI category (Brockman, 2019; Roos & Hagström, n.d.).

The core technology behind ChatGPT and similar tools works mainly the same way as traditional ML models, but the solutions are far more extensive and complex (Zewe, 2023). In MIT's article, Zewe (2023) writes that ChatGPT operates with billions of parameters and is trained on a vast dataset, essentially comprising a massive portion of text available on the internet, making it significantly more complex and capable (Zewe, 2023). Additionally, AI utilizes deep learning, a subdivision of machine learning (Roos & Hagström, n.d.). Deep learning uses networks of simple units in layered structures to learn complex patterns without needing massive amounts of data (Roos & Hagström, n.d.). AI technology layers are illustrated in Figure 1 below. In addition to the ability to handle big datasets, research advancements such as a new machine-learning architecture GAN

(generative adversarial network), diffusion models, and transformer architecture have led to revolutionary generative AI solutions (Zewe, 2023).

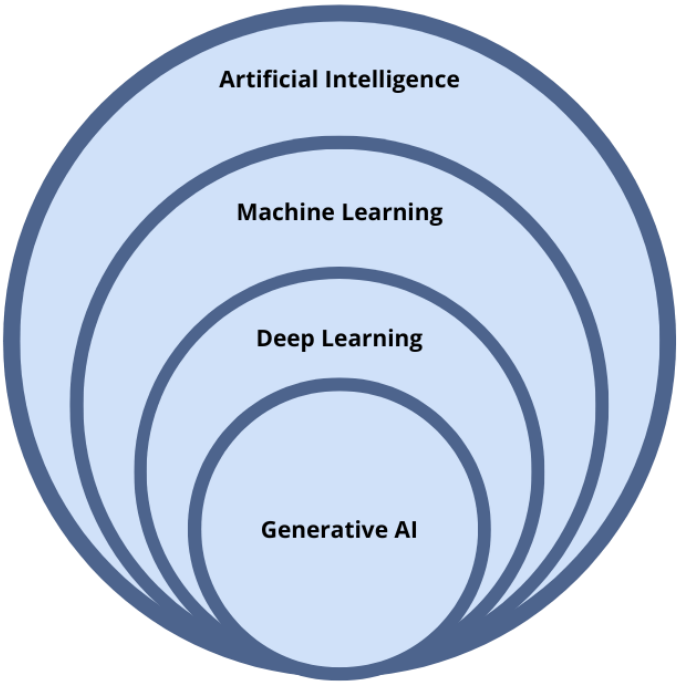


Figure 1. Layers of AI technology.

One more essential term to open is neural networks. Generative AI is often described as technology that mimics human intelligence. Neural networks are models that mimic brain function and aim to replicate the mechanisms of how the brain operates (Roos & Hagström, n.d.). Neural networks have proven to be excellent tools for machine learning methods. Deep learning based on neural networks has led to significant advancements, especially in previously challenging areas of AI, such as processing natural language and images (Roos & Hagström, n.d.).

2.2 Background

The latest advancements in generative AI have made it a widely discussed topic across various sectors. Companies are considering the possibilities and challenges related to

the use of generative AI in various business areas (Dencik et al., 2023). People fear the safety and security risks and think about how generative AI will affect their jobs. At the same time, people are interested in new technologies and their ability to improve productivity and innovativeness. New AI solutions are appearing continuously, and companies are struggling with how to utilize AI successfully.

The release of OpenAI's ChatGPT in late 2022 was a technological breakthrough, as ChatGPT represented a significant leap in natural language processing (NLP), offering capabilities like generating human-like text as well as understanding different kinds of context and data sets (Heaven, 2024; Davison et al., 2023, p. 296). This is how OpenAI's help center (OpenAI, n.d.b) introduces ChatGPT:

> *ChatGPT is an artificial intelligence-based service that you can access via the internet. You can use ChatGPT to organize or summarize text, or to write new text. ChatGPT has been developed in a way that allows it to understand and respond to user questions and instructions. It does this by "reading" a large amount of existing text and learning how words tend to appear in context with other words. It then uses what it has learned to predict the next most likely word that might appear in response to a user request, and each subsequent word after that.*

OpenAI develops its LLMs, including ChatGPT, mainly using three data sources: openly accessible internet content, proprietary data obtained through licensing agreements, and input from users and professional trainers (OpenAI, n.d.b). Generative AI is a broad category, and it includes several different approaches. Language models are the most well-known, but generative AI can also generate creative content such as art creation and music composition. The ability to create completely new content is revolutionary, and based on Orchard and Tasiemski (2023, p. 16), generative AI will change the structure of the global job market.

Integrating generative AI into the wider organizational processes requires a multifaced approach and careful planning (Poland et al., 2024, p. 10). Dencik et al. (2023, p. 34) highlight that a good starting point is to gain a common understanding of the guidelines for the ethical and secure use of AI. Dencik et al. (2023) suggest that companies focus on

three areas. The first area is organization and skills, which include transforming the mindset, setting measurable goals, and renewing the operating models. The second area is data and platform, which includes finding and preparing the necessary tools and data management. The third area is risks and governance, which includes the overall risk management around AI integration (Dencik et al., 2023, p. 35).

2.2.1 Historical Overview

The history of artificial intelligence stretches back to the 1940s when the English mathematician Alan Turing developed a machine called “The Bombe” (Haenlein & Kaplan, 2019, p. 6). Around the same time, Isaac Asimov published a fictional short story, “Runaround,” which introduced the “Three Laws of Robotics,” which is considered the basis of AI ethics (Haenlein & Kaplan, 2019, p.6). In 1950, Turing published the article “Computing Machinery and Intelligence” (Turing, 1950). That article introduced the famous Turing test that describes how to create intelligent machines and test the intelligence of those machines (Haenlein & Kaplan, 2019, p. 7). A few years later, in 1956, Marvin Minsky and John McCarthy officially introduced the term “Artificial Intelligence” in their workshop organized at Dartmouth College (Haenlein & Kaplan, 2019, p. 7).

In the 1960s, there was a decline in AI research, as the results of related projects were poor (Roy, 2023). Based on Roy’s article, later in the 20s, the actual value of AI was finally found, and new business-applicable and value-generating systems were integrated into the real world. As trainable multilayer networks started to be understood widely in the middle of the 1980s, the backpropagation algorithm was described in 1986 (LeCun et al., 2015, p. 438 & Rumelhart et al., 1986). The backpropagation algorithm is a crucial method for training neural networks (Rumelhart et al., 1986). During the 1990s, the field of AI experienced significant growth and advancement as emerging methodologies such as "neural networks" and "machine learning" became increasingly popular (Roy, 2023). These approaches enabled AI systems to autonomously learn and adapt, which led to the rapid development of AI systems (Roy, 2023).

LeCun et al. (2015, p. 438) address that the key developments in the 20th century, such as backpropagation algorithms, breakthroughs in data availability, and computational power, have evolved into today's deep learning techniques. Deep learning enabled AI to process even more complex tasks. In the 2010s, AI began to impact new areas, leading to innovations such as speech recognition, image classification, and self-driving cars (Roy, 2023). Finally, in the late 2010s, language models emerged, advancing the field of artificial intelligence. These new generative AI solutions were able to generate new creative content, and they have been a breakthrough point in the development of AI (Roy, 2023).

2.2.2 The latest developments in the AI field and future prospects

The article (Dale, 2023), "A year is a long time in generative AI," describes the rapid advancements in generative AI technologies over just one year. Dale (2023) identifies OpenAI, Google, and Microsoft as the most significant developers and providers of generative AI applications. They are at the forefront of AI advancements, with significant developments and investments shaping the industry's direction (Dale, 2023, p.201). AI research and deployment company OpenAI released the ChatGPT web interface on the 30th of November 2022 (Dale, 2023, p. 202). This release was a huge step forward, making generative AI available for everyone (Dale, 2023, p. 201). Throughout 2023, OpenAI continuously developed its product, resulting in ChatGPT's ability to utilize real-time information from the internet, analyze documents and data, and generate images (Dale, 2023, p.203).

Microsoft and OpenAI began a partnership in 2019 when Microsoft invested in OpenAI for the first time to support them in building beneficial AGI (artificial general intelligence) (Brockman, 2019). This collaboration enabled Microsoft to rapidly integrate available AI technologies into its services, securing its position as a leader in the AI technology field (Dale, 2023, p.211). Meanwhile, Google faced competitive pressures and financial losses by releasing unfinished products (Dale, 2023, p. 203). Dale (2023, p. 212) writes that despite these challenges, Google has the potential to maintain its place in the AI market

due to its ongoing efforts to adapt and innovate in the rapidly evolving AI landscape. This thesis will mainly focus on ChatGPT+ and MS Copilot, as the case company uses MS products.

Yejin Choi (2023), an AI expert and a professor of Computer Science at the University of Washington, said in her interview for the podcast Unconfuse Me with Bill Gates: “That very first invention is never the optimal solution. There is always a better solution”. She compared AI to the first-ever Microsoft computer and described it as a very exciting invention but pointed out that every single year, better, smaller, and faster computers have been invented. With the same logic, it can be assumed that generative AI solutions are still in a very early phase and will be developed continuously during the following years and decades.

2.3 AI in business

According to Day and Schoemaker (2016, p. 74), rapid adaptation to new technologies benefits organizations by enabling them to navigate swiftly changing markets, maintaining, or achieving competitive advantage. As AI continues to evolve, it can be assumed that its role in providing a competitive edge becomes increasingly critical, not only by optimizing current operations but also by enabling new business models and revenue streams. According to Dencik et al. (2023, p.30), 38% of C-suite leaders experience that quick adaption to generative AI is needed to keep up with the competition. Business leaders are being pressured to act faster on generative AI investments, mainly by the board members and investors, but also by employees, media, and other sectors (Dencik et al., 2023, p.31).

As with any new mode of operation in a company’s strategy, AI integration requires effort to build the necessary supporting components (Brynjolfsson et al., 2019, p. 51). It also requires flexibility and willingness to change the way of working from the entire organization, including all the individuals (Brynjolfsson et al., 2019, p.51). Based on an article

by Brynjolfsson et al. (2019), companies need to be very committed to the change, as AI investments can be costly and take time to implement. New technologies and ways of work must be adapted to organizations' particular needs (Dencik et al., 2023, p.33).

Using new technologies and solutions changes the habits and needs, and the nature of work tasks may change. Based on Basnet's article (2024, p. 286), the role of AI is complementary, and it will not replace, for example, social interaction and emotional intelligence. However, Orchad and Tasiemski (2023, p. 14-17) write that generative AI will automate and replace many jobs, but new employment opportunities will also arise. New jobs might be related to AI control and ensuring that the cooperation between humans and machines functions correctly (Orchad & Tasiemski, 2023, p. 14). Orchad and Tasiemski (2023, p. 17) note that, for example, jobs related to prompt engineering did not exist earlier. Based on the European Parliament (2020), 14% of jobs in OECD countries are highly likely to be automated, and 32% of jobs in the same countries will face significant changes. Orchad and Tasiemski (2023, p. 15-16) predict that software engineering and jobs that include extensive data analysis are most likely going to be affected by generative AI. However, based on historical patterns, automation has led to the creation of new jobs and employment growth in the long term (Briggs et al., 2023).

Generative AI will most likely positively affect the world's economy. One of the leading global financial institutions, The Goldman Sachs Group, Inc., predicts that AI could raise global gross domestic product by 7% over a 10-year period (Briggs et al., 2023). Generative AI enables employees to focus on more strategic activities instead of manual routine tasks (Basnet, 2024, p. 284). Based on the article by Briggs et al. (2024, p. 13), the possibility of generative AI to automate a significant part of current jobs and job tasks leads to labor cost savings and increased productivity. Generative AI's advanced capabilities in generating human-like outputs and breaking down communication barriers between humans and machines are significant advancements with macroeconomic implications (Briggs et al., 2023, p. 5)

2.3.1 Generative AI's effects on efficiency

Broadly, current literature and research divide the benefits of artificial intelligence in the business world into two categories. The first is described as "intangible capital assets," which can help a company be more efficient and productive and obtain higher level output (Czarnitzki et al., 2023, p. 188; 201). AI can complete tasks that were previously achievable only by humans (Vial et al., 2022, p. 688). Different AI applications can be used to optimize business energy consumption, which leads to increased firm productivity and value creation (Czarnitzki et al., 2023, p. 188).

Generative AI can do more than just save time on tasks; it can help businesses grow in important ways. Dencik et al. (2023, p. 31) identified the primary factors driving business value from adopting generative AI. They categorized these top factors into three areas: expanded capabilities, business growth, and cost reduction. All these categories have a significant role in firm efficiency. According to the survey conducted in the research (Dencik et al., 2023), the greatest importance is given to expanded capabilities, which include improving the quality of content, securing competitive advantage, and improving decision-making. Next comes business growth, which aims to expand employee expertise, improve sales and revenue, as well as accelerate customer acquisition and enhance customer experience. Cost reductions and decreases in staff numbers also interest companies to some extent. An important insight is that automating tasks is not one of the priority areas of AI integration, even though it is often assumed (Dencik et al., 2023, p. 30).

According to McKinsey & Company's research (2023, p. 9), companies, where at least 20 percent of their EBIT (earnings before interest and taxes) in 2022 was attributed to AI usage are less aligned toward cost reduction, which is the main priority in other companies based on that survey. That research (McKinsey & Company, 2023, p. 9) shows that the primary goal in AI integration is to increase the value of offerings by integrating AI-based features or insights. Increased revenues from core businesses and creating new businesses or sources of revenue are also important drivers in AI adoption (McKinsey &

Company, 2023, p. 9). Figure 2 below introduces business value drivers and objectives for AI adoption.

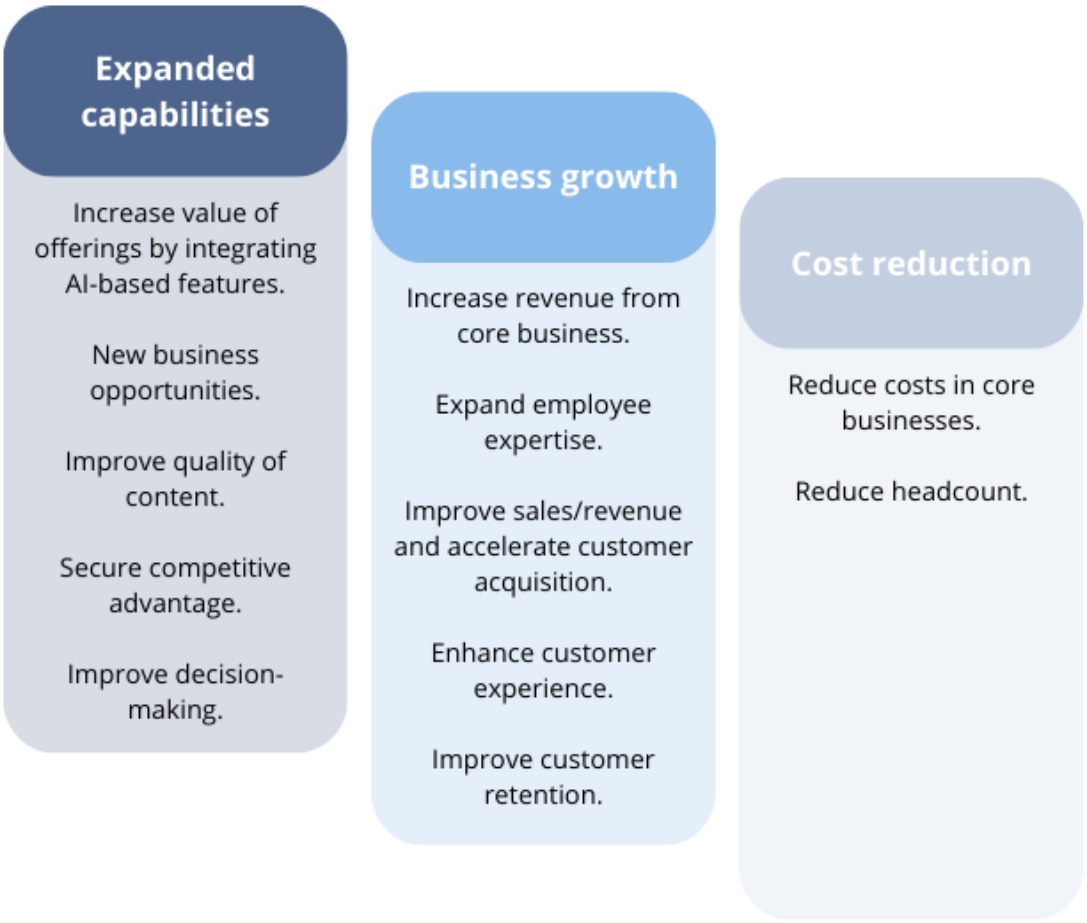


Figure 2. Top objectives and drivers in AI adoption.

