**LAB University of
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Customer Service Today and Tomorrow

A Diary-based Analysis of the Impact of Generative Artificial Intelligence on Customer Service and Service Agents' Roles

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Abstract

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Abstract
The purpose of the diary-based thesis was to monitor the impact of ChatGPT-type generative AI on customer service processes and on the evolving role of service agents. This investigation was carried out from three perspectives: the author's career path in customer service, the challenges faced by customer service professionals and the current and projected capabilities of ChatGPT-type generative AI models.
Drawing on detailed diary entries spanning 12 weeks and their summarised key features, with an emphasis on the nature of remote work, the thesis evaluates the author's current skillset, identifying strengths and areas for improvement. Against the backdrop of industry insights, they provide an understanding of the skills customer service professionals will need in the future.
The thesis references articles and insights from industry experts and companies in the technology sector that describe early reactions and predictions regarding ChatGPT. Based on this research, the thesis argues that integrating AI-powered chatbots into customer service processes can increase productivity and enhance the satisfaction of customers and human agents. It also emphasises the need for strict data security and ethical considerations and the importance of preparing for business challenges when integrating new technologies into existing systems.
The thesis asserts that the integration of generative AI is still in its early stages, making it challenging to identify its best use cases, potential to boost profits and impact on the labour market.

Contents

1   Introduction

Millions of people became aware of the capabilities of artificial intelligence when a chatbot that produced coherent text appeared on the internet, wrote Helsingin Sanomat, the big Finnish daily, soon after ChatGPT's launch on November 30, 2022 (Storås 2022, author's translation). Natural conversations between humans and machines had suddenly become a reality. Many analysts felt that this would help businesses take customer service to a new level.

This diary-based thesis aims to discover the expected impact of ChatGPT-style generative artificial intelligence (AI) on customer service processes and the work of service agents. The thesis approaches the subject from three perspectives: the writer's career path in customer service, the present state and challenges of customer service, with an emphasis on customer expectations, and the current and projected capabilities of generative AI models like ChatGPT.

ChatGPT was launched less than a year ago, so this thesis relies primarily on articles and blogs by industry professionals and big tech companies, documenting their early reactions and predictions and compiling them into a collection of benefits and concerns.

Understanding how technological advances will change the role of service agents is of particular interest to me, as it directly impacts my job prospects. In this thesis, I assess my current skill set by analysing my career path up to the present day. Reflecting on them against the backdrop of conclusions from this thesis should help me identify the key skills required in the future and areas for personal improvement.

I have worked in various customer service roles in Finland and abroad. My current employer is a foreign company offering a variety of services, and the work is fully remote. I have worked remotely for the past three years, so this thesis emphasises the nature of remote work and how it differs from onsite work.

The method used is observation, with the subject being myself. Observations are reflected in relation to research conducted for this thesis. The aim of observations is always to *structure and understand* them, dissipating confusion and leading to better understanding (Anttila 2014, author's translation).

The observations in this thesis were recorded in a diary style, with monitoring lasting for 12 weeks, from week 24 to week 36. Due to a non-disclosure agreement, no reference to the employer or clients is made, and the attached diary notes are confidential.

The thesis seeks to discover answers to the following three research questions:

- How will ChatGPT-type generative AI impact customer service?
- What is my current skill set in customer service work?
- Which of my skills need development to match changing industry needs?

2 Customer Service, AI and Me

2.1 How it All Began

Some form of customer service has existed as long as trade has been practised. The Industrial Revolution in the late 1700s created a need for a more organised form of customer support. Companies started putting together customer service teams. (Padmakumar 2023.)

The first recorded use of the terms AI and machine learning dates back to the 1950s (Jiang et al. 2022). New programming languages were developed, and sci-fi books and films started to explore the relationship between man and machine, making AI a mainstream idea (Anyocha 2017).

I have been working for 15 years in various customer service roles: first, driving around interviewing people in their homes, then in big service centres in Ireland and now doing remote work from home.

Looking back at my career path in customer service made me think about how great it would have been to have had something like ChatGPT to help me in the challenging service situations I have encountered in my working life.

2.2 My Early Career Path

My first job (2004–2005) was conducting market research interviews for a Finnish polling company. Interviews were about 45 minutes long and conducted in people's homes. The company gave me the contact details and a list of questions to ask, and I would phone the interviewees to agree on a time and place while trying to organise interviews by area and day (this was before electronic calendars and navigation, so I quickly learnt the importance of careful planning).

I read the questions from the list and recorded them on an IBM ThinkPad laptop, which took several minutes to boot up. It had an internal SIM card, which formed a slow and unstable internet connection for me to submit the finished interviews.

Building good rapport with people face-to-face was an interesting challenge for an inexperienced interviewer. But I learnt.

It never occurred to me that 20 years later, while writing this, I would record an interview on my phone; ask a program to transcribe, analyse and index its content; and with one quick click, send it on to my employer's database.

In Ireland

In the spring of 2008, I was studying in Manchester and felt I needed a change of scenery for a year. While exploring options in the UK and other European countries, I stumbled upon multiple websites recruiting people with language skills to work in countries like Ireland, which was a real hotspot for outsourced customer service, sales and IT services. I sent a half-hearted application, and a few hours later, I had a time booked for an interview.

In June 2008, I started working in Dublin as a user account management specialist. We handled creating, managing and troubleshooting for a global Finnish company's user accounts. For case management, we used a ticketing system that was quite advanced but lacked, for example, a tool for communicating with customers from within the software. Most communication was done using a separate, shared support email account. We laboriously copied sent / received emails onto tickets. We had basic macros (pre-written responses) for many situations, but these were not integrated into the system and had to be copied from a separate sheet and heavily modified based on the situation, making it a time-intensive task.

Business Communication

I was surprised that most of my colleagues tried to avoid dealing with issues over the phone. I enjoyed communicating with people and felt the phone was often the best solution. I learnt a lot about business communication in Finnish and English. I also learnt the importance of clear communication to understand an issue and ensure a quick resolution. I noticed how much the customers appreciated personal contact and that they could talk about their issues on the phone to a real human being and get a realistic timeframe for issue resolution – even if the resolution was not what they would have preferred.

Surviving Chaos

After a year, I started working for another company as an IT analyst. Among my many responsibilities were hardware, software and network problem diagnosis for the same Finnish company's internal personnel via telephone, email, chat and remote-control tools.

When I joined the company, everything, including materials, proper phone systems and staffing, was still in progress. The work was extremely hectic, and customers were often annoyed about long waiting times.

While work felt chaotic in the beginning, I learnt to stay calm in situations where I did not know what was happening and took my time to understand the details while giving the impression that everything was under control. I quickly learnt when a situation needed consultation with colleagues and who might be the best person to turn to in any given situation.

Learning from My Mistakes

I have noticed that training for customer service roles is often scarce. You are thrown in at the deep end quickly. Learning usually happens as you work, and you must learn from your mistakes. Staying calm, having a friendly tone and manner, and honestly letting the customer know if you do not know something is important.

Listening to customers' issues, honestly admitting your mistakes and doing your best to correct them will lead to good feedback and, in the end, a satisfactory result. Taking ownership of the process from start to finish and not overpromising is important. This is not always easy with demanding customers and a heavy workload.

After a few years, I started working as a service desk representative for another large company in Ireland. We supported big clients, who were using our premium document management services, from the delivery centre in Dublin.

Knowing Your Strengths and Weaknesses

After a year, I changed jobs and became a hardware specialist in advanced support. This job involved managing and resolving complex issues from field engineers and other technical staff all over Europe. Communication was conducted by phone and email in an open-office environment. We had extensive testing facilities and could use various hardware combinations and software versions.

While this was a great position, I soon realised that the extremely technical nature of the work did not suit me at all. Eventually, I decided to leave the company. I later understood that my previous team leader had been correct when he hinted that the position might not be what I wanted and that I should consider other possibilities within the organisation. I had been blinded by the possibility of advancement and disregarded his thoughts and my own. This experience taught me a valuable lesson about career planning and the importance of knowing your strengths and weaknesses.

Working from Home

When I returned to Finland I worked for some time for a small IT services company as a customer service coordinator. Since January 2020, I have been working exclusively from my home office, another totally new experience. I describe and analyse my experiences in Section 7 of this thesis.

3   Evolution of Customer Service: From Basics to Future Challenges

3.1   Defining Customer Service, Customer Experience and Agent Experience

In service situations, several concepts are involved: customer service, customer experience and service agent experience. Customer service experiences are key components of the overall customer experience (Inabo 2023), and the quality of service situations is a key component in forming the agent experience (Mazzetti 2022).

