The Impact of AI on Personalization and Customer Experience in Marketing

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Degree Programme in Computer Application Abstract

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ABSTRACT

The aim of this thesis is to explore the impact of AI on personalization and customer experience in the context of marketing, noting how AI influenced various aspects of the marketing field over the years and how it will play a major role in shaping its future.

The thesis first defined various concepts and notions necessary before an understanding of the role can be established notably personalization and customer experience and how AI has proved itself a major factor in its effectiveness as they themselves are a major factor in the bigger context of marketing, then the thesis gave a brief look into the history of AI in marketing, its various current AI techniques used, as well as its potential future implementation.

The methodology used mainly relied on existing and trusted academic articles and various research papers, as well as presenting various case studies especially in the present AI techniques section, to understand the role of AI in personalization as well as customer experience then parallels were drawn to the major role of AI in marketing from this understanding.

Based on the analysis, businesses are recommended to invest in skills and resources for effective implementation of AI-powered personalization. Ethical considerations and data privacy should be prioritized, along with change management strategies to overcome resistance to AI adoption.

Keywords Personalization, Artificial Intelligence (AI), Customer Experience.

Pages 22 pages and appendices 1 page

Glossary

AI	Artificial intelligence
AR	Augmented reality
NLP	Natural language processing.
CNN	convolutional neural network
CX	Customer experience

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1 Introduction

Personalization has become a crucial aspect of marketing, the ability to create tailored interactions that cater to individual preferences and needs has proven to be highly effective in capturing consumers' attention and boosting engagement, and as marketing was moving towards a more personalized approach, AI emerged as a powerful tool to enable and enhance personalization strategies.

Notable companies across industries have harnessed the power of AI to gain a competitive edge and enhance their marketing strategies. This thesis explores how AI is utilized by prominent companies, the effective incorporation of AI in marketing strategies, and the future prospects of AI-driven marketing practices,

This thesis will explore the impact of personalization on marketing and delve into the role AI plays in the former, by answering the following research questions:

- What is the impact of personalization on marketing?
- How has AI influenced the implementation of personalization in marketing?
- What are the AI techniques currently used by companies in their marketing strategies?
- How can small businesses implement AI in their marketing strategies?
- What are the main challenges faced by companies when implementing AI in their marketing strategies?

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2 Impact of Personalization on Marketing

First, to get a better idea of the impact of personalization in marketing it must be defined.

The way Gartner defines it as “a process that creates a relevant, individualized interaction between two parties designed to enhance the experience of the recipient.” (Gartner, n.d.)

In simple terms the process of creating an experience that caters to a certain individual (recipient party) based on what the company (supplier or provider party) has learned about them**,** in the context of the article the recipient in question was the employee and personalization seem to improve that experience, but the same could be same in the context of marketing and customer experience.

Second, it’s important to understand that marketing was already shifting towards more individualistic and personalized forms of advertisements and AI was simply an effective tool in that respect.

Indeed, research shows “71% of respondents said they would prefer ads that are tailored to their personalized interests and shopping habits” adding in a survey that:

- 46% reduces irrelevant advertising.
- 25% a way to discover new products.
- 19% making online searching and shopping faster and easier (Kirkpatrick, 2016).

To illustrate this shift in strategy, consider these two Coca-Cola marketing endeavors. The initial campaign (New Coke) embraced a broad, generic approach prevalent in its era, ultimately contributing to its lack of success. In stark contrast, the "Share a Coke" campaign garnered widespread acclaim for its personalized charm and innovative concept (CNN, 2016).

Figure 1 Vintage vs Modern Coca-Cola Ads: A Marketing Comparison (CNN, 2016).

	
1985: Coca-Cola launched “New Coke” to boost sales, but consumers disliked it, and the original Coca-Cola was brought back 79 days later.	**2011:** Coca-Cola launched the successful "Share a Coke" campaign, adding common names to Coca-Cola packaging in response to consumers' desire for personalization. The campaign launched in the US in 2014.

However, personalization of this magnitude requires an inhuman level of data collection that needs to be filtered and analyzed to derive the most effective ways to engage the consumer, and that’s where AI comes in handy.

3 Impact of AI on Personalization

Now that there is an understanding of the importance personalization has had for years on marketing, in this chapter, particular emphasis will be placed on illustrating the role that AI has played in the realm of personalization, a relatively recent yet immensely influential tool, from its documented history in the 1990s to its contemporary applications.

3.1 Past: Evolution of AI in Marketing

As mentioned previously the past decades have witnessed a profound transformation in marketing, driven by the relentless march of artificial intelligence (AI). From its nascent stages in the 1990s to the breakthroughs of the early 2010s, AI has fundamentally reshaped how businesses engage with their audiences. This table serves as a historical roadmap, charting the pivotal moments that have defined the intersection of AI and marketing.

Table 1: Key Milestones and how they contributed to the development of AI in marketing. (Aggarwal, 2018).

Milestone	Description
Emergence of Machine Learning (1990s)	The 1990s saw significant advancements in machine learning algorithms and techniques. These developments provided the basis for AI-powered marketing applications
Big Data and Analytics (2000s)	The explosion of digital data and the development of powerful analytics tools enabled marketers to leverage AI for data-driven decision making and personalized marketing campaigns.
Advances in NLP (2012)	Breakthroughs in NLP techniques, such as sentiment analysis and language

	understanding, this helped tailor marketing strategies and improve customer experiences.
Computer vision and AR.	2012: Google's deep learning project achieved remarkable results in image recognition, showcasing the potential of AI-powered computer vision. 2014: Facebook introduced DeepFace, a facial recognition system that laid the foundation for AI-driven personalized marketing experiences.