Generative AI can be used for plenty of different time-consuming tasks. It can analyze complex datasets, generate detailed reports, and provide insights into related market trends (Rane, 2023a). Generative AI, like ChatGPT, has improved data analysis and business intelligence by processing large amounts of data for insights and reports (Czarnitzki et al., 2023). Based on Rane (2023a), it helps businesses understand market trends, customer behavior, and opportunities by analyzing various data sources. This ability improves data-driven decision-making and operational efficiency (Czarnitzki et al., 2023, p. 191).

The capabilities of large language models (LLMs) to analyze and create content speed up processes and lead to efficiency (Rane, 2023a). Based on Rane (2023a), companies can offer more personalized and efficient services for the customers and improve the quality of their interaction, as the content creation process is faster. Through the extensive use of large datasets, generative AI makes the research and development (R&D) process much more efficient, as it can find essential insights from the correct scope of research in a very short time (Rammer et al., 2022, p. 2). That enables the R&D process to be broader and faster and enhances organizational knowledge processes (Alavi et al., 2024, p. 4). Figures 3 and 4 show how AI adoption has influenced companies' cost decreases and revenue incomes in 2022 (McKinsey & Company, 2023, p. 20).

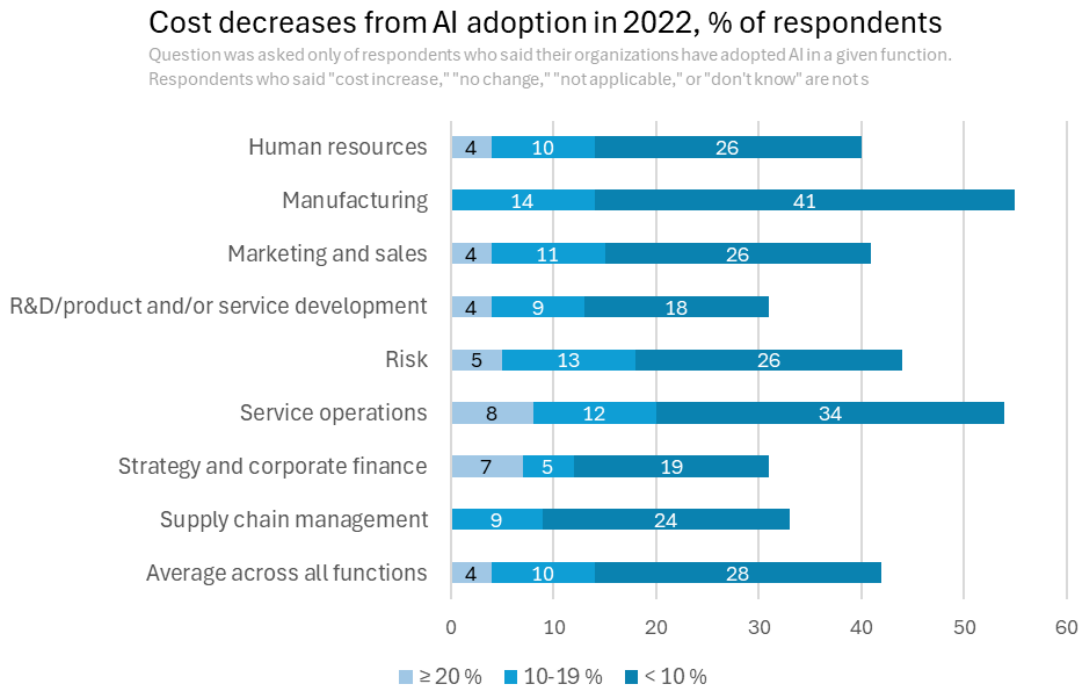


Figure 3. Cost decreases from AI adoption in 2022 (McKinsey & Company, 2023, p. 20)

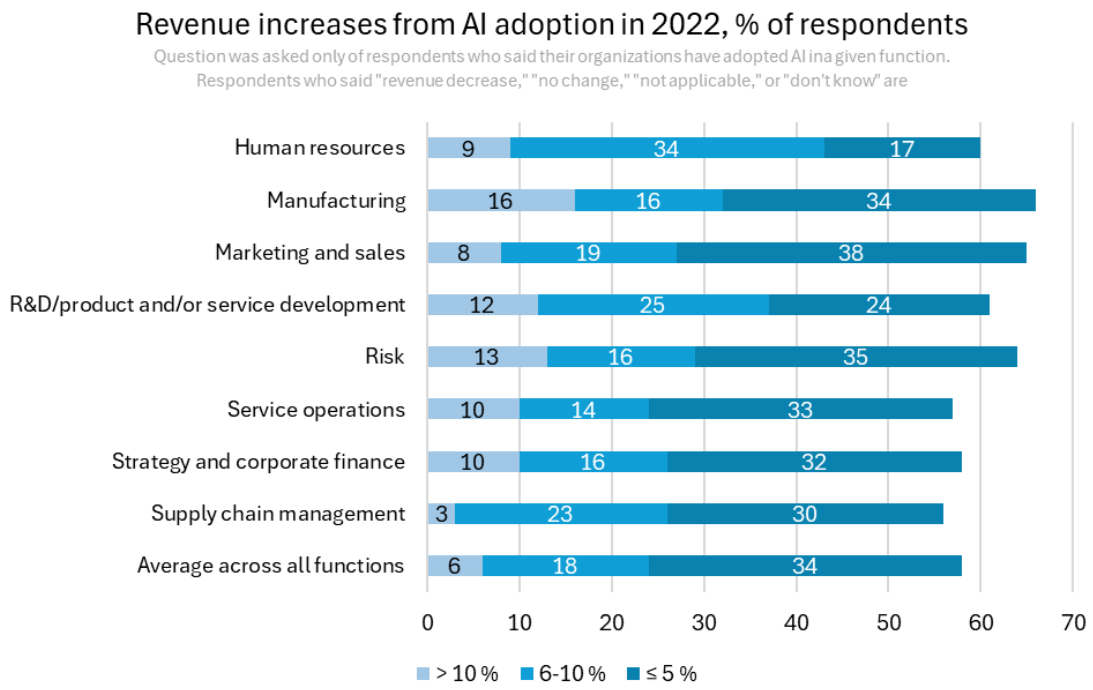


Figure 4. Revenue increases from AI adoption in 2022 (McKinsey & Company, 2023, p. 20).

Edelman et al. (2023) tested the impact of Copilot for Microsoft 365 on information worker productivity. Their study demonstrated that Copilot significantly improves task completion speed without compromising accuracy. Based on their research (2023, p. 3), users with access to Copilot completed tasks measurably faster, with an apparent increase in efficiency, taking about 26,6% less time than those who did not use Copilot. The use of Copilot had a minor and varied impact on work quality, slightly improving accuracy in meeting recaps and SharePoint information retrieval while showing a small decrease in overall accuracy and specific tasks like email information retrieval and creative output (Edelman et al., 2023, pp. 3–5).

2.3.2 Generative AI's effects on innovation and quality

Another category of AI's benefits in the business is related to innovation performance and improved quality (Czarnitzki et al., 2023, pp. 188-189). Cockburn et al. (2019, p. 115) suggest that AI's impact on the innovation process could be as significant as its direct

effects on productivity, employment, and competition. According to Rammer et al. (2022, p. 1), firms with extensive AI applications and years of AI experience achieve notably higher innovation results. They (Rammer et al., 2022, p. 2) state that AI enables the development and adoption of new innovative technologies and process management tools, such as in developing new products and business models, optimizing supply chains, and restructuring R&D processes. Innovations facilitated by AI also lead to improvements in company productivity. Generative AI can also help managers forecast the markets (Davison et al., 2023).

Based on Dencik et al.'s (2023, p. 31) research, improving the quality of content is the biggest driver of business value from adopting generative AI. Based on Rammer et al.'s (2022) research, it can be assumed that the successful use of AI in the R&D process improves the quality of the work, as a wider scope of research can be gone through in a significantly shorter time. Through a broader and faster R&D process, generative AI augments the cognitive capabilities of employees and provides more comprehensive knowledge for the company (Alavi et al., 2024, p. 4). Companies can deliver better quality products and services to their customers through wider knowledge.

Experience management can be improved with AI via automated customer inquiries and support (Rane, 2023a). Rane (2023a) mentions that generative AI can provide instant responses in natural language format and, in this way, increase customer satisfaction. Generative AI's ability to consider broad entities can help companies generate better-quality conclusions and insights about customer feedback (Rane, 2023a). The same applies internally, as the company's administration can collect feedback from the employees and monitor and analyze it continuously with AI tools to improve job satisfaction and the retention of employees (Basnet, 2024, p. 284).

2.3.3 Summary of generative AI's effects on business

Various studies have explored the opportunities, challenges, and other impacts of generative AI across different fields. In addition to the discussed benefits and challenges above, the following Table 1 summarizes key findings from several studies on generative AI, highlighting its benefits, challenges, and applications.

Table 1. Summary of key literature and extracted points.

Author(s) & release year:	**Title:**	**Benefits of generative AI:**	**Challenges of generative AI:**	**Applications:**
Czarnitzki et al., 2023	Artificial intelligence and firm-level productivity	Improved efficiency and productivity	Ethical considerations, data accuracy, privacy risks	Analyzing complex datasets, generating detailed reports
Dencik et al., 2023	Managing the emerging role of generative AI in next-generation business	Expanded capabilities, business growth, cost reduction	Cybersecurity, poor financial support, data biases	Automating time-consuming tasks, enhancing data-driven decisions
Rane, 2023	Role and Challenges of ChatGPT and Similar Generative Artificial Intelligence in Business	Enhanced data analysis, improved customer interactions	Overreliance on AI, potential decline in human expertise	Customer support, content creation
Rammer et. al, 2022	Artificial intelligence and industrial innovation: Evidence from German firm-level data	Enhanced innovation results, improved R&D processes	Accuracy of AI-generated content	New product development, business model optimization
McKincey & Company, 2023	The state of AI in 2023: Generative AI's breakout year	Increased value of offerings, reduced manual work	Inaccuracy, cybersecurity concerns	Integrating AI-based features, optimizing internal processes
Edelman et al., 2023	Measuring the impact of AI on information worker productivity	Increased task completion speed, improved efficiency	Slight variation in work quality	Using AI tools like Microsoft Copilot
Basnet, 2024	Artificial intelligence and machine learning in human resource management	Strategic task focus, enhanced decision-making	Ethical issues, risk of job automation	Automating HR processes, improving employee feedback analysis
Feuerriegel et al., 2024	Generative AI	Creating new content, enhancing	Security risks, data privacy issues	Generating text, images, audio

Author(s) & release year:	Title:	Benefits of generative AI:	Challenges of generative AI:	Applications:
		cognitive capabilities		
Orchard & Tasiemski, 2023	The rise of Generative AI and its possible effects on the economy	Economic growth, labor cost savings	Potential job automation, ethical considerations	Automating routine tasks, improving innovation
Alexandre & Blanckaert, 2020	The Influence of Artificial Intelligence on The Consulting Industry	Improved efficiency, enhanced client trust	Building client trust, ethical considerations	Consulting processes, client engagement

2.3.4 Real-life use cases

A company named Filtered Technologies conducted research based on the information found on the internet about real-life scenarios in the use of generative AI (Zao-Sanders, 2024). Their research aimed to find specific examples of how AI has lightened people's workloads, increased productivity, and made them solve problems in new ways (Zao-Sanders, 2024). The results provide a comprehensive list of tasks for which people have utilized generative AI. The research took examples from both business and leisure time, as well as from organizations and individuals (Zao-Sanders, 2024). Table 2 gives more detailed information about the tasks, but Filtered Technologies divided their findings into six themes:

1. Technical Assistance & Troubleshooting
2. Content Creation & Editing
3. Personal & Professional Support
4. Learning & Education
5. Creativity & Recreation
6. Research, Analysis & Decision Making

This list in Table 2 below provides a detailed list of the actions where AI has been found useful and can provide ideas for other generative AI users to gain more benefits from the use of AI.

Table 2. Real-life generative AI use cases (adapted from Zao-Sanders, 2024).

Technical Assistance and Troubleshooting 23%	**Content creation and editing 22%**	**Personal and professional support 17%**
Troubleshooting, Excel formulas, Language translation, Improving code (pros), Fixing bugs in code, Explaining technical documents, Coding for amateurs, Explaining legalese, Generating code (pros), Rubber ducking (debugging code), Data entry, Interpreting song lyrics, Data manipulation, Translating code (pros), With MS Office apps, Understanding movie plots, Explaining idioms, Suggesting code libraries, Sampling data, Technical use of software, Spotting anomalies, Building a website/app, Project management	Generating ideas, Editing text, Drafting emails, Adjusting the tone of an email, Drafting a document, Generating appraisals, Creativity, Generating a legal document, Drafting a formal letter, Writing and editing a cover letter, Editing a legal document, Replying to emails, Writing job postings, Writing social media copy, Realistic web copy, Editing video transcript, Ad/marketing copy, Building a business plan, Writing blog posts, Writing a funding proposal, Writing a press release, Editing digital images	Therapy/companionship, General advice, Writing/editing CV, Reconciling personal disputes, Making a complaint, Medical advice, Business advice, Negotiating a deal, Career advice, Safe space to ask, Tracking medical symptoms, Healthier living, As a colleague, Motivating yourself, Refining prompts, For entrepreneurs/startups, Planning workouts
Learning and education 15%	**Creativity and recreation 13%**	**Research, analysis, and decision-making 10%**
Exploring topics of interest, Enhanced learning, Personalized learning, Simple explainers, Summarizing content, Preparing for interviews, Knowledge checks, Meeting summaries, Cleaning up notes, Generating a lesson plan, Practicing difficult conversations, Homework, Preparing for meetings, For people with ADHD, Special needs education	Fun and nonsense, Recommending movies, books, etc., Cooking with what you have, Personalized kid's story, Creating a holiday itinerary, Getting past writer's block, Generating video, Games, Generating relevant images, Coding for a basic video game, UX/user story writing, Writing poems, Packing for travel	Specific research, Evaluating copy, Enhanced decision-making, Critique and counterargument, Spotting logical fallacies, Fast checking, Seeing blind spots, Legal research, Strengthening an argument, Jumping to the useful info

2.4 Prompt Engineering

A prompt is a set of instructions given to LLM to guide them toward the desired outcome (White et al., 2023). Based on White et al. (2023), the quality of conversational LLM output improves if the provided prompt is well structured. Prompt engineering is a way to develop and optimize prompts to receive better outputs (DAIR.AI, 2024). AI research and development companies such as OpenAI and DAIR.AI have published prompt engineering guides that are accessible to all. These guide the reader in understanding how prompts should be structured and share the best practices for prompt engineering. DAIR.AI's Prompt Engineering Guide (2024) instructs that prompt engineering is not just designing and developing prompts but includes a wide variety of skills and techniques to better interact with LLMs. Prompt engineering skills allow the user to understand LLMs' capabilities and limitations more broadly (DAIR.AI, 2024).