Customer Service

Customer service is the ongoing actions taken to support customers throughout their journey and interactions with a brand's product or service (Savage 2021).

Today's customer service is largely provided through digital channels. In assisted service, customers connect with human agents using digital channels. These experiences are like traditional face-to-face experiences. In digital self-service, customers serve themselves using online knowledge bases or chatbots without a live agent. (Oracle 2022, 4.)

Customer service is not just about offering information and addressing customer questions, concerns, complaints and inquiries. It is also about gathering and analysing customer data from various communication channels to gauge customer satisfaction and identify trends and areas for improvement. (Salesforce 2023a.)

Customer Experience

Customer experience is the sum of the encounters, impressions, and emotions that a customer forms about a company's operations (Löytänä & Kortesuo 2011, 11, author's translation).

In other words, customer experience is not a rational decision by a customer but is strongly influenced by emotions and subconsciously made interpretations.

Agent Experience

Service agent experience, much like customer experience, comprises many ingredients. Paraphrasing the definition of customer experience above, one could say that agent experience is the sum of all the ways agents interact with the company they work for. It comprises, for example, the quality of the tools and workflows agents use and, as a very important element, how valued they feel in their day-to-day work (Mazzetti 2022).

These three concepts, customer service, customer experience and agent experience, form the structure of this section of my thesis.

3.2   Keeping Customers Satisfied

The basic idea of what constitutes good service is very simple and has not changed over time. *Good service is immediately responsive and satisfying* (Grossberg 2011, 19).

What has changed is the customer. Today's customers are smarter than ever. They have more information to help decide what to buy and from whom and more ways to communicate with brands (Hölbling et al. 2009).

For several years, Salesforce, the huge cloud-computing company, has published a research report titled 'The State of the Connected Customer'. According to their latest report, customers are more demanding than ever (Salesforce 2023b).

Customers expect service interactions that are personalised and instantaneous. Some 75% of customers would like more personalisation and a feeling that a company understands their unique needs and cares about them. They know that companies need data to provide personalisation, but they expect to get faster service and more personalisation in return for the data they provide. (Ameen et al. 2021, 10; Salesforce 2023b.)

The experience a company provides is as important as its products for nearly 90% of customers. And the experiences they want are connected, memorable and differentiated. (Afsar 2022.) Nearly 90% of customers find human assistance and direct contact valuable, whether face-to-face, over the phone, online or via video chat (Salesforce 2023b).

3.3   Multichannel and Omnichannel Support

In multichannel customer service, each communication channel is separate and independent of others. The company is present on various channels, but the data from customer interactions on one channel is not available on other channels. (Loiselle 2023.)

Today, customers expect a consistent, seamless and personalised experience in-store, online, over the phone or via SMS, live chat or email. They may switch channels even within one transaction. Which channel they use depends on where they are, what they are doing and when they are doing it. (Anvar 2020; Test 2021, 2.) Quick resolution times and smooth transactions are essential (Salesforce 2023b).

Starting a new interaction with customer service on a different channel leads to frustration if a customer must start from the beginning with each new conversation, especially if they receive different answers to the same questions (Adobe 2023).

Omnichannel customer service integrates all channels. It focuses on providing a consistent experience. A customer can begin a service conversation on any device and any channel

and continue it later seamlessly because their data is instantly available on all channels. (Loiselle 2023.)

Intelligent chatbots are an important element of omnichannel support. They are self-service websites that allow customers to search a knowledge base to get quick answers to their questions without a service representative. With the help of AI, bots can automate and analyse conversations and provide a cost-effective 24/7 service. Bots usually have the capability to transfer issues to human agents if the bot is unable to provide a resolution. (Salesforce 2023a.)

3.4   Customer Experience: The Customer Journey and Beyond

Customer experience refers to the impressions that customers gather during their journey, from the moment they consider a product or service until they purchase and use it. Customer service is only one part of that journey, albeit a vital part. (Inabo 2023; Wintermantel 2023.)

Customer experience covers touchpoints such as a company's marketing materials; adverts and website; word-of-mouth recommendations; previous buying experiences; interactions with sales representatives; product quality perceptions; customer service and after-sales support. It encompasses the total perception of the company, from the first touchpoint to the last. (Afsar 2022; Wintermantel 2023.)

3.5   Elements of Good Customer Experience

According to Löytänä and Kortesuo (2011, 43–49, 59), a good customer experience supports the customer's self-image and surprises them, creating a pleasant experience, leaving a lasting impression and making them want more. Quality forms the core of a positive experience, and a crucial ingredient of an excellent experience is that it exceeds the customer's expectations.

The information and messaging that companies provide must be clear, easy to understand and consistent over various channels. Short waiting times, instant responses, quick resolutions, self-service (where convenient), human interaction (when needed), streamlined processes and easy navigation on websites and apps all contribute to a positive experience. A company's ability to handle problems effectively can turn negative customer experiences into positive ones. (Savage 2021; Hotjar 2023.)

Providing experiences that are tailored to consumers' individual needs and preferences is becoming increasingly important. Customers feel valued and understood when they feel

that a company knows and appreciates their preferences, understands their history and can provide customised recommendations, discounts, special offers and other pleasant surprises. (Salesforce 2023b.)

Service agents need emotional intelligence. This means the ability to identify and understand a customer's emotional state and respond accordingly. The ability to see the situation from the customer's perspective is essential. Customers should feel that the agent cares and genuinely wants to understand their problems and help resolve them. (Savage 2021; Ravi 2023.) I know from personal experience that this can be more important to a customer than getting an actual resolution if the issue is not significant. At the same time, a lack of caring can turn a small issue into a much bigger one.

3.6 Bad Experiences

Bad customer experiences are caused by interactions with the opposite features to those listed above, such as unresolved issues or questions, long waiting times, a lack of empathy, poor quality products and service that does not provide a personalised experience (Wintermantel 2023).

Customers are quick to vote with their money. Nearly half of customers say a single bad experience may be enough to switch to a competing brand. And 71% of consumers say they have switched brands at least once in the past year. (Afsar 2022.)

Customers have more brand choices than ever, and switching to a competing brand is easier than ever if a customer feels they are not receiving the experience they want (Salesforce 2023b). Different brands are often very similar in quality and price, so a great customer experience is essential for companies to differentiate themselves (Afsar 2022).

In the digital age, information travels fast. Dissatisfied customers quickly spread the word about bad experiences, turning others away from the brand. On the other hand, satisfied customers are likely to make additional purchases and recommend the brand to others. Word-of-mouth marketing can be very powerful. Many people trust the recommendations of their friends and family more than any other form of advertising. (Al-Mair 2023; Hotjar 2023.)

3.7 Understanding Customers

Thoroughly understanding the customer mindset makes it possible for a business to create a positive, memorable and valuable customer experience that drives customer loyalty

(AIContentfy 2023b), which is important to drive repeat business and create long-term customer relationships. Retaining an old customer is much cheaper than gaining a new one (Gallo 2014).

To truly understand a customer's needs, wants, and expectations, businesses will have to see things through their eyes (AiContentfy 2023b). I think it is a question of supplementing research and data gathered through surveys, interviews, data analytics and other means with a little emotion. Customers buy with emotion. It is good to recall our experiences as customers: what has frustrated us, what has delighted us and what has made us want to continue our relationship with a particular company?

3.8 Service Agent: A Bridge Between a Business and its Customers

Customer service agents are the bridge between a business and its customers, whether they communicate face to face, on the phone or via email or chat. They must ensure customers get what they expect – fast, personalised service – while ensuring their employer gets what they expect – efficient operations and loyal customers. A top-class service agent is still probably the best single resource for a brand to ensure good customer relationships. (CallCenterStudio 2023.)

Good agent and customer experiences are linked. A good agent experience helps create a good customer experience. Customers are more demanding than ever, so good service agents are needed more than ever. (Oracle 2022, 26.)

Good service agents know their products inside out – the more familiar they are with their products' features, the more effectively they can help customers (Lau 2011). They also have good social, communication, conflict-resolution and problem-solving skills. These skills contribute to a good customer experience, helping avoid customer frustration and fostering customer loyalty. (CallCenterStudio 2023.) A good agent can turn potentially negative experiences into positive ones (Ravi 2023; Sottrup 2023).

Good service agents are open and honest. They admit if they don't know how to solve a problem, tell the customer they will find the right answer and follow up. Maintaining an open dialogue with customers helps to earn their respect. (Brown 2023; Sottrup 2023.)

Service agents should remain calm when dealing with angry, potentially aggressive customers. Patience is necessary to find a solution to turn a complaint into a good service experience (Lau 2011). Companies have varying policies on how they deal with abusive customers: from what I have seen during my career, there is no need to tolerate bad behaviour anymore.

Good service agents understand and care about the concerns and feelings of customers, making them feel heard and valued. The ability to show empathy is a vital soft skill for agents. (Ravi 2023; Sottrup 2023.)

3.9   The Importance of Employee Satisfaction

Customer service agents work on the frontline and must deal with many difficult customer problems daily, so supporting and helping them is extremely important. Only happy and engaged agents are likely to deliver the best possible customer experience. (Oracle 2022, 25.)

To do their best work and feel it is meaningful, agents need tools to understand customers' history, emotions and problems. They need advice on how to respond effectively in challenging situations. An omnichannel platform that offers complete integration with all business systems and provides real-time data from across the business gives agents the information they need at their fingertips. (Brown 2023.)

Chatbots and self-service tools help customers with simple issues. They lighten service agents' workloads, but for complex problems, human agents are needed. Finding the right blend of self-service bots and human assistance is important. Skilled agents can focus on service requests that deliver customer value and drive agents' job satisfaction. (Oracle 2022, 10.)

Training, coaching and mentoring are proven means of enhancing job satisfaction and engagement. These should be ongoing, not just when someone starts a job. Experienced and high-performing agents can help train new agents. (Commbox 2020.) Based on my own experiences, using experienced employees for training is common. I will discuss this in more detail in my weekly reports (see Section 7).

It is essential to recognise service agents' successes by acknowledging and rewarding outstanding performance and achievements. Positive feedback should be passed on to agents. Negative feedback should be dealt with constructively. (Kauppi 2023.)

Customer service jobs have high employee turnover when compared with other industries. The main reasons for this are dealing with stressful situations, poor compensation and lack of opportunities for advancement. Creating a workplace culture that reduces employee turnover and improves agent happiness involves, for instance, encouraging collaboration and sharing of insights and best practices, setting clear, achievable goals and meaningful tasks, and maintaining open lines of communication between agents and management. (Commbox 2020.)

3.10 Future Challenges

The landscape of customer service is evolving. The 2020 pandemic and the resultant lock-downs forced companies to innovate quickly. Recent advances in generative AI have further accelerated this process. (Oracle 2022, 1.)

Customer expectations are rising. They expect fast, personalised support, demand immediate responses and tailored solutions, and expect to be treated as individuals. As their homes become smarter, they expect similar innovations in their business interactions. (Salesforce 2023b; Zendesk 2023, 23.)

Customers are accustomed to using multiple communication channels and want to use whichever channel they find the most convenient whenever they wish to get the service they need. Customer service organisations need to integrate these channels seamlessly to ensure a unified customer experience. (Commbox 2020.) Finding the balance between automation and human interaction that satisfies customers and supports agents is crucial (Oracle 2022, 6).

4   Chat GPT: A New Chapter in the AI Story

4.1   ChatGPT Is Here! Are We Ready?

In late November 2022, the American research centre OpenAI released the AI application ChatGPT, which could produce fluent text on requested topics in several languages (OpenAI 2023a). Within a week of its launch, one million people had registered a ChatGPT user account, and in two months, it had acquired 100 million users (Taecharungroj 2023, 1; Paris 2023).

While many of the millions of transactions were casual experiments by interested individuals, companies around the world immediately saw ChatGPT's ability to engage in communications similar to human-to-human communication as a unique business opportunity.

Blog writers and journalists were enthusiastic:

> *ChatGPT has taken the internet by storm, leaving many who use it in shock at its brilliance* (Delade 2022).

> *This chatbot has redefined the standards of artificial intelligence* (Marr 2023b).

> *ChatGPT has become a worldwide phenomenon and arguably forever altered the way humans and AI interact* (White 2023).

At the same time, many people were concerned about threats posed by this technology, such as the ability to generate misinformation, destroy or diminish jobs, and pose a serious threat to privacy (Kastrenakes & Vincent 2023).

A couple of months after the launch of ChatGPT, OpenAI published GPT-4, marketed for paying power users and businesses. GPT-4 is the tool that the business world will use to develop capabilities in the field of generative AI (OpenAI 2023a). In this thesis, I will use the name ChatGPT to refer to all versions of the model.

In August 2023, less than a year after ChatGPT's launch, OpenAI approached a billion dollars in annual revenue by selling a new version of its AI application's underlying technology tailored to businesses (Niemi 2023).

According to Bloomberg Intelligence (2023), the size of the generative AI market was just $40 billion in 2022, but they predict explosive growth to $1.3 trillion over the next 10 years.

4.2   I am ChatGPT, a Virtual Assistant

ChatGPT utilises advanced algorithms to understand and generate human-like text. You communicate with ChatGPT through prompts. Prompts are commands you send to it, and it will provide you with an answer. I asked ChatGPT who it is and what it does:

> *I am ChatGPT, a virtual assistant created by OpenAI. I'm here to provide information, answer questions, offer suggestions, and engage in conversations on a wide range of topics. Feel free to ask me anything, and I'll do my best to assist you.* (ChatGPT 2023.)

Many of us have been communicating with virtual assistants like Alexa, Siri and Google Assistant for several years. Compared to them, ChatGPT's capabilities are on a much more advanced creative and conversational level, allowing you to conduct more of a back-and-forth conversation than you could with earlier virtual assistants (Hanlon 2023).

You get a response from ChatGPT to any instruction or question you write. Power users say that with 'prompt engineering', you can write better prompts and get more interesting results (Acar 2023).

4.3   A Very Clever Chatbot

ChatGPT is a chatbot. The name ChatGPT stands for Chat Generative Pre-Trained Transformer (Hanlon 2023). Programs that can chat with humans have been around since the 1960s. Today, chatbots range from simple programs that answer simple questions with a single-line answer to sophisticated digital assistants like ChatGPT that can learn and process information to deliver personalised answers and advice to requests of all kinds. (Le 2023.)

In essence, a chatbot is a program utilising AI to chat with you. ChatGPT's definition of a chatbot is as follows:

> *A computer program or artificial intelligence system designed to engage in text or voice-based conversations with users, providing information, answering questions, and performing tasks within its programmed capabilities.* (ChatGPT 2023.)

At the time of writing, September 2023, ChatGPT only understands written prompts, not voice commands like some other digital assistants. OpenAI has said that new capabilities using voice and pictures are coming soon for paying customers.

According to Ermey (2023), Mira Murati, chief technology officer at OpenAI, says that in the future, a typical chatbot interface will be wholly conversational, not requiring a screen or a

mouse. These communications will then be indistinguishable from conversations we have with friends and relatives.

4.4   ChatGPT: Different Training to its Predecessors

One reason for ChatGPT creating so much enthusiasm was, of course, that it was the first AI application that ordinary people could try. Moreover, it had a very easy-to-use interface and unique skills and capabilities that its predecessors did not have.

ChatGPT is a large language model trained on vast quantities of data from the internet. This training allows it to understand and generate text on many topics and in various styles. It can predict the next word in a sequence based on the words that come before and can produce text that flows naturally. (EnterpriseDNA 2023; Jestor 2023.)

ChatGPT is a generative model, meaning you can type questions and messages, and the model responds accordingly. Many other AI chatbots are rule- or script-based and tend to produce responses that are less flexible and less able to adapt to user needs (Verma & Lerman 2022; EnterpriseDNA 2023).

ChatGPT has advanced natural language processing abilities. It uses machine learning algorithms that help it understand the user's language and the context of the conversation, making the discussion feel more natural and human-like – unlike the scripted conversations of many earlier programs. (Emerline 2023; Jestor 2023.)

ChatGPT constantly learns from user interactions and improves through its machine-learning abilities. It remembers and learns from earlier conversations, and over time, it should be able to provide increasingly accurate and helpful responses, making the user experience more personalised. (Ray 2023.)

ChatGPT has learnt to communicate surprisingly well. However, it has been trained only with public data from the internet, and in addition to objective facts and reliable data, the internet contains biased, inaccurate and false content (EnterpriseDNA 2023). Early users have reported cases of ChatGPT giving plausible sounding but incorrect or nonsensical answers. OpenAI admits this and says you should not make important decisions without verifying the information using several sources (OpenAI 2023b).

Since the release of ChatGPT, companies like Google, Microsoft and Meta have launched their own conversational AI software, but as ChatGPT is, at the time of writing, the best-known of them, I continue to refer to it as an example of generative AI, even if other models also exist.