The purpose of prompting is to set a context for the discussion and to tell the LLM what information is essential and in what form the output should be received (White et al., 2023). In advanced LLMs, a single well-designed prompt can provide a well-structured outcome, but it can be challenging to provide all necessary information in one prompt (Luo et al., 2023, p. 3). Luo et al. (2023) attach weight to the importance of multi-round interactions with LLMs. This means that the user interacts more than once with the LLM to complete one task (Luo et al., 2023).

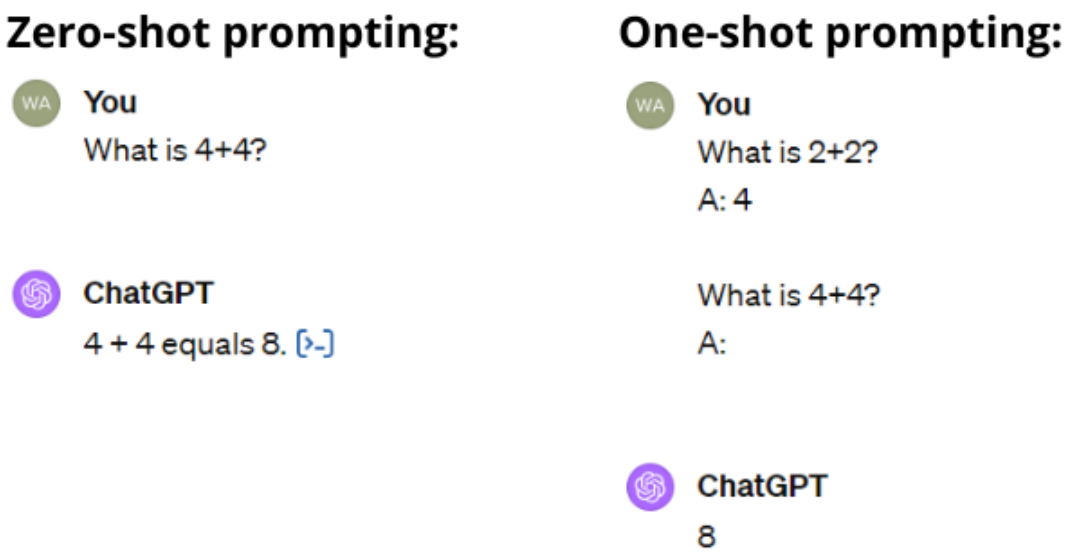
2.4.1 The structure of prompt, general tips and techniques, and best practices

One prompt basically consists of four different elements: instruction, context, input data/examples, and output indicator (DAIR.AI, 2024). DAIR.AI (2024) introduces the purpose of these elements as follows: Instruction provides a specific task or direction that the model needs to perform. Context can provide additional examples or other information to target the model's response more accurately. Input data is the input or question requiring a response, and the output indicator specifies the style or format in which

the answer is desired. It is not necessary to use all these four elements in every prompt, as the need for different elements depends on the objectives of prompting.

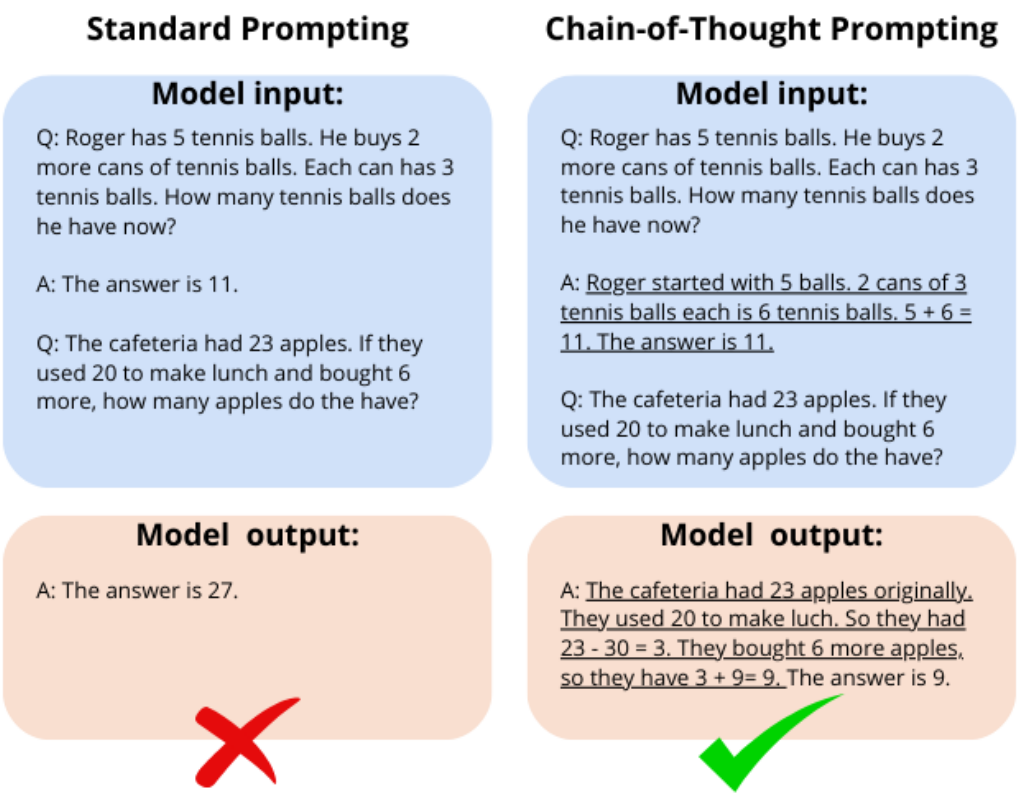
DAIR.AI (2024) recommends starting with simple prompts to see how the LLM model acts. More elements and context can be added later. The prompt engineering guide (DAIR.AI, 2024) defines specificity, simplicity, and conciseness as keys to achieving better results. Specific instructions and relevant context lead to better outputs. The style of commands, such as “classify” or “summarize,” makes instructions more specific (DAIR.AI, 2024). OpenAI (n.d.a) provides a tip to place the instructions at the beginning of the prompt and to use a separator as “”” or ### before the context. The context needs to be descriptive and detailed, especially if the user seeks a specific style or outcome of generation (DAIR.AI, 2024). The prompt engineering guide (DAIR.AI, 2024) mentions that although relevant details are an essential part of a prompt, the user should keep it as simple as possible because unnecessary details can cause confusion and lead to imprecise outputs.

As told before, examples are an efficient way to make the prompt more specific. OpenAI (n.d.c) advises that the user can ask for expert-level writing if the answers are too simple. If the format is not as desired, the user can provide examples of the correct format to support LLM in generating the answer. That is called one-shot prompting or few-shot prompting (DAIR.AI, 2024). Picture 1 introduces the difference between zero-shot prompting and one-shot prompting. Few-shot prompting provides more than one example and can be more efficient with complex prompts (DAIR.AI, 2024).



Picture 1. An example of the difference between zero-shot prompting and one-shot prompting. One-shot prompting is more accurate if the user wants the answer in format "8".

As told before, Luo et al. (2023) suggested using multi-round interactions with LLMs. OpenAI (n.d.c) advocates that when working with large tasks. They claim that complex tasks may face more errors than simpler tasks. They suggest breaking the prompt into simpler subtasks, which can be built up until better responses are obtained. Additionally, LLMs are made to answer fast, but sometimes, it might be helpful to utilize a "chain of thoughts" (OpenAI, n.d.c). Wei et al. (2023, p. 1) state that chain-of-thought prompting can support LLMs in performing complex reasoning and direct the model to provide correct answers. Picture 2 below shows how chain-of-thought prompting can lead to a correct answer.



Picture 2. Chain-of-thought prompting enables LLMs to tackle complex model inputs. Chain-of-thought reasoning processes are underlined.

DAIR.AI (2024) suggests that users avoid general expressions, as those can usually be expressed more specifically. For example, “2-3 sentences” is more specific than “few sentences”. The user can give the LLM an identity to make it easier to create more appropriate answers (DAIR.AI, 2024). It is also essential to be aware that generative AI can make mistakes and use irrelevant resources. To avoid fake answers, the user can add a relevant link, reference text, or document as a part of the prompt (OpenAI, n.d.c). Additionally, LLMs are great with names, so if the user wants to collect information about some specific topic, it can be helpful to mention some names of relevant researchers and ask the LLM to provide an answer based on their findings (Shipper, 2024).

DAIR.AI (2024) notes that there are not any specific keywords or tokens that always lead to optimal results, and they suggest the user gain experience to find out what commands

work best for specific tasks and what details are relevant. Prompt engineering is a skill that requires practice, like any other skill, to become advanced. In conclusion, it is essential to find ways to add the right amount of relevant and detailed information to a prompt and use correct commands while keeping it simple and easy to understand.

2.5 Risks and ethical considerations of generative AI

The previous paragraphs have primarily highlighted the benefits and opportunities provided by generative AI. AI can offer significant productivity benefits in various environments, but at the same time, these tools also bring several ethical, moral, and political challenges (Dwivedi et al., 2023, p. 57). AI technologies can, for example, worsen existing biases or be a safety risk for security and privacy (Rusanen et al., n.d.). This section examines the risks, challenges, and ethical considerations related to the use of generative AI.

Based on Jobin et al. (2019, p. 1), the ethics of AI has long been shaped around the following five principles:

1. Transparency: Ensuring AI systems are understandable by the people who use them and those who are affected by their decisions. This involves communicating how AI systems work and their limitations (Jobin et al., 2019, p. 8).
2. Justice and Fairness: Addressing biases in AI systems to prevent discrimination against individuals or groups. AI should be designed and implemented to treat all users equitably (Jobin et al., 2019, pp. 8-9).
3. Non-maleficence: Avoiding harm to individuals or society. This principle emphasizes the importance of ensuring AI systems do not cause physical or psychological harm (Jobin et al., 2019, pp. 9-10).
4. Responsibility: Holding creators, developers, and users of AI accountable for the ethical use of technology. This includes considering AI's societal impacts and taking corrective actions when necessary (Jobin et al., 2019, p. 10).

5. Privacy: Protecting individuals' personal data. AI systems must be designed to safeguard personal information against unauthorized access and ensure privacy is respected (Jobin et al., 2019, p. 11).

Despite these common principles, there are not yet widely applicable laws and regulations at a global level specifically focused on the use and development of generative AI. The laws of Finland and the EU have already stipulated the acceptable use of AI, digital services, equality and non-discrimination, privacy and data protection (GDPR), and the use of data (Latvanen, n.d.). The European Parliament is on the verge of implementing new AI regulations known as “the EU AI Act," establishing a comprehensive framework for AI oversight within the EU (The EU Artificial Intelligence Act, n.d.). The challenges and lack of well-developed guidelines related to the use of generative AI have been noticed. International coordination is required to enable the use of AI to be controlled by laws (Dwivedi et al., 2023, p. 57). New regulations are essential to unlocking the full potential of AI, ensuring it can be used in ways that are both safe and dependable.

2.5.1 The most significant challenges in the business environment

Companies adopting AI in their business must follow the principles, guidelines, and future laws. However, some more specific challenges and risks may affect companies and must be considered in AI integration. If AI is used carelessly, it can harm the company's internal operations, the general quality of work, and the company's reliability. Companies are aware of possible risks that might slow up and cause roadblocks to AI adoption.

Dencik et al. (2023, p. 33) discovered the most significant roadblocks in generative AI implementation in their research. Their research stated cybersecurity and privacy as the biggest concerns. After that comes poor financial support and data accuracy or biases. McKinsey & Company’s research (2023, p. 6) states the same risks relevant, as their survey shows that inaccuracy and cybersecurity are considered the most relevant risks. Also, copyright issues emerge as a relevant risk in their survey. However, McKinsey &

Company's survey results show that more than half of the companies also strive to mitigate the most relevant risks. Figure 5 below highlights the primary concerns for companies regarding AI adoption, as identified by the research conducted by Dencik et al. (2023) and McKinsey & Company (2023).

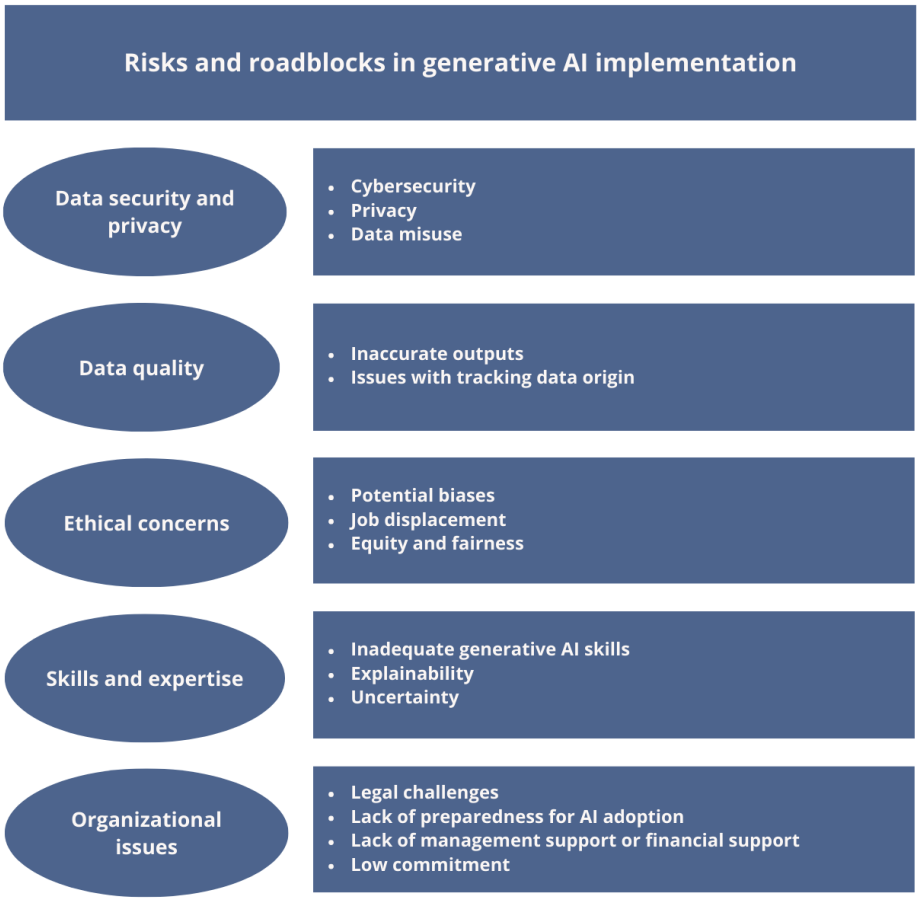


Figure 5. Risks and roadblocks in generative AI implementation (Adapted from Dencik et al., 2023, p. 33; McKinsey & Company, 2023, p. 6).

Content created by generative AI is not always accurate or correct (Dencik et al., 2023, p. 32). The imprecision of AI can affect the accuracy of content produced by the company. Rammer et al. (2022, p. 1) also raise concerns about content quality since users often cannot be sure about the source of the information. As previously mentioned, in line with the general principles of AI ethics, content users should be aware of their

responsibility when using AI-generated content. Therefore, it is crucial to verify the correctness of the information.

Regarding cybersecurity and data privacy, as previously emphasized, according to ethical principles, AI should consider the privacy of both individuals' and companies' data. This thesis also noted in part 2.2 that services like ChatGPT utilize user input data for service improvement. Companies must be acutely aware of the privacy protections of their applications and develop guidelines to ensure their operations do not breach GDPR.

Rane (2023a) reminds that the ease of using AI can lead to an overreliance on technology. Constant use and excessive dependency on AI might prevent the development of human skills, potentially leading to a decline in expertise. Depending too much on AI in decision-making can block innovation and prevent human-centric solutions (Rane, 2023a). To mitigate this risk, it is crucial to ensure that employees do not forget to utilize their own skills and that the quality of work remains consistent with the company's standards. Rane (2023a) concludes that combining AI with human knowledge is vital to get the best results in running a business.