4.5   A Double-edged Sword

Like other major technological leaps (e.g. the Industrial Revolution, computers and the internet), AI that can produce almost human-like text has been received with mixed feelings. According to an old saying, new technology is like a double-edged sword, both an opportunity and a threat (Naughton 2012).

AI is already everywhere around us. It is integrated into our smartphones and smart home devices, customises our social media experiences and personalises products, offers, services and experiences (Ivey 2023).

The European Union (EU) sees AI as a central part of society's digital transformation and one of the EU's priorities. The EU acknowledges that AI offers opportunities and threats to security, democracy, businesses and jobs. This is how the EU defines AI:

> *Artificial intelligence system (AI system) means a system that is designed to operate with elements of autonomy and that, based on machine and/or human-provided data and in-puts, infers how to achieve a given set of objectives using machine learning and/or logic- and knowledge based approaches, and produces system-generated out-puts such as content (generative AI systems), predictions, recommendations or decisions influencing the environments with which the AI system interacts* (EU Artificial Intelligence Act 2022).

In its Artificial Intelligence Act, the European Parliament states that although some AI applications have been in use for over 50 years, rapid advancements in computing power, a vast increase in data and new algorithms in recent years have enabled numerous breakthroughs in AI (European Parliament 2023). ChatGPT is one of those breakthroughs.

I asked ChatGPT if there were any drawbacks to its use. It emphasised the importance of responsible use and adherence to the terms of service and rules and urged caution by not sharing personal or sensitive information and not using AI for harmful purposes, such as trolling, harassment or illegal activities. When it comes to critical decisions or information, it is always important to verify information with other reliable sources. (ChatGPT 2023.)

Finally, ChatGPT warned that users should not think that AI is perfect and infallible and admitted that it could not replace expert advice in all fields. However, it concluded that when used responsibly and thoughtfully, it should offer helpful assistance in many situations. (ChatGPT 2023.)

4.6 Generative AI and the Future of Work

A survey was conducted a couple of weeks after the launch of ChatGPT to ask professionals across United States industries whether they had used ChatGPT or other AI tools in the workplace. The results showed that nearly 30% had already used them to help with tasks at work. (Fishbowl 2023.) Another researcher showed that the use of ChatGPT by knowledge workers caused a significant increase in quality and productivity (Dell'Acqua et al. 2023, 4).

Deloitte's research report on generative AI states that it will change the future of work, transform enterprises and lead to entirely new products, services and business models (Deloitte 2023).

The consultants at Gartner, the consulting and research firm that conducts research on technology, point out that as customers use generative AI in their daily lives, they expect companies to do the same. They also predicted that employees will leave organisations where humans need to do work that generative AI could handle. (Gartner 2023.)

Maren Bannon, a contributing writer for Forbes, a global media company, suggests that there will be a role reversal, where we will be assisting machines, not the other way round. AI will reach across industries, having an impact as big as the Industrial Revolution of the 1700s, first gradually and then suddenly. (Bannon 2023.)

The implementation of generative AI like ChatGPT into businesses comes with certain risks. Emerline, a Californian firm delivering software engineering services, points out that you cannot always count on conversational AI to answer queries according to the company's goals. AI could provide wrong or misleading information while sounding very convincing and might even put sensitive company information at risk by responding to inappropriate requests. Human oversight is necessary. (Emerline 2023.)

In 'Technology Vision 2023', published by Accenture, a global professional services company, its writers emphasise that the question for businesses is not whether large language models like ChatGPT will impact their industry but how. What will become increasingly important is talent with skills to adapt models to business needs and integrate them into applications. (Accenture 2023.)

In the research report 'AI in the enterprise, unleashing opportunity through data', the IBM Market Development & Insights team offers insights into the experiences and challenges of implementing AI in an organisation. The industry leaders they interviewed strongly believe AI technologies will change their operations, sales processes and customer experience.

However, they point out that important areas of concern exist, such as data privacy and security, preparing company and customer data for AI, and uncertainty over how to efficiently implement and manage AI in all aspects of business operations. (IBM 2021, 4.)

5   The Future of Customer Service

5.1   Happy Employees Make Happy Customers

With rising customer expectations, remote work being the new normal and technological solutions advancing rapidly, the world of customer service work is more hectic than ever (Oracle 2022). With new experiences of AI in their private lives, customers expect AI to make their service experiences more rewarding (Zendesk 2023).

With the use of automation expanding, consumers frequently see human service as a differentiator in the customer experience (Salesforce 2023b). For this reason and because of my experiences as a service agent, I feel that the key benefits of generative AI will come from enhancing the agent experience. The old saying about happy employees creating happy customers is as relevant today as ever.

5.2   From Hype to Reality

The launch of ChatGPT in November 2022 was hailed as the start of a new era: the Age of Artificial Intelligence (Qübe Labs 2023).

What was unique about ChatGPT, which created a huge amount of hype, was that more or less anybody could easily try it out and be astonished by its ability to generate responses that seemed indistinguishable from those written by human beings. Instead of something distant and impersonal, AI was suddenly concrete, almost like a person with whom you could converse.

Compared to earlier chatbots, thanks to its natural language understanding and natural language processing capabilities, ChatGPT could understand and analyse human input and produce human-like output better than ever before (Ray 2023).

Businesses worldwide are now exploring ways of integrating the new capabilities of generative AI into their systems and processes. Customer service is one of the key focus areas.

According to Zendesk (2023), 70% of business leaders say that expanding AI across the customer experience will be a priority over the coming years. They feel it is the only way to satisfy the rising customer expectations. They are ready for significant investments, which they expect will pay off.

Business writers and tech companies providing generative AI solutions claim businesses will benefit greatly from implementing AI into their customer service workflows. Below is a compilation of the most important expected benefits. As far as I understand, very few use

cases of the broad implementation of generative AI into processes exist, so these benefits are more like a compilation of possible scenarios. What will happen and in what timeframe depends on how effectively companies cover the extremely high cost of developing, training and using generative AI systems that need massive amounts of computer power and data storage (Howell 2023).

5.2.1 Enhancing Automation

The advanced language processing capabilities of ChatGPT-type models improve chatbots' ability to engage in natural communication with customers (Sidor 2022; Emerline 2023). This reduces customer frustration with older, rule-based chatbots, improving the overall customer experience (Zendesk 2023).

AI-driven chatbots can provide round-the-clock service, making it possible for customers to receive instant service whenever needed. Advanced self-service options reduce waiting times, leading to a streamlined customer experience. (Murphy 2023.)

The 24/7 availability of AI chatbots is especially useful for global businesses with customers in different time zones. These chatbots can serve a multilingual customer base effectively. (Dilmegani 2023.)

ChatGPT can monitor and analyse incoming customer communications and sort them into categories. It can resolve simple, common queries without human intervention while handing off more complex and urgent matters to the human agent most suitable to handle the issue. (Oracle 2022, 13; AIContentfy 2023a.)

Automatically taking care of routine and repetitive tasks frees human agents to focus on complex issues that demand their expertise (Hosseinian 2023; Dilgemani 2023).

Unlike human representatives, ChatGPT can handle multiple conversations simultaneously, offer omnichannel support across various channels, including websites, messaging apps, email and social media (Kegaravat 2023).

Businesses can utilise the capabilities of ChatGPT (and other large language models) through an application programming interface, connecting it to their other systems and databases and incorporating it into their customer-serving chatbots (Kaur 2023; Murphy 2023). When chatbots are integrated into a company's customer relationship management systems, they can use information on customers' past interactions to provide personalised support (Kergaravat 2023).

5.2.2 Empowering Service Agents

Generative AI solutions such as ChatGPT can offer service agents knowledge bases for quick access to information, including product details, FAQs, customer purchase history and company policies, to help agents respond to customer inquiries more efficiently and reduce waiting times (Murphy 2023).

A customer service ChatGPT can be trained to recognise a range of emotions. It can analyse a message, determine its tone, such as happiness, anger and frustration, and suggest responses to agents (Dilmegani 2023).

In customer engagement, an agent will have to be able to understand customers' problems quickly. Automatically summarising lengthy enquiries or past customer interactions can speed up processes (Murphy 2023). Based on my experience, the time spent trying to understand complex cases, often with limited internal notes, can be hugely time-consuming and frustrating to both the agent and the customer waiting in chat or on the phone.

A major advantage of ChatGPT is that it can automate routine tasks, such as data entry, reducing employees' manual workload. It can be trained to answer FAQs, provide instructions for common issues and handle simple customer requests, allowing human agents to focus on complex issues. By automating these tasks, ChatGPT can reduce the workload of service representatives. (Kergaravat 2023.)

An AI chatbot such as ChatGPT can monitor and analyse incoming customer communications, spot urgent matters and relay them to a human agent. Furthermore, it can be asked to gather information on the customer's issue and help agents resolve it (AIContentfy 2023a.)

Generative AI tools can help humans write and reply to emails and formulate responses to customers' messages. It can be asked to draft blog articles and web content and provide translations from and to multiple languages. AI can generate templates and scripts for common customer transactions, saving agents time and ensuring consistency in responses. (EnterpriseDNA 2023; Murphy 2023.)

ChatGPT has excellent language skills and can assist service representatives in many language-related tasks, such as drafting responses, translating, checking grammar and offering tips for improving text. These skills would be especially helpful to non-native speakers of English who use English as their working language. ChatGPT is proficient in many other languages as well. (EnterpriseDNA 2023; Murphy 2023.)

5.2.3   Key Benefits to Agents

ChatGPT and other advanced AI language models offer powerful tools for customer service automation, improving efficiency, increasing accessibility, enabling better self-service options and personalisation, and resolving issues faster. Chatbots using generative AI can deal with basic service interactions fluently 24/7 and take care of time-consuming, repetitive tasks. This reduces human agents' workloads, enabling them to concentrate on complex customer issues. With the instant information provided by AI at their fingertips, agents can more easily decide on the best approach for each interaction, increasing customer and agent satisfaction and, ultimately, driving growth and success.

5.2.4   Boosting Company Success and Competitiveness

Ultimately, the benefits described above will help businesses deliver better agent and customer experiences, resulting in more streamlined customer service operations. Automation will reduce the need for human labour in some processes, leading to cost savings. Generative AI can handle many enquiries simultaneously and can scale to meet sudden increases in demand without a corresponding increase in the number of human agents required (Kaur 2023).

Generative AI can also be used in brainstorming sessions to quickly generate a wide range of ideas. It can suggest various angles and discussion prompts, thus combining AI-generated ideas with human insights. (Nayanathara 2023.)

A large language model such as ChatGPT can be used to perform sentiment analysis (Dilmegani 2023), which refers to monitoring mentions about a brand in various digital channels and analysing incoming customer data, such as emails, chatbot transcripts, surveys and product feedback, to automatically determine the writers' attitudes towards a topic. By analysing customer messages over a long period, companies can identify common issues, changing market trends and improvement areas for their products or services. (Amazon Web Service 2023.)

5.3   Limitations of ChatGPT

ChatGPT has been trained on texts from the internet, so it has a good understanding of how humans use words. But as it is not human, it lacks the common sense, real-life experiences and knowledge of human beings. It has advanced capabilities, but it also has many limitations. (Nayanathara 2023.)

The best way to maximise the usefulness of ChatGPT in customer communication is to use it as a tool alongside human agents (Maya 2023). ChatGPT can give responses that seem empathetic, but it does not have emotional intelligence – the ability to understand and convey emotion. This is an essential skill in sensitive customer interactions, and only a human employee can provide the human touch that customers expect in complex cases. (Nayanathara 2023.)

ChatGPT's ability to understand context is limited. It might not detect sarcasm or humour, for example, and if a user uses these devices in a message, the answer they receive may be inappropriate. (Marr 2023a; EnterpriseDNA 2023.)

OpenAI, the creators of ChatGPT, admit that ChatGPT sometimes has difficulty acknowledging that it does not know something and instead *writes plausible sounding but incorrect or nonsensical answers* (OpenAI 2022a). This is called "hallucination" and can be dangerous in some situations. One wrong or inappropriate answer may be enough to upset a customer and could spread quickly through social media (Sidor 2023).

Businesses that integrate ChatGPT into their systems will have to train it with their data to ensure that it gives precise and relevant responses (Digifix 2023).

5.4 General Concerns about Generative AI

Sam Altman, CEO of OpenAI, Bill Gates, co-founder of Microsoft, and many other industry leaders and top researchers have signed an open letter voicing their concern about advanced AI's severe risks. The short statement warns of *societal-scale risks* that future AI could cause, comparing these to nuclear weapons and pandemics and emphasising the need to discuss and prepare for them. (Center for AI Safety 2023.)

According to Mitchell (2023), Elon Musk, a co-founder of OpenAI, acknowledges that ChatGPT has great promise and capability but calls it *one of the biggest risks to the future of civilisation*. Musk also feels that AI should be regulated and that slowing down development would be positive. (Mitchell 2023.)

These statements come at a time when there are growing concerns that the huge capabilities of large language models could be utilised maliciously, such as to spread false information and propaganda, launch cyber-attacks or steal sensitive information (Weidinger et al. 2022). According to the National Cyber Security Centre (2023), cybercriminals may use it to create malware and write convincing phishing emails in many languages. Data security is essential (Dilgemani 2023).

The European Commission defines four levels of risks in AI, ranging from unacceptable to no risk areas, and proposes a legal framework to provide clear requirements and obligations to AI developers, deployers and users about the uses of AI in the different risk areas (European Commission 2023).

A major concern expressed by researchers and the public alike is AI's impact on the labour market. According to Benson (2023), a recent forecast by Morgan Stanley suggested that AI could impact 44% of the global workforce in the next few years. However, this does not mean massive job elimination. Some jobs will be eliminated, but at the same time, new job opportunities will be created, such as overseeing the accurate and ethical use of AI systems.

Toivonen (2023) pointed out that everyone should consider how to make their work easier and more efficient with the help of AI. They should see it as a supplement to their current skill set, giving them time to do more important and interesting things.

6 Benefits and Challenges of Working Remotely

6.1 Forced to Innovate

The Covid-19 pandemic of 2020 and the lockdowns that followed made physical workplaces seem obsolete, and this further accelerated the fast pace of digitisation that was already taking place in many businesses. Almost overnight, service organisations had to start operating remotely to adapt to new emergency circumstances. (PAConsulting 2023.)

According to Haan (2023), the following is the state of remote work in the US in 2023:

- 12.7% of full-time employees work from home; 28.2% work under a hybrid model.
- 98% of workers want to work remotely at least some of the time.
- 57% of workers would look for a new job if their current company did not allow remote work.
- 35% of remote workers feel more productive when working fully remotely.
- 75% of remote workers said remote work helps balance their work and personal life.

According to Hyry (2023, 6-7), the following was the state of remote work in Finland in 2023:

- 22% of workers work from home every day.
- 50% of workers have worked remotely.
- 47% of workers would look for a new job if their current company did not allow remote work.
- 20% of workers say they do not want to work remotely.

The ways that service organisations were forced to innovate because of lockdowns have brought long-term value. Enterprises have made enormous progress in digital transformation faster than anyone thought possible. (Oracle 2022, 1.)

The year 2023 has seen digitisation surge even more as businesses, inspired by the new capabilities demonstrated by ChatGPT and other intelligent tools, have been exploring ways of integrating them into their processes and taking their customer service to a new level of excellence in a world where remote and flexible working arrangements are common.

Innovation is now more important than ever. While the Industrial Revolution 250 years ago brought sweeping changes to manufacturing, today's digital revolution is driving a revolution in the services sector (Kunz & Wirtz 2023, 15-16). Improving remote and hybrid models of work is an important area of innovation.

6.2   My Work-from-home Experience

Remote work opportunities are extremely popular. Competition for jobs is fierce, especially if the location is not geographically limited and the language is English. According to CNBC, in the US, 11% of job postings on LinkedIn are for remote work, but in May 2023, for instance, these received almost half of all the applications (CNBC 2023).

I have been working exclusively from my home office since January 2020. I first joined a US-based company, Y, conducting feedback interviews on a part-time basis for business-to-business customers in Finland. I enjoy the flexibility and company culture so much that I have continued this work despite being fully occupied with my main job and studies.

In January 2022, I joined another US-based company, X. It offers a wide range of digital customer and technical support as well as moderation and engagement services. Company X has operated almost solely on the work-from-home model since its founding and is one of the pioneers in the field of remote work.

Since joining in 2022, I have greatly expanded my role, which now includes a varied and interesting portfolio of tasks. I worked, on average, 45 hours per week while keeping the diary. Most of my work involves advanced customer service for a well-known media franchise. I also do engagement, moderation and social media advertisement translations for another client.

Due to non-disclosure agreements, my weekly reports are general, and I have been careful not to reveal details that could violate those agreements.