Alexandre & Blanckaert's research (2020, p. 27) focusing on adopting AI within the consulting industry highlighted a crucial point regarding client trust. It emphasized that implementing AI requires building trust with clients, especially when accessing sensitive information. Consulting firms need to demonstrate their understanding of the purposes and benefits of AI implementation to build this trust and encourage clients to invest in new technologies.

2.6 Research gap

The available literature identifies a research gap in the use of generative AI in consulting SMEs. This study fills the gap by examining the use of ready-made AI tools in a consulting SME, determining which processes and tasks benefit from the use of generative AI and

how it works in practice. Current research is mostly limited to large enterprises and other industries, lacking concrete, practical examples, and results of the benefits of AI integration. Based on the literature review, the following gaps were identified:

- Practical generative AI application experiences in companies, particularly in consulting SMEs.
- Difficulty in finding practical examples of how AI is concretely utilized and the specific results it can achieve in a real business environment.
- Understanding how selected AI use cases can strategically impact company operations.
- Lack of frameworks for consulting SMEs in adopting generative AI.
- Challenges that should be considered to maintain AI adoption while the technologies are evolving.

This study demonstrates how generative AI can optimize processes in consulting firms. The use cases in this research are applied and tested in a real business environment. Additionally, the research investigates the challenges that AI brings to consulting SMEs and provides recommendations on key considerations for AI implementation. This study develops a comprehensive framework for integrating generative AI into consulting practices, offering valuable insights and practical solutions for SMEs in the industry.

3 Methodology

This section of the thesis summarizes the research methodology and introduces the research design. It describes the strategies and methods for collecting and analyzing data to achieve the research objectives. This chapter provides a detailed and clear explanation of the research approach, including the research design, data collection methods, sampling techniques, and data analysis processes. The goal is to ensure the research process is transparent and understandable, allowing readers to see how the research was conducted and how the results were derived.

This research is an empirical case study for a case company. The case study method provides a holistic view of complex processes and interactions in a natural setting, which is essential for understanding the practicalities of AI integration. It also facilitates iterative learning and adaptation, allowing for the refinement of AI applications based on continuous feedback and observation. The collected data will include qualitative and quantitative data. Information is gathered via a survey, more detailed interviews, practical workshops, and data collection related to testing the available AI solutions in selected use cases. Next, this section introduces the research methods and presents the research process in more detail.

3.1 Research design

This research is a design science as the thesis aims to incorporate AI solutions into the company's processes and investigate how current AI tools can be utilized in various tasks. Design science research is implemented through a structured methodology emphasizing practical and innovative solutions to problems by designing and investigating technology constructs (Peffers et al., 2007, p. 49). AI tools are expected to evolve significantly in the near future, so this research initiates the use of AI tools, allowing for the integration of new and more advanced solutions into the company's operations in the future. This makes the research problems a combination of nomothetical and normative problems,

as it seeks to find new business operations to be part of the company's processes, but those also need to be further developed as AI tools evolve.

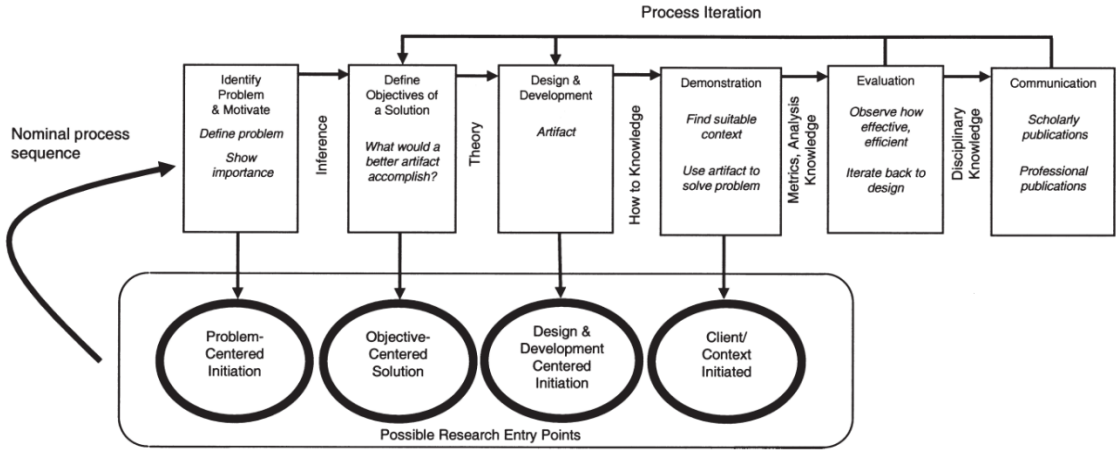


Figure 6. Design science research process (Peffers et al., 2007, p.54).

As Figure 6 shows, the design science research (DSR) methodology proposed by Peffers et al. (2007, p. 54) outlines six key phases. The problem identification and motivation phase involves defining the problem and establishing the need for a solution. The objectives of a solution phase are to define what a successful solution would achieve. The design and development phase focuses on creating the artifacts that will address the objectives. In the demonstration stage, the artifact is tested in a simulated or real environment to demonstrate its functionality and how it solves the problem. Evaluation is a critical phase that assesses how well the artifact meets the defined objectives. The communication phase involves sharing the research outcomes with stakeholders. DSR can be iterative, as findings from the evaluation stage may lead back to refinements in the design and development stage. This iterative loop continues until the solution effectively meets the desired objectives. The aim is to produce practical, innovative solutions that contribute to academic knowledge and practical applications.

This research is conducted in a case company and involves actively cooperating with PBI's employees. The demonstration stage is conducted in a real environment using real use

cases. However, some artifacts are tested for old work tasks previously implemented without AI, and the outcomes are compared to see how the use of AI influences them.

3.2 Data collection and research process

The research methods include a comprehensive literature review, a survey for all case company employees, interviews, weekly workshops, and data provided by the case company employees. Table 3 shows the data formats and reasons for data collection.

Table 3. Data collection methods.

Data Collection	Data format	Reason
Literature review	Qualitative	Collect information related to AI integration to understand where to focus.
Survey	Hybrid	Collect information about usual work tasks and find which tasks are most resource-intensive. Understand the current phase of AI use and culture in the case company.
Interviews	Qualitative	Define and understand the current processes and find the points where AI could be utilized.
Data provided by the case company	Qualitative	Collect information about other AI use benefits.
Weekly workshops	Hybrid	Define the specific use cases and share experiences from new AI tool testing.

The literature review reviews a wide range of research and articles related to AI tools and integration. It sorts out what benefits organizations have gained from AI adoption and in what tasks. It prepares this research to focus on the right things and explains what needs to be considered in AI integration. The literature review offers the knowledge needed and supports this research in reaching its objectives.

The survey was conducted for all 15 employees in PBI and included 36 questions in five sections. The first section aims to understand the employees' general work routines and tasks. It collected information about time-consuming and resource-intensive tasks. The

second section aims to understand the current state of AI use in PBI. It includes questions about how often employees use AI and in which tasks. It also asked in what situations AI has been helpful and in what situations it has not provided any help. The fourth section requests employees' thoughts and feelings about the future potential of AI solutions in PBI's processes. The last section focuses on risks and finds out what concerns employees have about AI integration. The survey questions are disclosed in Appendix 1.

In addition to the survey, this research included seven interviews focusing on more detailed topics. One objective of the interviews was to understand the business processes in different business areas and define the points in processes where AI could be utilized. In addition to several internal interviews, one external person was interviewed to gain some perspective from a bigger company that has been working with AI integration for a longer time. Table 4 provides more detailed information about the interviews.

Table 4. Interview information.

Interview	**Internal/ External**	**Role**	**Topic**	**Length**
Interview 1	Internal	Manager	Generative AI in sales and marketing	1h 30min
Interview 2	Internal	Manager, Head of Business Development	Generative AI in sales and marketing	59min
Interview 3	Internal	Head of XM Business Line	Generative AI in the XM process	58min
Interview 4	Internal	CEO	Generative AI in strategy work	1h 5min
Interview 5	Internal	Senior Partner, Chairman of the Board	Generative AI in board work	43min
Interview 6	Internal	Administration & HR Manager	Financial reporting process	53min
Interview 7	External	Business Development Manager at KONE	The use of generative AI in KONE	36min

All case company employees have been using ChatGPT+ since December 2023, and as a part of this research process, employees have been encouraged to use and explore ChatGPT more within their work tasks. Four employees were asked to record their LLM use for two weeks. Employees wrote down the task description, the reason for the use (time-saving/quality improvement/idea generation), and the business area (sales/strategy projects/XM projects) and provided a copy of the conversation with LLM. This information was collected and analyzed to understand the benefits of daily or weekly LLM use.

A few company employees have been using Copilot for MS 365 since it was launched for SME companies in January 2024. Since then, weekly workshops have been arranged to monitor how Copilot for MS 365 influences working. Copilot users were selected from different business areas and from positions where Copilot was considered useful for the employee. The aim of these weekly workshops was to define the use cases and find ways to test Copilot in practice. In addition, other generative AI experiences were shared, and data about AI use benefits were collected in these meetings. Figure 7 below visualizes the research process conducted.

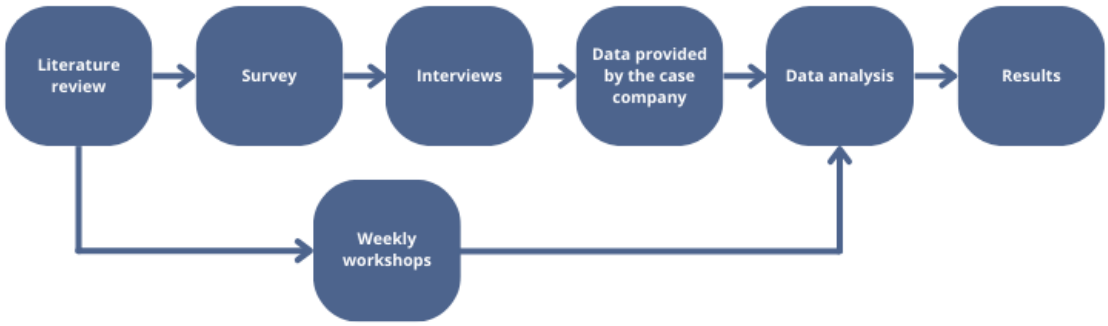


Figure 7. Research process.

3.3 Data Analysis

The data collected for this research is analyzed using different analysis methods. The literature review utilizes thematic analysis to identify themes and patterns across the collected literature. Findings are categorized by themes and topics that support the research objectives to help understand the broader narratives or arguments within a field. The qualitative data collected from the survey, interviews, and workshops is analyzed using content analysis. The survey's quantitative data is analyzed using descriptive statistics and data visualization. Quantitative data collected from weekly workshops is analyzed using cost-benefit analysis to help understand the financial return on investment from employing AI technologies. Data provided by the case company is analyzed using efficiency analysis to prove the efficiency improvements provided by AI products.

The survey was implemented in Google Forms, and data was analyzed in Microsoft Excel. Interviews were conducted in Microsoft Teams, and the transcriptions of all interviews were saved to allow a later review of the content. Copilot for MS 365 features were utilized in interview content analysis. Data provided by the company employees was collected in an Excel table that was created for this purpose.

3.4 Data reliability

This part of the thesis outlines the measures taken to ensure the validity and reliability of data collected during the research. All information obtained during the research was securely stored on the company's OneDrive, with access restricted to authorized personnel only. To maintain strict confidentiality, confidential data was not shared with external stakeholders or services. Any sensitive information related to the company, or its customers is anonymized to ensure confidentiality.

The interviews were arranged in Microsoft Teams to ensure accurate transcriptions and minimize the risk of losing or misinterpreting important information. All interviews were

conducted semi-structured to ensure that the collected data is relevant and supports the objectives of the study. Carefully prepared interview frames guided these interviews and provided structure, still allowing participants to express their unique perspectives and thoughts, adding depth to the data collection. Interviewees were chosen based on their roles and expertise to ensure they had the needed knowledge about the topic.

To maintain data consistency, weekly meetings with the case company employees were held related to Copilot use. These meetings ensured that employees consistently familiarized themselves with Copilot features and actively tested them in defined use cases. In addition, these meetings ensured that everyone in the test group had the same knowledge by sharing their experience to find new ways to utilize the tool. The participants in the test group were selected together with the company's management in order to ensure that their roles were suitable for Copilot use and that information could be collected from different business tasks.

Furthermore, this research introduces possible risks related to the research topic to avoid misunderstandings and keep the readers aware of potential dangers and ethical considerations associated with AI use, thereby fostering a comprehensive understanding of the implications and responsibilities of deploying AI technologies.

4 Results

This part presents the data analysis and results of the empirical part of this thesis. The aim of this part is to present the findings and outcomes of the research in a clearly structured order, reach the research objectives, and provide answers to the research questions. Firstly, this part introduces the survey results. After that, the application of the use cases and obtained benefits are presented. The last parts propose how the case company could benefit from a prompt bank and summarize the risks and challenges related to AI integration.

4.1 Survey Results

The survey was conducted in the early phase of this study, so the results are from that stage. The survey results gave important insights into the working habits and thoughts of the case company's employees regarding generative AI. All 15 employees answered the survey, which provided results about what actions AI integration should focus on and what the general attitude is towards generative AI solutions in PBI. This section introduces the survey results. First, it provides information about the company's personnel and working habits. After that, it tells how employees adopted AI into their work before this study and what their experiences were in AI use. Lastly, this section discusses the case company’s culture, attitudes, and concerns related to AI technologies.

4.1.1 Demographics and AI Familiarity

This part introduces the case company structure and typical work tasks based on the survey. Employees' experiences about the most time-consuming and resource-intensive tasks are also shared. This part of the survey was important in mapping where AI could be the most useful in decreasing energy consumption in the company.

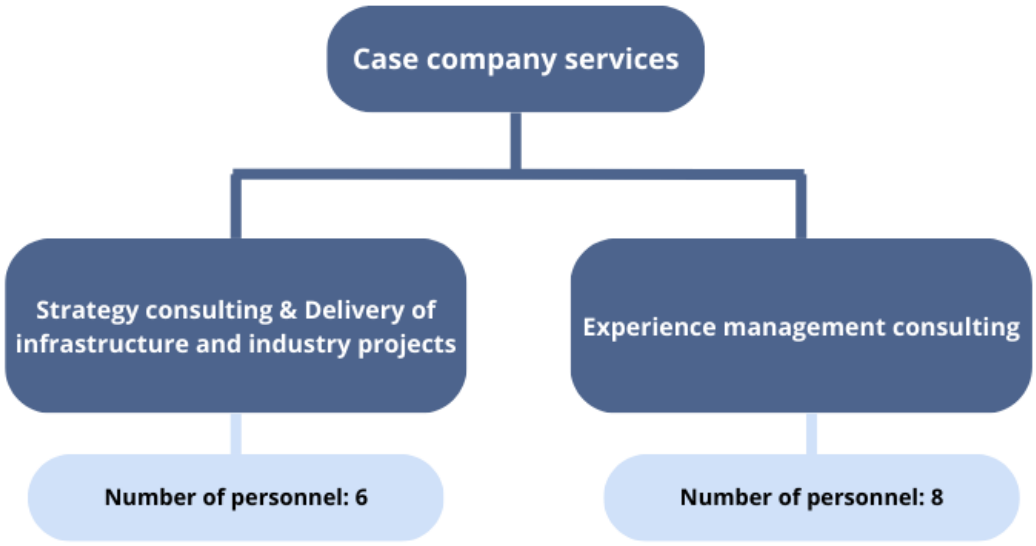


Figure 8. Services provided by the case company and the number of personnel working on these tasks.

The case company provides strategy consulting services, infrastructure and industry project delivery, and experience management consulting services. As shown in Figure 8, six of the survey respondents work on strategy and infra projects, and eight work on experience management projects. Based on survey results, one employee works on HR and administration tasks. In addition to the project work, five employees work on sales tasks, and four on management-related tasks.