7 My Work Diary

7.1 Week #1

There is no rest for the wicked! It was both the start of my diary and my birthday. Apart from seeing an automated Slack post about my birthday, with several comments from my colleagues, the week started like most others: at 10 a.m. on Monday.

According to my work calendar, that is in the middle of the night, as we use a US time zone in all communications and scheduling, which is necessary because employees work worldwide and need a single point of reference. Using this time zone occasionally leads to confusion, and, at first, it was difficult to get used to, as I always needed to convert times into Finnish time. I soon discovered that the only way to stay on top of things was to subscribe to my work calendar using my private calendar, which allowed me to view my schedule in Finnish time.

The week was hectic, with long hours, but full of personal excitement. The previous week, I received good news about the further expansion of my responsibilities. I had recently started working in customer engagement and moderation in addition to advanced customer service. My role had been expanded to include more services. In addition, I joined as a backup to a small, specialised team handling a varied set of cases related to competitive gaming.

I spent plenty of time training. The experienced agents who did the training were all based in different time zones, so it was extremely difficult to make a schedule to suit everyone: some sessions would be in the middle of the night for some team members. My sessions were mostly very early in the morning or late in the evening. The training was interesting thanks to well-structured training materials and engaging content.

I had significant issues with my computer: it was freezing and crashing intermittently. The problem may have been caused by the internal memory (8 GB of DDR3 RAM). I decided to check whether my motherboard was compatible with newer and quicker DDR4 memory. I use my private computer for work, with an equipment allowance provided by the company because it would not make sense to ship computers all over the world.

7.2 Week #2

The week did not start too well. It was very hot in my flat, I had a headache and my computer was constantly crashing. I tried to identify the computer issue and solve it. I asked in Slack

if anyone else was experiencing issues caused by the enterprise browser, but no one else seemed to be having trouble. Closing all unnecessary processes while working helped.

Despite these issues, this was simultaneously an exciting and worrying time. While it was great to progress professionally, I had planned to use all my energy on my thesis. However, I have learnt that you should grab opportunities when they arise, even if you might feel uncertain. In this case, the uncertainty came from the challenge of organising my life to ensure I could succeed in my studies, work and personal relationships.

I sat down with my girlfriend to think about what I needed. We knew I needed to organise my time more efficiently, which meant giving up some leisure activities to find the required number of hours to work and complete my thesis.

We decided I would decrease the time spent playing computer games, visiting friends and watching movies. We agreed that I needed to change my diet and exercise daily to improve my energy levels, mental clarity and focus.

We decided that I should drop carbohydrates to lower insulin spikes and subsequent tiredness and implement a rigid intermittent fasting protocol. I enjoy swimming, so we decided I would start each morning with a swim in a nearby lake. Looking back, I believe these measures increased my focus, stamina and energy.

What I did not know at that time was how much time I would spend working over the summer and how difficult it would be to find time for my studies. In hindsight, the measures I took for my physical and mental well-being were successful, but finding a balance between work and studies took some time. I was very excited about my new tasks at work, so I happily accepted more work when asked. Towards the end of the summer, I had finally found the right balance between work, studies and personal endeavours. Finding balance is, after all, the only sustainable long-term model for coping with all facets of life.

While the theme of the week was planning and figuring out practicalities, I also completed my regular work hours, which I focus on more in the following reports.

7.3   Week #3

I was totally exhausted by the end of this week. The main theme of the week was intensive training for my new work areas – it was a lot to take in. Being trained by some of the most experienced and knowledgeable agents was a real treat. They eloquently explained the most complicated processes. They focused on key details while disregarding anything that did not need to be addressed. I realised that a key development area for me was quickly understanding issues and finding the most efficient way to resolve them.

Fortunately, we have extensive documentation to help with the multitude of products, work-flows and issues. This documentation is vital. In this role, regardless of your training or experience, you must constantly consult documentation because processes continuously change, and few people can absorb a constant flow of new information and apply it.

While documentation is extremely valuable to any organisation, it is even more so when everyone works remotely and across the globe. You cannot walk across the hall to a colleague's office to ask for help. To succeed in a remote organisation, you need initiative, good research skills and the ability to apply information. You need to use your judgement and trust yourself when deciding whether to proceed, ask colleagues or escalate the question to the next level of support in your organisation.

I believe that one reason for the expansion in my role is my systematic approach to work. Over the years, I have honed the skill of thorough research, using all accessible resources before asking questions. A significant part of my process involves meticulously documenting every step I take, outlining future actions and ensuring proper documentation with links to relevant data. This approach, while time-consuming, ensures that anyone can easily understand a situation if they need to jump in. This approach affects efficiency-based metrics through fewer cases handled but has worked well for quality assurance scores.

While the value of comprehensive documentation is often emphasised, I have noticed that it is frequently overlooked, especially in fast-paced technical and customer support situations. Many organisations prioritise quantity over quality. While this approach might work in some scenarios, there are instances where detailed notes on an issue, the actions taken and future steps are crucial. Many organisations, regardless of their hierarchy, often fall short in this area.

I create detailed notes, embedding links to key information and documents. Such notes are invaluable in deciphering complex cases with potentially conflicting data. Experience has taught me to swiftly identify relevant information, but I still find notes indispensable. They not only provide a record of one's thought process and actions but also serve as a reference in case of errors, facilitating quicker resolution and pinpointing areas of learning.

Admittedly, I sometimes feel I tend to over-document, but I am confident that as I gain more expertise, I will strike the right balance, reserving detailed notes for situations where they are most needed. While this might seem like a personal productivity trade-off, it ultimately benefits the organisation by streamlining processes for everyone involved.

7.4   Week #4

This was another hectic week with all my new work areas buzzing. The competitive gaming side was particularly interesting, with plenty of new things to learn. There was some common ground with other areas I was already acquainted with, which was helpful. It was fascinating to see the wide variety of enquiries and how they were handled.

Our small customer service team comprises experienced and skilled agents. I enjoy the level of communication and how everyone is always willing to help each other. Fortunately, two agents generally work at the same time I do. While I was learning, this made it possible to form a huddle to discuss cases and how they should be handled.

Most modern customer service organisations use standard answers to speed up the handling of cases. These are extremely helpful for handling common cases, with an occasional small tweak to ensure they suit the situation. These standard responses also ensure that key details are uniformly communicated and the organisational tone is consistent. In my past jobs, I have seen issues caused by employees giving incomplete or contradictory information to customers. Even a detail that might seem insignificant can lead to confusion and spread quickly in the age of the internet and social media.

I have always preferred to modify my responses, compile them from snippets, write them myself or use some combination in my communication with customers. While I feel my English is fluent, I can see a big difference when I compare my written communication to that of native English speakers. While I can convey anything in writing or spoken English, it does not have the same effortless, natural flow. This has been one major issue in my engagement work.

If there is one area where generative AI, such as ChatGPT, can make an impact, it is in anything related to language and writing. ChatGPT is most adept in English, but its capabilities are already good in smaller languages and are sure to develop as the program accumulates more data points or parameters.

I have lately been trying out ChatGPT, asking it to do various tasks. For instance, to test its creative skills, I asked it to write lyrics to a country song about AI. Here's the beginning:

> *In the heart of Silicon Valley, where the circuit boards gleam,*
> *There's a new kind of cowboy, chasing a digital dream.*
> *With lines of code and neon lights, they're blazing a trail,*
> *In this high-tech rodeo, where the future sets sail.* (ChatGPT 2023.)

I immediately started humming a melody for it. I also tested how well the program translates from English into Finnish. There were small inaccuracies, but overall, I would say ChatGPT quickly produced a very good first version of a translation for a native speaker to add the finishing touches. This will be of great benefit to businesses that do not have skilled translators or multilingual staff.

As ChatGPT and other generative AI applications continue to develop their linguistic capabilities, I need to ask this question seriously: will my skills as a native speaker of Finnish soon become redundant?

7.5 Week #5

Each week felt longer than the one before. Summer holidays were starting in mainland Europe and North America. There was as much work available as I could ever have wanted, and I wanted a lot. Flexibility and a willingness to work outside your normal hours to help team members are vital in small, specialised teams.

In terms of work, it was a good mix of routine grind and more complicated issues. I had quite a bit of experience relating to account and product issues but still found engagement, competitive gaming and video games challenging.