Based on the survey, typical work tasks in PBI include project management tasks, sales activities, client support and interaction, and data analysis and reporting. The management team does strategic planning, business development, and success monitoring. Administrative tasks include financial management, reporting, and different HR tasks. Table 5 introduces typical work tasks and tasks that are the most time-consuming based on employees' feelings in different business areas. This information was collected to define where AI integration should focus.

Table 5. Work tasks in the case company.

Business area	Typical tasks	Most Time-Consuming Tasks
XM	• Project management • Client and internal meetings • Data analysis and reporting • Supporting clients with Qualtrics platform and other client support • Designing surveys and XM processes • Technical implementation	• Text analysis without Qualtrics TextiQ tool • Writing meeting memos • Project planning • Survey data analytics and reporting • Preparing for customer meetings • PowerPoint designing
Strategy / Infra	• Management of internal and external project-related tasks • Reading and preparing documents and presentations • Coordination with customers in projects • Financial and technical calculations • Research and analysis	• Creating PowerPoints and reports • Proofreading • Booking meetings and writing memos • Performing complex calculations
Sales	• Customer interaction (email, teams, phone) • Writing proposals and other sales documents • New customer prospecting and follow-up • Sales meetings and contract negotiations • Account management	• Coordination of larger sales cases • Writing proposals • Prospecting and following up on prospects • Client work follow-ups
Administration	• Billing, purchase invoices, payroll • Production monitoring • Organizing board meetings, travel bookings, events • Managing occupational health issues • Recruitment • Handling employee satisfaction surveys • Other general administrative tasks	• Generating various reports for production monitoring

4.1.2 Current Use of AI

As mentioned earlier, the case company's employees did use generative AI somewhat before this study and had access to ChatGPT+, but they did not have any more specific strategy for AI use. Based on the survey, 27% of the employees use generative AI daily, and most (40%) use it a few times per week. The rest of the employees use it less (Figure

9). It would be ideal to get generative AI into everyone's daily routines. The AI tools employees mentioned they are using are ChatGPT, TextIQ in Qualtrics, and AI notes in Microsoft Teams Premium. 67% of the respondents mentioned that they are interested in Copilot for MS 365 features but have not had a chance to try it yet.

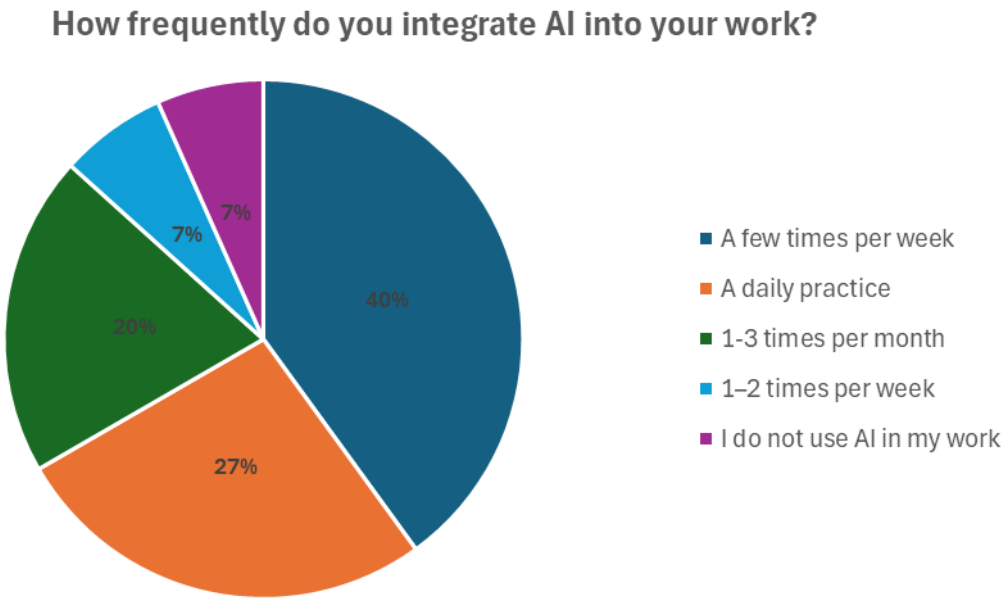


Figure 9. AI use in the case company.

Respondents reported a diverse range of tasks where they have successfully utilized AI in various operational aspects. AI tools have been used for summarizing information, which has been experienced useful in preparing presentation materials. Respondents have also leveraged AI for generating initial text drafts, and AI-enhanced search capabilities have been noted for improving efficiency in gathering information. Additionally, AI has supported technical tasks such as custom HTML coding for surveys.

Even though AI has not yet been used so widely, most employees have already experienced how AI has improved the quality and innovativeness of their work by providing more reliable and diverse insights and new perspectives. They also mentioned that AI has assisted in brainstorming, which has helped in generating well-structured and high-quality project materials more efficiently. Based on survey responses, 80% of case

company employees have already experienced that AI has had a positive impact on improving the quality of their work in a specific task or project.

The survey results show that there are several reasons why the case company employees have not used AI more often (Figure 10). Over half of the employees experience that they do not have time to explore available AI tools, and they are uncertain about which tools to use. Many (47%) are also concerned about the potential risks, and 40% of the respondents have not adopted AI as part of their routines and are uncertain about what tasks AI can be used for. This highlights a critical gap in both training and support within the case company. These reasons are hindering AI adoption. The survey results align with issues previously noted in the literature review. AI integration requires resources and an in-depth focus on the company's processes so that AI can be utilized according to the particular needs of the case company. This proves that this research is necessary for the case company to find the right ways and concrete guidelines of how AI can be successfully utilized in the company's strategy.

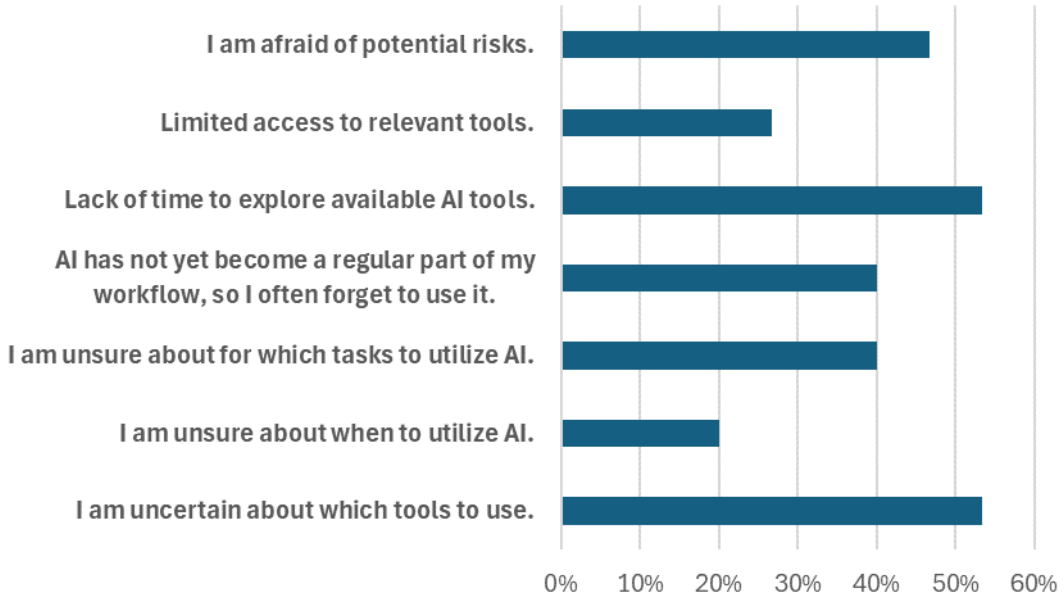


Figure 10. Reasons why AI tools have not been used more widely.

4.1.3 Perceptions of AI and general attitudes

As highlighted in the literature review, AI integration requires commitment from the company. Internal attitudes affect how eagerly employees are prepared to test and practice using new tools. According to the survey results, employees at the case company generally have a positive attitude toward AI solutions. On average, employees strongly believe that AI tools will enhance work efficiency and innovation. They also believe these tools will improve their professional skills. Table 6 below provides more details on employees' attitudes towards the use of AI.

Table 6. The case company employees' attitudes towards AI.

Question/Statement:	**Average of respondent's answers:**
How interested are you in the potential benefits of AI in your work? (1 = not interested, 10 = very interested)	8,6
I see AI as a valuable tool. (1 = disagree, 10 = agree)	8,5
I believe that I will increase the use of AI in my work in the future. (1 = disagree, 10 = agree)	9,3
AI has the potential to enhance time efficiency in my work. (1 = disagree, 10 = agree)	9,0
The integration of AI could contribute to increased efficiency in my work. (1 = disagree, 10 = agree)	9,2
Using AI could help bring more innovation into my work. (1 = disagree, 10 = agree)	8,3
AI has the potential to expand my personal knowledge and expertise. (1 = disagree, 10 = agree)	8,5
How afraid are you about the risks in the use of AI? (1 = very afraid, 10 = not afraid at all)	5,4

Based on the survey results, case company employees identify several areas where AI could significantly enhance their management consulting practices. Many see the biggest potential in AI in automating repetitive tasks and speeding up content creation and

formatting, which would allow consultants to focus more on strategic aspects of their work. They believe AI has the potential to make meeting documentation and content production more efficient and hope that AI could be used to generate valuable insights from existing data and past projects. Employees also highlight AI's potential in deepening insights into industries and client businesses more quickly, making research processes more efficient. In addition, there's a strong interest in using AI for more effective data analysis. Overall, the employees believe that AI could make their work more efficient, enhance the quality of client deliverables, and provide more creative solutions within the consulting field.

However, employees have some concerns related to AI integration, particularly regarding handling confidential customer data. Employees highlight the importance of data protection, adhering to GDPR, and respecting the sensitivity of personal and customer company data to ensure it does not fall into the wrong hands. Employees have raised specific concerns about what data should be accessible to AI and how to control the environments in which AI tools operate. There are also concerns about how to verify the outputs of AI tools, mainly when the topics are unfamiliar. The survey results caution against "hanging our brains at the door" when using AI and emphasize the need to critically review AI-generated content before its final use to avoid publishing errors or sensitive data leaks. These concerns underscore the need for clear guidelines on AI usage.

4.2 Energy consumption optimization

The aim of AI adoption is to improve process productivity so that PBI can generate value more efficiently and offer more cost-effective consultancy services. The CEO of the case company mentioned that they could generate more value without wasting time and energy on descriptive and diagnostic analytics. When AI is part of a company's strategy, it can save employees time and energy in descriptive and diagnostic analytics, allowing them to focus on more challenging and complex activities. The saved energy can be

utilized in predictive and prescriptive analytics to generate deeper insights and outcomes. Figure 11 explains this theory of the analytics ladder.

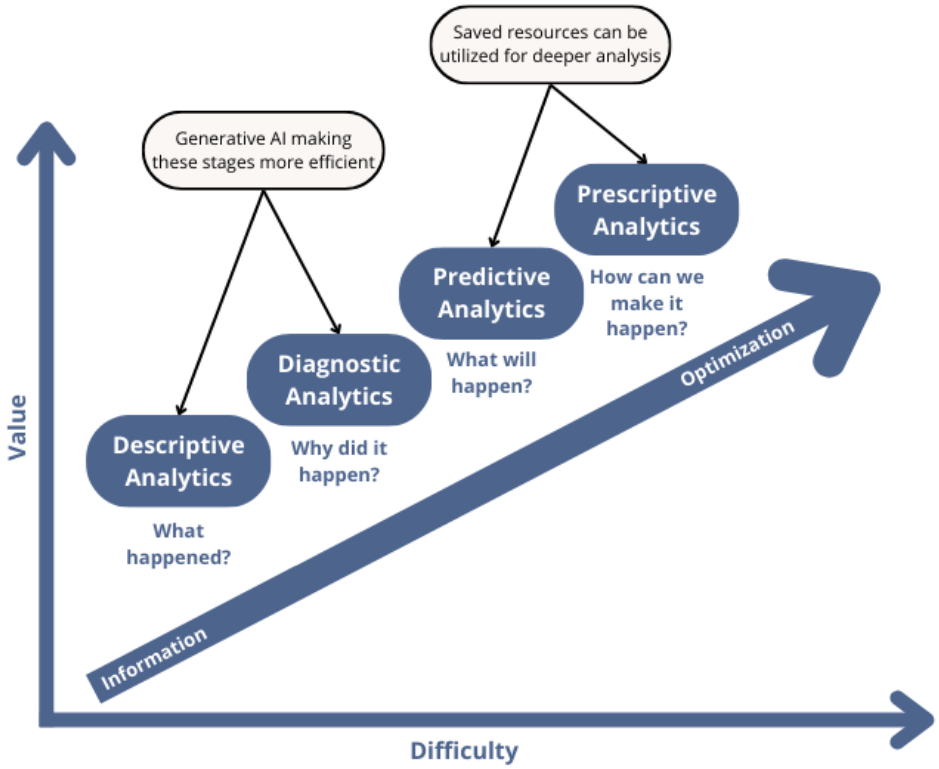


Figure 11. Analytics ladder (Adapted from Ahonen et al., 2018, p. 9).

The CEO of the case company mentioned in an interview that he used generative AI as a brainstorming tool, for instance, in creating the structure of presentation materials. According to his experience, he could have made the structure without AI, arriving at a fairly similar outcome, but found the use of AI particularly beneficial in terms of saving energy. According to survey results, employees in the case company rate the heaviness of their workload on a scale of 1–10 at an average of 6.67 (Figure 12). The use of AI could reduce the perceived heaviness of workloads, enabling employees to operate more productively and innovatively.

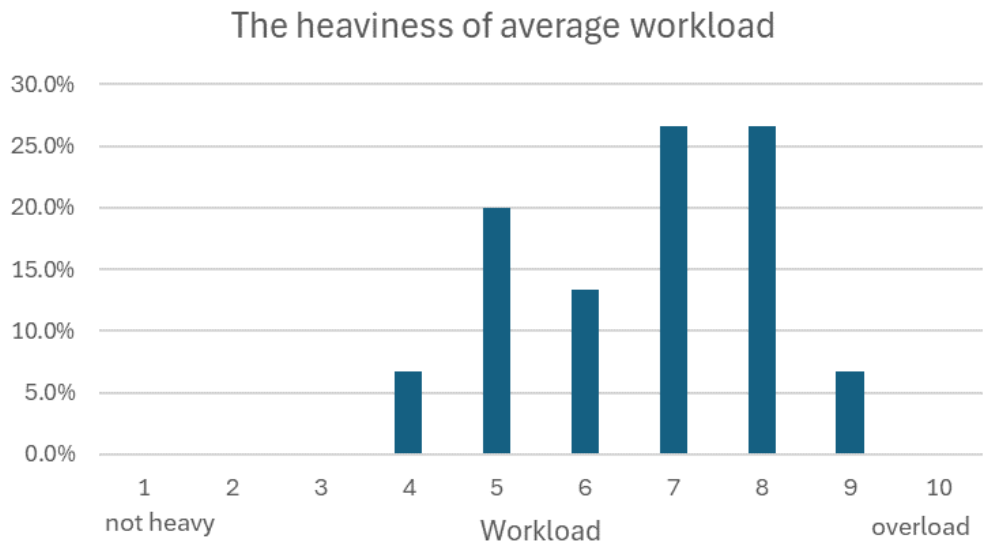


Figure 12. Experiences of the heaviness of average workload in the case company.

4.3 Case studies

This part introduces how the use of AI improved operations and the value it provided. It also introduces the use cases and business processes and specifies in what functions AI can be utilized to improve operations. The use cases are divided into four functional use case areas. The use cases were specified together with the case company management and employees. Selection was made based on the belief that, according to previous research and usage experiences, AI would benefit those specific processes.

The AI tools mainly used in this research are ChatGPT+ and Copilot for Microsoft 365. As mentioned before, ChatGPT+ was already in use by the case company before this research. ChatGPT is one of the most well-known LLM tools, and it has been found effective, so it was natural to take it as part of this research. In the early stages of this research, an IT support company was consulted to discuss the case company's AI expectations and hopes related to AI integration. Copilot for MS 365 was recommended as the most optimal solution to meet the case company's needs. Furthermore, since the case company was already using other Microsoft services, Copilot was selected as a key tool for this

research due to its compatibility and potential to enhance the existing technological infrastructure.

The use case areas are described in more detail earlier in part 1.3 of this research. This part focuses more on specific use cases. All use cases are listed under the use case areas in Figure 13. Later in this section, each use case is presented with a detailed analysis of its implementation, outcomes, and potential challenges. This research includes real-world examples to illustrate the generated value and limitations of these applications. These descriptions help in understanding how theoretical concepts are transformed into practical solutions.

Figure 13. Use cases categorized to use case areas.

Some of the use cases aim to automate tasks, but most of those augment employees' capabilities, enhancing and enriching human work by providing employees with better tools and resources that help them perform their tasks more efficiently and accurately. As presented earlier in the literature review, based on Dencik et al. (2023, p. 30), the greatest importance in AI integration is usually given to expanded capabilities and business growth, aiming, for example, to improve the quality of content and expand employee expertise. This research advocates that AI has the biggest potential to achieve these goals. AI cannot complete many tasks in a fully automated manner, and it needs guidance to achieve desired outcomes. That is why full automation is not a reasonable goal; rather, it is advisable to expand and improve existing resources with the support of generative AI. Based on the external interview, Kone also highlights in their AI strategy that the role of AI is more guiding and supporting, and employees are still performing the working tasks and taking responsibility for the accuracy of the outcomes.

Figure 14 below shows how each use case is positioned in the matrix, which compares the relationships between automation and augmentation and whether the use case influences internal or customer processes more. All tasks have some features of both automation and augmentation. In this context, full automation means that the task is processed without employee participation, and augmentation means that AI assists and augments employee capabilities. It is also important to note that sometimes AI might work better for several reasons, and sometimes the task is performed in a more automated manner than in the other time.

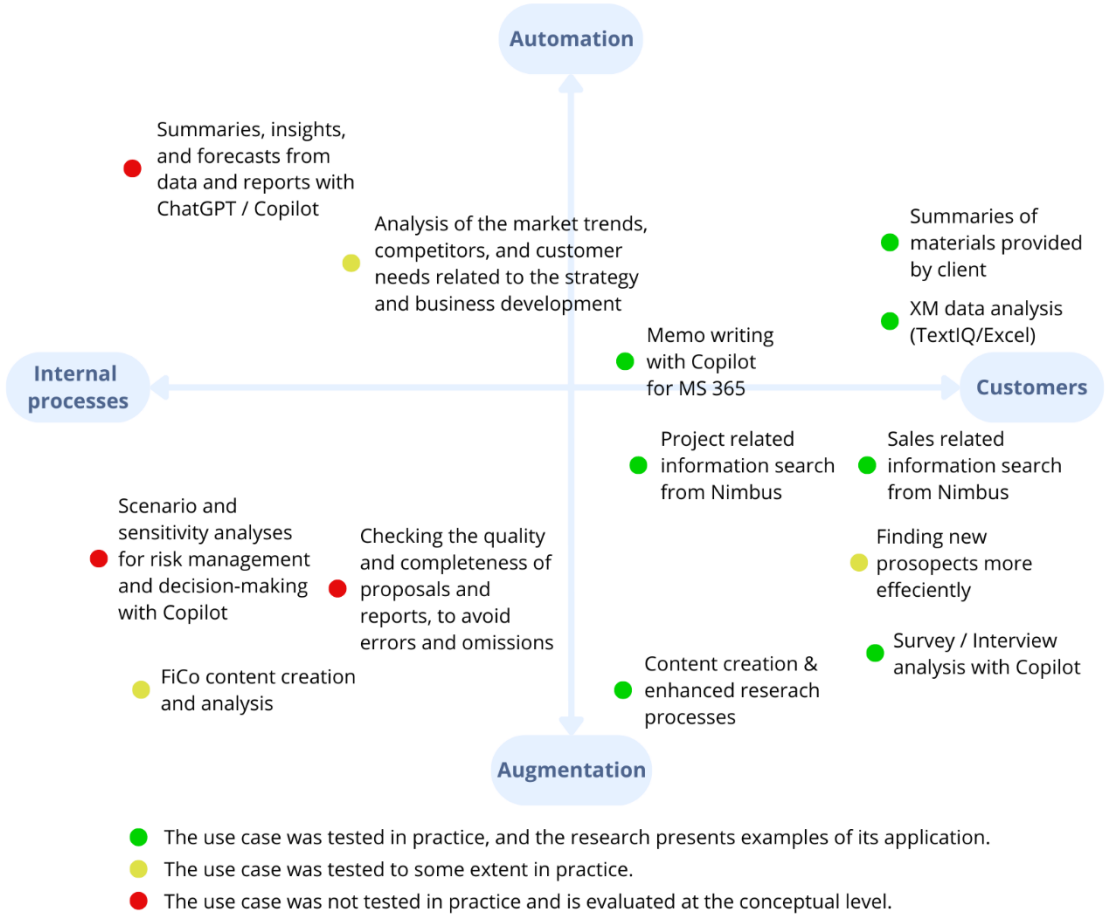


Figure 14. Use case matrix.

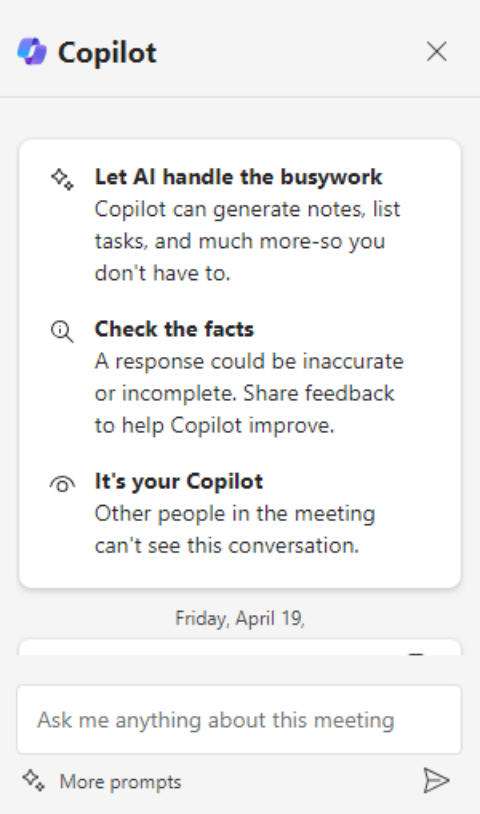
4.3.1 Use case area 1: Knowledge management and proprietary knowledge

This use case area aims to augment the case company employees' knowledge and expertise in various areas. The case company has a lot of internal data, and they are aiming to use it more effectively with AI. They also need to search for information about customer companies and their fields. New projects usually require new knowledge about different technologies and fields. Additionally, the case company wants to stay aware of new market trends and other current affairs. Use cases under this use case area aim to expand the employee expertise and intensify information searching.

4.3.1.1 Memo writing with Copilot for Microsoft 365

The case company writes memos of their project meetings. On average, 8,4 memos are written in a month per junior analyst. Based on the survey and other discussions, employees experience memo writing as time-consuming and laborious. Copilot for Microsoft 365 can provide summaries and answers to questions related to the transcribed meetings. Most of the project meetings are arranged in Microsoft Teams, and those can be transcribed. A user with a Copilot or Teams Premium license needs to arrange the meeting so that Copilot transcription can be started. AI summaries of the meetings can also be generated with Teams Premium, but based on the case company employees' experience, those summaries are not specific, and cannot be refined with follow-up questions.

The case company employees have been testing Copilot features in Teams and shared experiences for this research. The Copilot licensed user must remember to start the transcription and select the spoken language at the beginning of the meeting. If the wrong language is selected, the transcription will not be accurate, and Copilot cannot generate good responses. At first, Copilot was able to generate summaries and other responses only in English, even if the meeting was arranged in another language. Since May 2024, the system has also supported Finnish and Swedish, and is able to provide summaries also with these languages. The user can create any prompts during the meeting and return to the Copilot chat after the meeting to create summaries and find more accurate information about the meeting content. Copilot also recognizes screen shares and can tell information about shared material. Picture 3 below presents the view in the Copilot chat after the Teams meeting.



Picture 3. Copilot chat in the Teams application after the meeting looks and works like other LLMs.

The user can support the Copilot in response accuracy by asking more specific prompts. Using prompts like “Recap the meeting”, Copilot creates a simple summary of the meeting. If the user specifies the prompt, for example, with a meeting agenda, it provides more accurate information about the desired content. Based on case company employees’ experience, Copilot does not provide fully ready memos, but saves energy during the meetings, as there is no need to write notes. They also noticed a clear timesaving compared to before. Achieved time-savings produce cost-savings for the company. Based on the collected data, approximately one hour is saved per memo with the Copilot's assistance. Table 7 presents how the time savings affect the cost savings in the longer term.

Table 7. Time and cost savings per junior analyst. (*: Divided with X to anonymize sensitive company data)

Number of memos per month:	8,4
Time saved per memo:	1 h
Time saved per month:	8,4 h/month
Junior analyst hour rate:	*137,50 €/h
Copilot costs:	30 €/month
Monthly cost savings:	*1117,50 €
Annual cost savings (11 months):	*12 292,50 €
Annual cost savings in percentages:	48 %

This feature can be used for writing memos and finding detailed information about the content of previously held meetings. Copilot can extract essential information from the discussion, but these responses may also contain irrelevant points because some words might be misinterpreted in the transcription. However, this feature reduces the need to take detailed notes during meetings, allowing users to revisit the discussion content later. This feature can be used for all recorded meetings when there is a need to revisit the meeting content afterward.

The Teams application informs all participants when transcription has been started. However, to ensure complete transparency of AI use, it is important to ask for permission to make a transcript, especially if there are external participants in the meeting.

4.3.1.2 Project-related information search from SharePoint

Copilot for MS 365 can be used to search for information from the company's internal files. This feature can be used for many different purposes. In this use case, Copilot was tested to find project-related information about a specific topic. Copilot for MS 365 has access to the same files as the Copilot users. This use case was tested in Teams' Copilot

chat, but it can also be used in Word and other MS applications. The prompt used was the following:

> *Make a summary of all the final reports we have done for Customer1 over the past 5 years, including the following information: 1. Customer1 need 2. What did we do 3. What were the results such as: *anonymized*. Please provide a summary of all assignments in chronological order.*

During the testing, it was noted that using the words “final reports” works better than “client assignments” because it provides more relevant information. Copilot created a summary of eight cases and followed the chronological order, but a couple of the cases were not relevant. Copilot also attached related documents from SharePoint, making it easy to verify the accuracy of the information. It was noted that it did not follow the instructions when asking Copilot to consider documents that include some specific word in the file name.

Based on testing, this feature can provide value in finding information and desired documents faster, but as it provides some irrelevant information, it cannot be fully trusted. The user must double-check the information and consider if some critical information is missing. On the other hand, this feature can provide information that would not be considered without Copilot. This Copilot feature can be used for various tasks, and the user can search for information about anything related to the company’s documents. The most important is to be accurate and find by testing what words to use in prompts in different cases to get relevant information.

In conclusion, this feature is not working properly yet, but it can be assumed to be developed in the future. However, this changes the way of searching for information from SharePoint, as it is possible to find aggregated information about desired topics with low effort. It can be especially valuable for newer employees who do not have that much knowledge about the company’s history, as with this feature, they can get familiar with the company’s previous actions. However, it is essential to ensure the correctness of the information from reliable sources.

4.3.1.3 Content creation and enhanced research processes

As noted in the literature review, AI has much potential in content creation. This use case is the widest, as AI can be used for many tasks to create content and enhance learning. The more AI is used, the more it is learned in which situations it adds value and how its use can be best integrated into one's working habits. One of the biggest challenges is to adopt AI into working routines. A good starting point is to think that whenever encountering obstacles or feeling stuck, it could be beneficial to try to leverage AI. Writing a prompt can help the user to internalize thoughts, and the AI-generated responses can guide the thinking process. In this use case, the generated benefits are hard to measure. However, based on experiences, it can be stated that using generative AI as a brainstorming or information retrieval tool improves innovativeness and helps mitigate the bottlenecks in thinking and learning processes.

The case company can encourage employees to use LLMs in everyday work and share ideas for successful use. However, individuals in the company must be committed to testing and using AI models. Based on the collected data, ChatGPT+ is used in the case company for everyday tasks to save time, improve quality, and generate ideas. Table 8 provides examples of ChatGPT use cases from the case company and separates what kind of value the use of ChatGPT provided. These use cases were collected from three employees. They were asked to report all ChatGPT use cases for two weeks. 85% of these use cases were experienced as beneficial, and the remaining 15% as partly beneficial. Some of these use cases, such as writing sales material and formulating emails, were used more than once, but in the table and calculations, those have been considered only once.

Table 8. ChatGPT use cases.

Task description:	Reason for the use:			Was the use of AI beneficial?
	Timesaving	Quality Improvement	Idea generation	
Grammar check for a report		x		Yes
Excel instructions	x			Yes
Writing of sales material	x		x	Yes
Rewriting texts in proposal/plan that had grammatical errors and did not make sense	x	x		Yes
Making project objectives and structuring text for project plan/proposal	x		x	Yes
Summarizing a long and complex value proposition text into a more straightforward summary	x	x		Yes
Generating one sentence value proposition for service	x		x	Partly
Formulating emails to customer	x			Yes
Creating one-liners for services			x	Partly
Survey content creation	x		x	Yes
Survey theme and objective planning			x	Yes
Planning a customer workshop and preparing to understand the expected answers.		x	x	Yes
Generating examples of customer categorization fields for a company CRM			x	Yes

The actual value generated from using ChatGPT or other LLMs for content creation and searching information varies depending on the intended use. The above use cases were successful, but sometimes prompts can be challenging to build, and LLMs can create responses that do not provide any help. In these cases, the use of AI can even waste time.

However, in collected use cases, that was not experienced. Based on these results, it can be stated that LLMs can be used as advisors in everyday work tasks, and in the bigger picture, using AI saves time and improves quality and innovativeness.

As discussed before, AI can be incorrect, and it is vital to act as a gatekeeper when using material generated by AI. Interviews also highlighted that AI should increase productivity but not perform work on behalf of employees. The use of AI should enhance the skills of employees, not replace them.

4.3.2 Use case area 2: Efficiency and augmentation of analytics (XM)

In addition to content creation, generative AI also has the potential to analyze existing content. As told before, the case company offers experience management consulting. The projects aim to develop the client companies' customer experience management (CXM) process. Figure 15 below introduces a typical XM project process. The case company's XM projects include surveys, interviews, and analyzing customer materials. This use case area aims to make the analysis of collected content and material more straightforward and faster with generative AI.

Figure 15. An example of a typical XM project process.

The XM projects include a lot of qualitative and quantitative material that needs to be analyzed. It is vital to note that the material includes sensitive information related to the customer companies, so it needs to be handled carefully following privacy and security guidelines. That means that materials should not be shared for ChatGPT without anonymizing all sensitive information. If sharing anonymized material, there is a high risk of accidentally sharing something that should not be shared. It is recommended that no customer-related material or documents should be handled in ChatGPT. Instead, the case company employees should use Copilot for MS 365 to ensure that GDPR is not neglected.

4.3.2.1 XM data analysis (in Excel)

The idea behind this use case was to make data handling in Excel faster. However, it was soon noticed that Copilot's abilities in Excel are not very advanced yet. MS has published only the beta version of Copilot in Excel. It can only handle data in table format and make simple predictions. It does not meet the needs yet, but the case company should follow

the improvements as this feature could be beneficial if Copilot were more advanced in text analytics.

In addition to Excel, the case company utilizes Qualtrics' text analysis tool called Text iQ. That tool works well but can be used only if the customer has a license and the Qualtrics dashboard. Otherwise, survey data needs to be exported to Excel. Even though Microsoft's own AI features in Excel are not working well yet, ChatGPT can be used to find relevant formulas and other instructions for more advanced Excel use.