An unfortunate theme this week was technical issues with my own desktop and the work systems. As I work from a home office with no one able to provide immediate assistance, IT issues can cause a lot of frustration. Problems with my PC began soon after I started writing this diary, and in this week, they escalated to constant bluescreens and freezing. These issues coupled with problems with work tools really hampered my productivity and reminded me of the importance of a backup system. Fortunately, our IT support remotely assisted in reducing the issues I was encountering.

I realised that I needed a larger SSD and more memory for my backup laptop, which I had neglected to set up properly. This new hardware did wonders, and I gradually transitioned to only using the laptop, demoting my desktop to the backup role. As a remote worker, you are on your own when it comes to maintaining your equipment and network.

The company I work for places emphasis on creating a cloud-based infrastructure to cater for its remote workers' needs. Key characteristics from the workers' point of view, based on personal observations, are ease of access, tool and database responsiveness and reliability, availability of self-help options and quick access to tech support when required. When all work is conducted through a secure connection in a digital workspace, a stable and responsive system is vital for ensuring productivity and decreasing user frustration.

7.6   Week #6

This week, I found the perfect background music for work – elevator jazz. This type of music, called Muzak, has roots in the 1930s and became widely used in the UK and US in military and armament factories during the Second World War. It was scientifically created to enhance focus and efficiency (Jones & Schumacher 1992). No wonder I felt elevated! It blends perfectly into the background and has a peaceful, calming effect. I wonder how many times I am interrupted during a typical working day by particularly annoying YouTube ads while listening to my playlist. I decided that listening to Muzak would help me focus, which is vital during working hours.

It was very hot, and the whole flat felt like an oven. Due to constant noise from the outside, I could not keep the windows open either. There was an interesting discussion on our off-topic Slack channel about home office ergonomics and how people organise themselves. One colleague I work with often posted a picture of a combination of an exercise bike and a small stand for her laptop and mouse. She would work on the bike all day, constantly cycling while working.

While working from home is not as physically demanding as working on-site, mental fatigue and the risk of burnout are very real. I can attest to this on a personal level. When working from home, it is easy to overwork yourself, which I had observed over the preceding few weeks. There is no natural separation between your workplace and home, so you cannot relax properly at home, creating mental strain. If everything is fine at work, this might not be such an issue, but if it is a source of stress, it can have significant implications for your mental health. It is vital to set work boundaries and enforce them.

In my experience, some people are good at compartmentalising and forgetting work, even if it is waiting right next to them. While I think I am relatively good at letting go once the day ends, it is not easy to relax and forget work. I think I will need a holistic approach to improve my physical and mental health.

7.7   Week #7

This was a challenging but rewarding week. While new scenarios still emerged, I started to properly settle into my new roles. Once I learnt the basics and understood the big picture, it became easier to approach new cases. Knowing the key internal contacts, workflows, common issues with products and, importantly, reference documents made a big difference.

In my spare time, I was busy with this thesis. I joined discussion groups about ChatGPT to find out about how ordinary people use it. Here are some examples:

- Rewriting emails to make them more fun
- Pasting job descriptions
- Creating workable cover letters
- Inputting friends' interests and asking for gift suggestions
- Writing and debugging code
- Brainstorming
- Learning languages
- Asking about complex concepts
- Writing and editing song lyrics
- Planning vacations
- Writing complaints for poor service

It is clear that the launch of ChatGPT generated excitement and concern about the future of AI and its impact on society and created awareness of generative AI among ordinary people for the first time.

7.8   Week #8

The week went by without any significant event. I worked long days, but the queues were relatively quiet. I used the time to revise and catch up on some recent changes in work processes and news events, which I had not had time to focus on for quite some time. Work is fast-paced, and people are working 24/7, which makes it difficult to keep track of every development, as the information flow is almost constant.

We had an interesting discussion at our weekly customer service team meeting about our role and the reason for its existence. Some key areas we discussed were how to solve customers' issues faster and how to make the process as pleasant as possible, thus adding value to their experience.

We concluded that the key aspects of being able to provide such a service are knowledge and experience of the products that we support. Without understanding the products, you cannot properly understand the issues and possible frustrations that customers are facing. Without in-depth knowledge, you are confined to stock answers, and you are unable to tweak them to properly suit the situation. In some of my past jobs, customers often re-sponded by asking if they were talking to a bot when they felt they were getting responses not properly tailored to their needs.

The writers of the book *Asiakaspalvelun ammattilaiseksi* point out that we have internal and external customers. Internal customers are groups within the organisation that you communicate and work with to deliver services (Flink et al. 2023). I communicate daily with many teams, and it is important to remember that I need to serve them well, including timely and effective communication, sharing details and ensuring that tickets are coded properly to enable accurate reporting.

7.9   Week #9

This was another lively and busy week. I handled many interesting cases across the various queues and areas of work. It is invigorating to collaborate with colleagues and stakeholders to solve particularly complex problems. Unfortunately, this is not as common in fully remote work environments as in onsite environments. I certainly miss this aspect of working in an office. It would be fun to meet with colleagues occasionally, but it is not possible given our geographic spread across six continents.

The last time I worked in an office environment was when I returned from Ireland and started working in a small IT service company. Onboarding was easy as everyone in the company, from the CEO to the lowest level employee, was seated within easy reach of one another. It was always possible to take a few steps over to a colleague's desk and ask for advice about a difficult problem. In addition to organised meetings, there was a lot of spontaneous discussion and brainstorming. Many good ideas were born during coffee breaks.

This week, I noticed a surprising number of bots, phishers, and spammers during my engagement work, so I spent plenty of time moderating. Fortunately, people on social media were getting more 'street smart', knowing when not to engage and ignoring provocations. I also noticed an increase in the number of scam messages sent as direct messages to our social media accounts. These messages were rarely even remotely convincing, but I still had to be careful not to click any links.

The company I work for takes cybersecurity very seriously to prevent data breaches or contamination. I recently completed a course on the types of attacks and strategies that criminals use. Having easy access to tools like ChatGPT will make it increasingly difficult for people to recognise phishing and scam messages. Even if there are some built-in mechanisms to prevent the use of these new tools for criminal purposes, there is likely little that can be done to prevent people from circumventing these blockers. Organisations should consider innovative, forward-looking cybersecurity strategies to safeguard their digital ecosystems from threats.

7.10 Week #10

Volumes were not high this week, but because some people were on holiday, it was busy in certain areas. I was covering a colleague this week on tasks I was not previously acquainted with. It is always interesting to learn and do something out of the ordinary. Getting too comfortable can lead to complacency. Working in different areas also provides insight into how the support organisation works as a whole and why certain things are done the way they are.

On 25 September 2023, OpenAI announced its latest update to ChatGPT. OpenAI started rolling out new voice and photo communication features, with voice chat available at the time of writing. (OpenAI, 2023c.)

I was surprised about how accurately voice recognition worked in Finnish. Its speech sounded very natural. The program needed a few seconds to find the details I asked for and respond in Finnish, and it only had access to information prior to January 1, 2022. Nevertheless, it was very impressive. One can imagine this type of technology being incorporated all around us in a few years. Spotify is currently running an AI voice translation pilot with some popular podcasters, such as Lex Fridman. AI translates podcasts into different languages in podcasters' own voices. (Spotify, 2023.)

While this feature is currently only available for a couple of major languages, it seems inevitable that it will expand to smaller ones. Features like these will change the customer service industry for good. It will be just a matter of time before you can have a conversation with someone across the world, with each speaking in you're their language and the program providing a simultaneous translation using their real voices.

ChatGPT's photo recognition, or 'photo understanding', has not been rolled out yet, but its use cases seem endless. You can take a picture of your homework and have ChatGPT teach it to you or take a photo of an object for the app to provide instructions on how to use or fix it. (OpenAI, 2023c.) Many service jobs involve providing advice or conducting repairs. It is likely that companies will soon provide AI assistance programs for customers, offering advice and help with assembly, repair and modification of their products.

7.11 Week #11

I had a nice note waiting for me on Monday. I was asked if I was interested in being trained for another area of work. I said yes!

When working remotely, ownership, initiative and communication skills are vital. As there is very little direct supervision, trust and transparency are important. Management must trust

that you will fulfill your duties, and you must show that you are worthy of that trust. You need self-discipline and self-management to succeed in remote work.

In addition, managing your work–life balance is vital. On the one hand, you must stay focused, avoiding distractions of family members and pets. On the other hand, when you clock out, you must switch off your work self so you can relax and spend time with your family.

While remote and on-site work are similar in certain respects, the big difference is the lack of face-to-face interaction with colleagues, management and customers. Humans generally enjoy social interaction, and remote work offers very little. A lot of discussions are work-related, and communications lack non-verbal cues that are so important in face-to-face interactions. This complicates the process of building team cohesion and culture.

Working remotely, especially in a global team, requires managing and organising your workload and environment effectively. Sometimes, you must even act as your own local IT support. When your colleagues are scattered across different time zones, you need to find solutions independently. Knowing where to source information and how to compile solutions from various resources while maintaining productivity are crucial. One of my managers highlighted reading comprehension and the ability to write clear text as key skills, as most remote communication occurs in written form.

Being a self-starter, proactive, a problem-solver, and willing to ask for help when needed are important traits in any role but are indispensable in a remote position in a globally scattered team. Being the only Finnish speaker in the company poses challenges for leadership in tracking and evaluating my work, which is typically done using standard metrics. This situation emphasises the need for trust and taking thorough ownership of my work.

7.12 Week #12

Most of this week's work consisted of handling regular issues for various products. While there was some communication with colleagues, it was largely solitary and independent work. This week was quiet in terms of volume, and there was time to do housekeeping and go through some of the older cases that were on hold, usually waiting for an update from an internal team or a customer.

Long-standing cases are often characterised by complicated, extensive back-and-forth communication. They require meticulous compilation and analysis of all available information, culminating in an informed conclusion. Subsequently, crafting and implementing a

strategic plan are imperative. As additional insights emerge, flexibility to modify your approach is crucial, all while focusing on the objective. Ensuring thorough internal documentation and note-taking is important, particularly when a case might subsequently be handled by a colleague. A recent reminder from management underscored the importance of diligently recording procedural steps and thought processes. Particularly for quality assurance, a vital performance indicator, such meticulousness helps ensure your manager can easily follow the steps you took and understand the reasons for the conclusions you reached.

Writing diary notes and then looking back at them has been very useful in forming a coherent picture of the work I do and the kind of worker I am. I have noticed patterns, identified growth in my new roles and realised how making small changes in how I work has made a big difference. It was challenging to find topics for my weekly reports, but it has helped me identify universal themes. In a sense, it was a blessing in disguise that I could not just go ahead and write about my daily tasks but had to pause and look deeper into the core of what I am doing and how and why I am doing it.

8   Conclusions and Reflections

8.1   How Will ChatGPT-type Generative AI Impact Customer Service?

At its launch in November 2022, communication with ChatGPT was restricted to writing. By the final weeks of completing this thesis, ChatGPT had learnt to see, hear and speak. The chief technology officer of OpenAI has predicted that, in the future, a typical chatbot interface will be fully conversational, not requiring a screen or mouse (Ermey 2023).

My personal view of the impact on customer service is based on the research done during the thesis process and using ChatGPT and then comparing these with my experiences as a user and provider of services. Businesses will likely increasingly incorporate tools with ChatGPT-like capabilities in various parts of their service processes. Below is a discussion of some advancements that may emerge.

In my opinion, the core is a chatbot driven by generative AI. Customers will interact with the bot using text, voice, image and video. Due to the bot's improved capabilities, the user experience will be conversational and interactive and feel more natural than current chatbots. As the bot will be trained using a company's data and user histories, it will be able to resolve a wider range of issues than before and provide more personalised and relevant responses. At the same time, the bot will store and analyse customer communications on various channels to identify customer sentiment and emerging trends.

Most of the communication related to customer service will be between the customer and the chatbot. Chatbots will identify complex cases and pass them to human agents. A company database, which chatbots will use intelligently and proactively to provide agents with instant assistance, will support agents.

By handling routine cases, bots will give human agents more time to focus on resolving complex cases. AI, trained using company data, will provide human agents with instant access to information relevant to a particular interaction. Bots' skills in creative writing and foreign languages and their ability to adjust to a range of situations, inputs and outputs are likely to make them invaluable tools for human agents.

New AI-powered chatbots that can provide the kind of benefits described above and in Section 5, may drive productivity and improve customer and human agent satisfaction. With large quantities of new data, security threats are on the rise, and they need to be addressed at all stages of these new processes. Protecting sensitive data and following ethical guidelines are essential.

During my career, I have seen several cases of new technologies being integrated into existing systems. It was never easy. In the most successful cases, the organisations involved planned well, made enough resources available, involved end users from the beginning, implemented effective change management and offered sufficient training. It is important to remember that implementing new technology is a marathon, not a sprint.

Businesses are still in the early stages of implementing generative AI into customer service. There is a lot of hype surrounding this technology, and questions remain about the best use cases. Will companies be able to turn AI hype into profit? How will AI affect the labour market? It seems inevitable that basic customer service jobs will be significantly reduced over time. Those able to utilize AI tools effectively are likely to have a significant edge on the job market.

8.2   What Is My Current Skill Set in Customer Service Work?

Certain skills are important for someone working in any customer-facing role, whether over the phone, in chat or in person: communication, good manners and empathy are key soft skills. I have come a long way since I started my career. My verbal and written communication skills have evolved. I can work efficiently in both English and Finnish, which is now often a basic requirement. I can identify the required tone in most situations and can seamlessly switch between formal and informal styles. I feel that my manners are on a good level, and I can remain calm in stressful situations. This, too, has developed over the years. I still have plenty of room for improvement in terms of being able to remain focused in challenging situations. Through my experience, I have learnt how to relate to customers, and my ability to empathise with them has developed significantly over the years.

While I am not technically orientated, I can handle most hardware, software and networking issues, which is very important when working from home without access to local IT support. I have used many different IT tools and can adapt quickly to new ones.

I have learnt to organise my work independently and take ownership of it without close supervision. My research skills are good, and I can use many sources simultaneously. I recognise that throughout my life, I have been somewhat of a generalist, lacking deep knowledge of subjects unless I am interested in them. I could improve in this area by being more focused and limiting distractions. Improving my ability to focus would also help with my reading comprehension, which is vital in a fast-paced, ever-changing work environment.

8.3 Which of My Skills Need Development to Match Changing Industry Needs?

Generative AI can enhance customer service, but human skills will still play a crucial role in delivering a great customer experience.

Communication is essential in all interactions. While I consider my written and spoken communication quite good, it is clearly an area to develop. As AI becomes good at handling most basic interactions, exceptional skills will be required from human agents. Human agents will need to handle complex cases or those requiring empathy and a human touch. The less often customers communicate with humans, the more they will expect from each interaction.

Emotional intelligence will play a big role because of the type of cases and rising customer expectations (as mentioned before). It is emotionally and psychologically draining to handle tough customer interactions. Emotional intelligence is needed to handle each case empathetically and compassionately. Resilience is required to maintain focus when handling challenging situations constantly over the long term. On a personal level, my resilience has improved with my efforts to reduce stress factors by making changes to my diet and sleep rhythms and by increasing my physical activity. I think this is an area where it is possible to develop further by trying out changes and finding what works.

Most of us working in customer service have little or no experience in using generative AI tools. As AI becomes more prevalent, humans need to learn how to work alongside AI systems effectively, understanding when to let AI do the job and when to handle complex or empathetic interactions ourselves. This requires understanding AI's capabilities and restrictions in handling cases. Additionally, skills to operate and troubleshoot AI tools and platforms are needed. These skills will likely initially be learnt on the job as new tools and processes are incorporated by companies. This is an area where I feel it will be beneficial to be proactive and seek training to ensure readiness if sudden changes come with AI-related tools and processes in the future.

Problem-solving skills are becoming increasingly important. As humans handle the tougher cases, it usually means that something has already gone wrong or an improvised solution is needed. From my experience, this is already a trend and is likely to continue as new technologies are implemented into processes.

8.4   A Learning Experience

Before starting work on this thesis, I did not know what to expect or what the result would look like. This has been my first big research and writing project, so the process has taught me new important skills.

I have learnt how to plan, manage and execute a big project. I have understood the importance of revisiting and rereading my text many times and being ready to rewrite it to improve it. I have also learnt to throw out ideas that first felt good but later seemed out of place. I had to critically analyse and evaluate my sources and my work. Endurance and perseverance have come as a side product while trying to balance work, studies and relationships. My English writing skills have improved through the need to write clearly and concisely.

Keeping a diary and writing the weekly reports has made me more aware of my daily work and its nature. However, it was challenging to develop relevant topics because I had to avoid references to my employer and the clients I was working for.

Before writing this thesis, I only had very vague ideas about AI. The arrival of ChatGPT suddenly made it much more concrete and interesting and made me want to learn more, especially about how it might impact my field of work, customer service. It is a paradox that increasing automation in customer service may, in fact, thanks to generative AI's skills, make it feel more human.

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