4.3.2.2 Survey and interview analysis with Copilot for MS 365

Survey data and interview transcripts can be reviewed with Copilot's assistance. Based on the collected data, the case company had 87 qualitative interviews that had to be analyzed during a one-year period. This number can vary as the number of interviews depends on the project. This use case was tested in a customer project that included seven qualitative interviews. The case company did not utilize Copilot in the actual project, but Copilot was tested afterward. Interviews were transcribed, and those transcriptions were analyzed with Copilot's assistance.

In the use case project, the case company implemented a maturity assessment of the client company's experience management. They evaluated the maturity of the client company's XM based on five key themes. The prompt needs to be structured precisely when analyzing the interview content with AI. If the prompt is not specific, the outcome will lack the necessary depth and relevance, potentially leading to misinterpretations or incomplete insights. To ensure accuracy, the prompt should clearly define the context, specify the themes of interest, and include relevant keywords that guide the AI in identifying and extracting pertinent information.

The prompt needs to be structured based on the interview questions and objectives. This means that the construction of the prompt should align closely with the aims of the

interview and the specific insights that the interview is intended to elicit. When crafting the prompt, it is crucial to consider the overarching goals of the interview: What information is the case company seeking to obtain, and what are the expected outcomes? The following prompt was developed for this use case:

« Based on the attached transcription, answer the following questions:

1. **Anonymized**
2. **Anonymized**
3. **Anonymized**
4. **Anonymized**
5. **Anonymized* »*

By crafting precise and detailed prompts, the AI can analyze the interview content more effectively and provide valuable insights into each key theme. Structuring the prompt can take some time, but focusing on this design phase is crucial to ensure the prompt is as effective as possible. Once a functional prompt is developed, it can be used consistently across all interviews conducted with the same interview framework. Using the same prompt, the AI can apply consistent criteria to each interview, making the analysis process more streamlined and ensuring that results are comparable across different interviews. This uniformity enhances the reliability of the insights and supports a standardized assessment.

Table 9. Time and cost savings when using Copilot for MS 365 in interview analysis. (*: Divided with X to anonymize sensitive company data)

Time used to analyze interview content without Copilot:	2 h
Time used to analyze interview content if Copilot was used:	1 h
The number of projects with qualitative interviews (3/23-3/24):	4
The number of qualitative interviews (3/23-3/24):	87
Time used to create prompts suitable for the project:	1 h / project
Hour price of an analyst:	*168,75 €/h

Copilot costs per user:	30 €/month
The average cost savings per project:	*2 601,25 €
Annual cost savings:	*10 406,25 €
Time savings in percentages:	47 %
Cost savings in percentages:	35 %

Table 9 introduces the time and cost savings based on the number of projects and interviews from 3/2023-3/2024. Copilot was not used for these interviews, but based on testing, about half of the interview analysis could be saved with Copilot's assistance. The Copilot costs were calculated assuming that there would be eight Copilot users in the XM team. However, Copilot can also be used for other tasks, thereby distributing the costs, but all costs have been accounted for in these calculations.

Based on testing, this use case works effectively, and Copilot can extract essential points from transcripts and summarize the interview content as desired. However, it is essential to remember that AI-generated content needs to be reviewed to ensure it has not created incorrect information or misunderstood the content. Copilot can make incorrect assumptions, so the person analyzing the interview should have a clear understanding of the interview content to identify any inaccurately produced data. All words in the transcriptions are not correct, and the transcription content might have some inaccurate information. However, when asking questions from Copilot, it tells from which part of the conversation the statement comes from. Therefore, reviewing and checking information from long interview transcriptions is easier.

This use case was tested for interviews but can also be used for survey analysis. In that case, the survey data must be exported to a Word document. After exporting, similar prompts can be used to find insights and trends in the survey data.

4.3.2.3 Summaries of materials provided by a client

This use case can be applied to analyzing materials provided by the client. Currently, Copilot's capabilities are effective in analyzing text-based materials. For example, in the project presented in the previous section, the client supplied information related to their current XM strategy in the form of a Word document. Essential information from this document can be extracted using a purpose-built prompt.

Based on testing, Copilot is not currently capable of analyzing visual content effectively. However, as its features develop, this use case could be extended to analyze process maps and customer journey graphics. With future advancements in AI, the ability to interpret and summarize visual data will enhance the scope of Copilot's applications, providing more comprehensive insights from diverse types of client-provided materials. While text analysis is currently the main strength, the future potential for visual content analysis will broaden the usability of this use case, offering more value in projects involving various types of client-supplied data.

4.3.3 Use case area 3: Efficiency and augmentation of administration

This use case area focuses on AI integration in administration tasks. Administration tasks include sales, finance, and control tasks. In the case company, managers and analysts perform sales tasks alongside their other responsibilities. As the literature review showed, previous research (Figures 3 & 4) has demonstrated that AI adoption in marketing and sales leads to both revenue increases and cost decreases. In addition, the case company hopes that AI integration would benefit financial reporting tasks, reducing manual work and minimizing the risk of human errors.

Figure 16 below introduces the case company’s iterative sales process. The case company often continues cooperation with old customers, so the starting point in sales is often the previous collaboration. AI can facilitate understanding what has been done

previously with an old customer, providing detailed insights and analysis of past interactions, projects, and outcomes. This historical data can be valuable in making new proposals tailored to long-term clients' specific needs and preferences. AI can also gather and analyze industry-specific information for new customers, helping to understand the client's sector and anticipate their needs quickly. Furthermore, AI can enhance the handover process to project managers by automatically summarizing all relevant information about the client and the agreed project details.

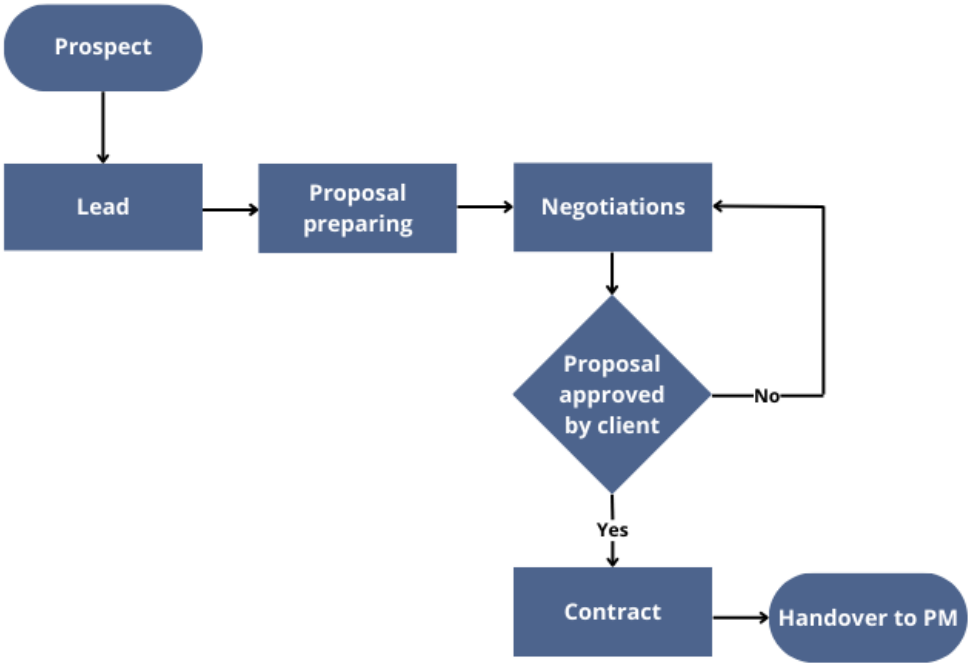


Figure 16. Iterative sales process.

4.3.3.1 Finding new prospects more efficiently

Finding new prospects is crucial to business growth, and integrating AI into this process can offer improvements. While this use case has not been adequately tested in practice, this part provides a conceptual framework for potential applications. The case company is currently using Dealfront to assist in identifying new client projects and streamlining

the prospecting process. Dealfront is a go-to-market platform where sales and marketing teams can find data, applications, and insights needed to find new leads (Dealfront, 2024). AI can be utilized to evaluate potential projects and provide insights that help prioritize opportunities. This capability allows the company to focus on the most promising prospects, optimizing resource allocation.

For ongoing collaborations with existing clients, AI can have a supporting role in generating ideas for future projects. After completing previous projects, AI can analyze past performance and suggest areas for development in subsequent initiatives. This can foster continuous improvement and innovation and ensure that each new project serves as a continuation of previous projects.

Additionally, tools like Perplexity can be used to gather up-to-date information on public projects in the energy sector. Based on testing, Perplexity works better in providing up-to-date information, compared to ChatGPT. AI can identify relevant cases that might otherwise be overlooked. This can help the case company to stay informed about new opportunities and trends in the market.

4.3.3.2 PowerPoint slides for sales / Offer bases for sales

The case company creates a lot of sales materials, such as proposals, using PowerPoint. One of the company's aspirations is to enhance the efficiency of creating PowerPoint presentations through AI integration. Copilot can generate individual slides and entire presentations in PowerPoint, but testing has shown that its capabilities in this application are still limited. Copilot can create a presentation using single prompts or based on a Word document. It can also apply a desired visual style using template slides. However, the results often do not meet expectations, as the content of the slides tends to be very concise, and the visual design is undeveloped. While Copilot can maintain the requested visual style, including fonts and colors, it often inserts irrelevant images and creates an inconsistent slide structure. Additionally, Copilot does not follow the requested length

(e.g., “keep the presentation under ten slides”) but frequently produces much longer presentations. Some slides may contain only a title and a few lines of text.

The hope is that Copilot could visualize given data and create engaging presentations with a well-organized structure. Currently, the functionalities fall short of these goals. Copilot can create a basic structure for the presentation, and a well-crafted prompt or document can slightly improve the outcome. However, creating the structure for the presentation using ChatGPT is significantly more effective. At this point, Copilot does not meet the expectations and needs when creating PowerPoint presentations.

However, as discussed earlier, AI can be leveraged to create a structure for PowerPoint presentations such as sales proposals. ChatGPT is an effective tool for organizing topics and generating textual content. Leveraging AI in creating presentations can save time and reduce the energy employees expend. However, the responsibility for visualizing the material and incorporating sensitive data currently remains entirely with the employee. The latest version, OpenAI's GPT-4o, released in May 2024, promises improvements in creating visual content (OpenAI, 2024). The latest advancements in AI development give hope that soon, AI will be able to handle and create visual content more proficiently, in addition to text-based content.

Based on the findings of this research for this use case, even though Copilot does not yet provide significant benefits to users in PowerPoint, AI remains a valuable tool for content generation in presentations. This suggests that while the current state of AI tools like Copilot may not fully meet the needs of the case company for PowerPoint presentations, ongoing advancements and improvements in AI technology hold promise for the future. As AI continues to evolve, it is expected to eventually offer more comprehensive and effective solutions for creating both textual and visual content, thereby enhancing the efficiency of creating sales materials.

4.3.3.3 Sales-related information search from SharePoint

This use case has the same idea as the previous one introduced in part 3.4.1.2, but it can be leveraged for sales-related tasks. As mentioned earlier, the case company often continues to work with old clients on new and follow-up projects. In these cases, historical data and insights gained from past interactions can be leveraged to tailor proposals that better meet existing clients' specific needs and preferences. This enables the company to offer more relevant and competitive solutions.

This use case was tested in Teams' Copilot chat in a similar way as in part 3.4.1.2, and the prompt used was the following.

> *« List and create a summary of all proposals for "quantified value proposition development" and "productization of industrial services and solutions" that we have done during the past 5 years. Consider only files that include the word "Proposal" in the file name »*

Copilot provided nine different cases in the response. Most of the cases were relevant information about proposals, but also in this case, Copilot provided some irrelevant information that was not related to proposals. It also missed some of the recent proposals that were made for Customer1. The prompt was specified only to consider files that include the word "proposal" in the file name, but Copilot did not follow this instruction. Only four out of nine cases included that word in the file name. In addition, at least the latest proposal made by the case company was missing. However, it is possible to continue the conversation, and when a follow-up question about the latest case was asked, Copilot provided information about that as well.

Clearly, the response lacked important information, and based on this, the feature can be used as an additional tool but cannot be entirely relied upon. Nevertheless, the feature can be helpful when preparing proposals, as it can help find examples of similar cases, speeding up the creation of new ones and avoiding the need to reinvent data already available in the company's database. Similarly, new proposals can be made more

personalized for clients with whom collaboration is ongoing by using Copilot to summarize past collaboration details.

4.3.3.4 Checking the quality and completeness of proposals and reports to avoid errors and omissions

One potential use case for AI in the case company is to enhance the quality and completeness of proposals and reports. The case company hopes that they could use a checklist to ensure that all proposals meet the required standards. In this context, AI could be leveraged to review these documents and verify if they fulfill the checklist requirements.

While the idea is promising, it is essential to note that the current capabilities of AI tools like Copilot may not be entirely sufficient to handle such precise tasks with high accuracy. In the current phase of Copilot, it is pretty unlikely that this use case would meet the desired expectations. However, as AI technology evolves, its ability to accurately check detailed requirements and ensure completeness is expected to improve.

In the meantime, AI can still provide valuable assistance by checking the grammar and improving the quality of the text content in proposals and reports. This can help improve the document quality, making it more professional and error-free, even if a thorough checklist verification might still require manual oversight. Therefore, while AI can provide some assistance, manual review and oversight will still be necessary to ensure the highest quality and accuracy of the company's proposals and reports.

4.3.3.5 FiCo content creation and analysis

In addition to analysts and management, the case company employs an individual responsible for HR and administrative tasks. This person's duties include HR tasks, as well as finance and control responsibilities. The work involves, for example, being

accountable for financial reporting to the company's management. Financial reporting requires gathering information from multiple sources, which is currently done manually, increasing the risk of human error. Automating this process with the current tools is challenging, and reporting is dependent on the systems used by the company. However, it can be assumed that better features will be added to service providers' systems. The case company has also refined its reporting processes to improve the ability to predict if uncertain projects are going to be realized.

There is research available related to AI use in finance and accounting, but it mainly highlights how AI can support budgeting and forecasting, provide investment advice, and analyze large sets of financial data to generate insights (Rane, 2023b). Finding concrete examples of how AI practically supports tasks such as financial reporting is challenging. The case company should seek information on current and new tools and find out how AI features can support financial reporting to enhance real-time tracking, predictive analytics, and cost optimization.

Table 10 below gives recommendations on how AI could be utilized in FiCo tasks. The most significant benefit of AI in this area would be in financial monitoring and tracking. However, the case company needs to research and find tools that fit their specific needs.

Table 10. Finance and control tasks where AI could be beneficial.

FiCo task:	**How AI could be utilized:**
Preparing agendas and meeting minutes for board meetings	• Real-time transcription and recording of meetings. • Suggest agendas and meeting structures based on past meetings. • Highlighting action items and decisions. • Generating meeting minutes efficiently
Drafting emails	• Drafting personalized and contextually relevant emails.

FiCo task:	How AI could be utilized:
	• Ensuring the correct grammar.
Joint event planning	• Idea generation for joint events.
Budget follow-up	• Automating tracking of expenses and revenues • Generating real-time financial reports • Providing predictive analytics for future performance • Identifying spending patterns and cost optimization areas
Climate survey analysis	• Identifying common themes, concerns, and suggestions

4.3.4 Use case area 4: Strategy & board work

This section focuses on how generative AI can be used in strategy and board work. The use cases and examples are primarily based on the material collected through interviews. Strategy work includes idea generation and planning, so AI plays a crucial role in providing new knowledge and enhancing the research processes. These are important when formulating effective strategies and making informed decisions that align with the company's long-term objectives. Furthermore, AI-driven insights help identify potential risks and opportunities, ensuring the company remains competitive and adaptable in a rapidly changing market.

4.3.4.1 Summaries, insights, and forecasts from data and reports with ChatGPT / Copilot

AI tools such as ChatGPT and Copilot have the potential to enhance the analysis of company data and reports by generating summaries, insights, and forecasts. In strategic planning, these AI solutions can be leveraged to process the latest company materials, extract key points, create visualizations, and make predictions based on the provided data. This can be particularly beneficial for evaluating and refining the strategy.

By utilizing AI for data analysis, the case company can compare the AI-generated outputs with their own analyses to supplement the created material with observations that should not otherwise be considered. This comparison works as a validation method but also uncovers potential areas where AI can offer additional value. For instance, AI tools can highlight overlooked trends, suggest alternative strategies, or present new perspectives that might be missed without AI.

Furthermore, AI can identify new business opportunities by analyzing patterns and trends within the company data, offering actionable suggestions that align with the company's objectives. Integrating AI tools into the data analysis process can enhance strategic planning by providing comprehensive insights and innovative ideas. This ensures that the company's strategy is adaptable to changing market conditions.

4.3.4.2 Analysis of the market trends, competitors, and customer needs related to the strategy and business development

AI tools such as ChatGPT and Perplexity can offer significant advantages in analyzing market trends, competitors, and customer needs for strategic and business development purposes. These AI tools can efficiently process information from various sources, providing timely and comprehensive insights to guide strategic decisions.

AI can streamline the research process by collecting and summarizing relevant data about market trends or other valid research information. One efficient way is to collect relevant information manually or refer to a known reliable source and then ask ChatGPT to summarize information. If the user wants the AI to provide sources, Perplexity might be better than ChatGPT. Perplexity can scan the web and social media platforms for the latest news and information and identify emerging trends, opportunities, threats, strengths, and weaknesses within the market. Perplexity also provides links to the sources, so the reliability of the provided content is easy to check. These approaches can

reduce the time and effort required for manual research, allowing the case company's management to focus on strategic planning and implementation.

In interview 4, the CEO of the case company provided a practical example of an enhanced research process. As previously mentioned, the case company has been developing a new strategy. The management team has utilized the well-known book “Scaling Up” by Harnish Verne during the strategy development process. This serves as a concrete example of how AI can be used to enhance research efforts. As this book is widely recognized, ChatGPT can provide information related to its content. The management team searched for approaches and frameworks from this book with the help of ChatGPT and utilized the acquired knowledge in their strategy development work.

AI can also help stay more aware of valuable market trends, leading to a competitive edge. AI can offer recommendations and suggestions based on its analysis, such as best practices, strategic actions, and ways to capitalize on identified trends and customer needs. This enables businesses to make informed decisions, adapt quickly to market changes, and develop strategies that are both innovative and responsive to the competitive landscape. The management team of the case company conducted market research at the beginning of the strategy development process and found it labor-intensive. The market research was carried out in early 2024, and at that time, they had not yet realized the potential of utilizing Perplexity. However, it was later used in the strategy work.

4.3.4.3 Scenario and sensitivity analyses for risk management and decision-making with Copilot

By integrating AI into scenario and sensitivity analyses in risk management and decision-making processes, businesses can leverage external perspectives to enhance their strategic planning and risk assessment. Generative AI can be utilized to generate scenarios and sensitivity analyses that illustrate how various factors might impact the outcomes of

a company's strategy and business development. This capability allows decision-makers to understand the potential range of outcomes and the factors that drive these changes.

The Copilot can act as an advisor by offering recommendations based on the scenarios and sensitivity analyses. It can suggest the optimal strategy, the best alternative, or the most robust option, helping companies to choose the path that maximizes benefits while minimizing risks. The case company mentions that using AI for market research also serves as a way to assess risks. Not following trends can be a considerable risk, while following trends creates new opportunities.

In addition, generative AI can be used as an advisor in decision-making. By integrating AI into decision-making processes, the case company gains an external perspective that can be used for evaluation. This action does not take much time and can provide new perspectives to the discussion. Using Copilot or ChatGPT in decision-making processes, the case company can enhance its risk management capabilities, make better-informed decisions, and improve its overall strategic outcomes.

4.4 Prompt bank

The case company should establish a prompt bank available for all employees, where proven and often used prompt could be collected. The prompt bank would make good prompts available for all employees, and these templates could be modified to meet practical needs. The prompt bank would significantly enhance the efficiency and effectiveness of using generative AI tools, generate ideas, and lower the threshold for using AI within the organization.

As stated in part 2.4, generative AI tools can produce better results in the desired format and style if the prompts clearly explain the user's role and the context in which the AI operates. By providing detailed and context-specific prompts, AI can tailor its responses to be more relevant and valuable. If employees have these prompt templates available,

it takes less time to prepare prompts. The prompt bank can provide consistency and efficiency, enhance knowledge sharing, and ensure that the case company will continuously improve its AI use. Table 11 below explains how these benefits can affect the company.

Table 11. Explanations of how prompt bank can benefit the company.

Benefits of prompt bank:	**Explanation:**
Consistency	Ensuring that all team members use standardized prompts can lead to more consistent and reliable outputs from AI tools.
Efficiency	Ready-to-use templates can save time and reduce the learning curve for new users, allowing them to leverage AI capabilities quickly.
Knowledge sharing	A centralized repository of prompts encourages knowledge sharing and collaboration across employees.
Continuous improvement	Updating the prompt bank constantly leads to progressively better AI performance.

Some prompts have been introduced in the use cases, and those can be added to the prompt bank. However, it is essential to continuously improve and grow the prompt bank as a comprehensive selection of prompts will support the case company employees in using AI more widely in their routines. In addition, the prompt bank could include general guidelines for AI use. The guidelines could encourage employees to use AI, as based on the survey results, they are uncertain about what information can be shared. The prompt bank must be easily available and well structured so that needed information is easy to find.

4.5 Summary of risk considerations

When integrating generative AI into business operations, several challenges and risks must be carefully managed to ensure successful implementation and sustainable use. Being brave and innovative in using AI is crucial for development, but certain risks must always be considered. Taking risks into account helps to create a safe and supportive environment for AI use.

One of the challenges identified during the testing of use cases is the incorrect information produced by AI models. AI does not always accurately understand the contexts in its sources and may mix up information. This can lead to inaccurate or wrong information. Therefore, the AI user must understand that they are responsible for the content created by AI, and the content should not be used without verifying its accuracy.

Another significant risk to consider is related to data privacy and security. Sensitive company or customer data must not be shared with ChatGPT or other similar tools that utilize the data for development. Copilot for MS 365 does not use prompts, responses, or the data accessed for software training (Microsoft, n.d.), so it can be used to handle sensitive data. In addition, the case company must create a safe environment and culture where employees feel comfortable asking questions about AI, to ensure that tools are not left unused due to ignorance or lack of skills.

Legislation surrounding the use of AI is likely to increase in the coming years, so new regulations must be monitored to avoid misuse. In addition to legislation, ethical considerations should be taken into account. It is important to understand how AI tools generate content. For instance, using AI in recruitment processes is not advisable because the patterns it uses may contain biases that can lead to discrimination.

Moreover, employees should avoid over-reliance on AI and stay in charge when using AI tools. AI should augment human capabilities rather than replace them entirely. Ensuring

that employees remain engaged and retain control over decision-making processes is crucial.

A significant risk for the future is if the case company does not continue to develop and learn and does not integrate increasingly advanced AI tools into their daily work. Maintaining a positive culture and motivating employees to challenge themselves with AI is essential. Changing old work habits and personal thinking can be challenging. Adopting AI to everyday working habits requires a change in mindset and commitment from the company and its individuals.

4.6 Summary of study results

This research has explored the potential benefits and challenges of integrating generative AI into the case company's operations. The findings indicate that generative AI can streamline PBI's operations by assisting in resource-intensive tasks, allowing consultants to focus on more strategic activities. AI tools like ChatGPT and Copilot for MS 365 can reduce manual workload and operational costs by assisting in brainstorming, content creation, data analysis, and administrative tasks. Additionally, AI can enhance the R&D process, provide valuable insights, and support decision-making processes. By analyzing large datasets, AI can uncover trends and patterns that can guide strategic decisions, enhancing the overall quality and speed of decision-making within the company.

Despite the benefits, integrating AI comes with challenges, such as managing high expectations, addressing ethical concerns, ensuring data privacy, and maintaining information accuracy. As noted in part 2.5, balancing AI use with human expertise and implementing careful risk management practices is essential. A positive culture towards AI adoption is crucial and fosters successful AI integration. This includes educating employees about AI capabilities, addressing their concerns, and involving them in the implementation process to ensure the effective use of AI tools.

Looking ahead, as AI technologies continue to evolve, their capabilities and applications will expand. From a competitive advantage perspective, the company has already taken a significant step by adopting AI tools and showing interest in their benefits and potential. The case company can maintain a competitive edge by staying updated with AI advancements and continuously integrating new AI capabilities into their workflows. This will require ongoing investment in AI infrastructure and employee training. In conclusion, while generative AI presents substantial opportunities for enhancing business operations, carefully considering the associated risks and proactive management strategies are essential for maximizing its benefits and ensuring responsible use.

5 Conclusions

The rapid development of generative AI technologies has provided transformative possibilities for various industries, including management consulting. While tools like Copilot for MS 365 and ChatGPT are still evolving and have some limitations, their potential to improve business operations is unquestioned. This thesis aimed to explore how the case company, a management consulting firm PBI, can leverage generative AI to enhance its processes and secure a competitive advantage in the industry. The research aimed to address two primary questions:

1. How can PBI use generative AI to improve its processes and reduce operational costs in management consulting?
2. What are the challenges and opportunities for PBI in applying generative AI, and how can they secure a competitive advantage in the consulting industry through AI adoption?

To answer the first question, the integration of generative AI into the case company's operations presents significant opportunities for enhancing productivity and innovation. By automating routine tasks such as data analysis and document generation with tools like Copilot for MS 365 and ChatGPT, the case company can streamline its operations, reduce manual workload, and shift the focus of its employees towards higher-value activities. This shift enables the firm to deliver more insightful and productive consulting services. While generative AI fosters operational efficiency, it is essential to verify AI-generated data carefully due to potential errors. However, the rapid evolution of AI technologies promises increased accuracy and efficiency over time, making these tools increasingly reliable for management consulting and beyond.

To answer the second question, one of the primary challenges in adopting generative AI lies in managing expectations and addressing the current limitations of the technologies. High expectations might lead to disappointment, potentially decreasing motivation to use AI tools. However, fostering a positive culture, sharing experiences, and educating

employees about AI's realistic capabilities and risks can mitigate these challenges. The opportunities presented by generative AI include enhanced service offerings through improved resource optimization and scalability, enabling the company to handle large volumes of work more efficiently. These factors support business growth and knowledge expansion. The case company can maintain a competitive edge in the consulting industry by staying abreast of AI advancements and continuously integrating new capabilities.

While AI technologies like Copilot for MS 365 and ChatGPT are still in the early stages of their development, their potential for growth and improvement is substantial. The findings of this research indicate that when generative AI is used correctly, these tools can offer substantial economic benefits and improve operational efficiency. However, PBI must foster a supportive culture, stay committed to continuous learning, and keep adopting developed AI features. By doing so, PBI can benefit from the current state of AI applications and prepare the company for future advancements, securing a solid competitive position in the consulting industry.

5.1 Recommendations for further research and challenges in this study

While this study has provided valuable insights into the integration of generative AI into PBI's management consulting strategy, future research could focus on the long-term impacts of AI on organizational efficiency and innovation, particularly how continuous AI advancements can be adopted into business processes over time. Investigating the scalability of AI solutions in different organizational structures and industries would also be beneficial, as this could provide a broader understanding of AI’s capabilities across different business environments. Additionally, a deeper review of ethical AI use would be valuable, particularly in business operations sensitive to biases like recruitment and decision-making.

Case studies from various industries can provide successful AI implementations and offer lessons that can be adapted to different contexts. However, it is essential to remember

that all companies must develop their own AI strategy according to their own practical needs. Finally, long-term studies that track the developments of AI tools and their impacts on business performance over several years can provide a comprehensive view of how AI shapes working habits.

This study had a few challenges and limitations. Firstly, AI tools are constantly evolving, making it difficult to account for all development stages. Some of the AI tools were still in relatively early stages, so their full potential cannot be found out yet. Additionally, as an SME, the case company could only test a limited number of tools, so a comparison of all available AI tools was not feasible. Finally, the study period of five months was relatively short, considering the rapid pace at which AI technologies are developing.

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Appendices

Appendix 1. Survey questions

General questions

1. Name
2. In what tasks do you work in?
    a. Sales
    b. Strategy projects
    c. XM projects
    d. Other
3. Describe your typical workweek and provide insights into the tasks you typically handle.
4. What tasks take up most of your time at work?
5. Which tasks do you find particularly time-consuming and resource-intensive?
6. How would you describe the heaviness of your average workload? (1 = not heavy, 10 = overload)
    a. 1–10
7. Do you believe that you could enhance the quality of your work by allocating less time to tasks that feel the most time-consuming?
8. Please rank the following applications in order of your usage, with 1 being the program you use most frequently:
    a. Excel
    b. Word
    c. PowerPoint
    d. Outlook
    e. SharePoint (Nimbus)
    f. Teams
9. Other applications where you use a lot of time?

The current state of AI usage in PBI

10. How frequently do you integrate AI into your work?
    a. A daily practice
    b. A few times per week
    c. 1–2 times per week
    d. Less than once a week
    e. I do not use AI in my work
11. Specify which AI tools you use. List the most frequently used tools first, followed by others.

12. Is there AI tools that you are interested in using but have not had the opportunity to use yet? If so, which one?
13. Provide examples of specific tasks or projects where you have successfully utilized AI.
14. How much time did you approximately save in each task?
15. Has the use of AI improved the quality of your work in any task/project? How?
16. Have you experienced that the use of AI has been useful in improving innovativeness? How?
17. In what situations have you hoped for AI to be beneficial, but it did not provide help?
18. Have you found good ways to make a prompt (=the way you ask the questions) to receive better answers from generative AI?
19. Explain why you haven't been using AI more extensively in your work? Select all that apply:
    a. I am uncertain about which tools to use.
    b. I am unsure about when to utilize AI.
    c. I am unsure about for which tasks to utilize AI.
    d. AI has not yet become a regular part of my workflow, so I often forget to use it.
    e. Lack of time to explore available AI tools.
    f. Limited access to relevant tools such as:
    g. I am afraid of potential risks.
    h. Other reasons; specify?
20. If you answered "Limited access to relevant tools", please specify which tools:

The future of AI in PBI

21. Where do you see the biggest potential for AI use in management consulting?
22. What do you see as the biggest challenges in adopting AI in management consulting?

In which specific tasks do you believe AI could offer the most significant benefits in the future;

23. Within your own role:
24. Across the entirety of PBI:

Respond to the following questions/statements (on a scale of 1–10)

25. How interested are you in the potential benefits of AI in your work? (1= not interested, 10 = very interested)
    a. 1–10
26. I see AI as a valuable tool. (1 = disagree, 10 = agree)
    a. 1–10

27. I believe that I will increase the use of AI in my work in the future. (1 = disagree, 10 = agree)
    a. 1–10
28. AI has the potential to enhance time efficiency in my work. (1 = disagree, 10 = agree)
    a. 1–10
29. The integration of AI could contribute to increased efficiency in my work. (1 = disagree, 10 = agree)
    a. 1–10
30. Using AI could help bring more innovation into my work. (1 = disagree, 10 = agree)
    a. 1–10
31. AI has the potential to expand my personal knowledge and expertise. (1 = disagree, 10 = agree)
    a. 1–10

Risks

32. How afraid are you about the risks in use of AI? (1 = very afraid, 10 = not afraid at all)
    a. 1–10
33. In your own words, outline the risks you are concerned about or believe should be considered in the adoption of AI?
34. In your opinion, do customers in the consulting industry tend to be more interested or skeptical about the integration of AI in consulting work?
35. From the customer's perspective, what factors do you think should be considered when incorporating AI into PBI's strategy?
36. Other comments, ideas, or something else?