3.2 Present: AI Techniques Used by Companies for marketing

As AI technology continues to develop and mature, companies are finding new ways to incorporate it into their marketing strategies. This chapter will delve into some of the current AI techniques used in marketing classifying them as well as defining them.

AI techniques used in marketing can be broadly classified into four categories:

The first category is machine learning which is a technique that allows computers to take in data and improve their performance over time without it being hard-coded to do so. These techniques are widely used in predictive analytics, customer segmentation, and recommendation engines (*IBM*, n.d.-a), and the learning system of a machine learning algorithm can be broken down into three main parts:

First is the Decision Process; like following a recipe, the decision process is a set of calculations that takes in data and guesses the sort if pattern the algorithm is searching for, imagine it as the cooking instructions in a recipe – specific steps to reach a desired outcome (2uadmin, 2020).

Second is the error Function that evaluates the accuracy of these guesses, following the recipe analogy, the error function acts like a taste tester. It checks how good the recipe (decision process) is by comparing its results to known examples. If the recipe didn't get it

right, the error function shows exactly the extent of the deviation from the desired outcome. It's like evaluating how close this dish tastes compared to the original recipe (2uadmin, 2020).

Finally, the Model Optimization Process (2uadmin, 2020) is a process that builds from the previous step by evaluating the mistakes revealed, and makes necessary changes to the decision, to relate it to the recipe analogy, this would be where certain changes are made to the method of preparation of the dish based on how far off the mark the taste was, or even making tweaks to the original recipe as well if necessary.

In essence, it looks at the taste test results (the errors) and tweaks the recipe. If for example, it’s too salty this will be adjusted. Similarly, the algorithm updates how it makes decisions, learning from its mistakes to improve accuracy in future attempts (2uadmin, 2020), deep learning is a subset of machine learning that involves the use of artificial neural networks to analyze data. Deep learning techniques are used in image and speech recognition, natural language understanding, and predictive modeling, using deep learning networks (*IBM*, n.d.-b).

The second category is deep learning networks operate by discerning intricate patterns within the data they encounter. They construct computational models comprising multiple layers, enabling the creation of varying levels of abstraction to interpret the data.

Consider a deep learning model like a convolutional neural network, often trained using vast datasets, sometimes numbering in the millions, such as images featuring cats. In this context, the neural network learns from the individual pixels within these images. It can identify clusters of pixels representing specific cat features, like claws, ears, and eyes. These clusters collectively indicate the presence of a cat in an image (NetApp, n.d.).

The third category is natural language processing meaning the technique or several techniques the computers use to form an understanding of the human language, these techniques are used in chatbots, voice assistants, sentiment analysis, and content generation, it combines computer-based language rules with advanced statistical and machine learning methods. These tools enable computers to understand both written and

spoken human language, capturing the true meaning, including the speaker or writer's intentions and feelings (*IBM*, n.d.-c).

The fourth and final category is computer vision which is a field of AI that allows machines to interpret and understand visual information from the world around them, by being able to recognize and process image inputs, computer vision techniques were therefore used in image and video analysis, object recognition, and augmented reality (*IBM*, n.d.-d).

The two key technologies drive this process:

The first is deep learning; in this case involves algorithms that enable a computer to autonomously grasp the context of visual data. When fed with sufficient data, the computer essentially teaches itself to differentiate one image from another. Unlike traditional programming, where humans write specific instructions, machine learning algorithms enable the machine to learn independently. (NetApp, n.d.)

The second is a specialized network known as a convolutional neural network (CNN) that aids machine learning and deep learning models by dissecting images into pixels and assigning them tags or labels. Through convolutions (mathematical operations on functions) based on these labels, the network makes predictions about the image content. It repeatedly refines its predictions through iterations, checking their accuracy until they align with reality. This iterative process allows the network to recognize images akin to how humans perceive them (*IBM*, n.d.-a).

In conclusion, the transformative power of AI in marketing is evident in its diverse applications across its' four classifications. Each one represents a leap forward in how businesses can leverage technology to enhance customer engagement, personalize experiences, and streamline operations.

3.3 Real-life examples of companies using AI for marketing

This chapter will shift from theory to practice, showcasing real-life examples of companies utilizing AI in marketing, and seeing how these technologies translate into concrete advantages, including enhanced customer experience and competitive gains.

3.3.1 Coca-Cola

In 2011, the Coca-Cola South Pacific team planned for their summer 'Project Connect' campaign in a meeting in Sydney, Australia, a project that provided some inspiration and necessary groundwork for the later “Share a Coke” campaign that was launched early in the following year 2012 after they’ve They partnered with Ogilvy marketing agency. (Windle, 2016)

Coca-Cola had two main objectives:

1. Increase Sales during the summer of 2012.

2. Appeal to Australian young adults and speak to them on a personal level through the Coca-Cola brand.

“Coke had become too familiar, too predictable. We were given a clear challenge by the head of the Pacific region to do something extraordinary.” (Moye, 2014).

As for the Technologies used, while it is unclear whether the initial Share a Coke campaign in Australia in 2011 relied on artificial intelligence (AI) technology to generate personalized labels, subsequent campaigns in other countries did make use of machine learning algorithms to identify popular names and produce customized labels at scale and saw similar levels of success.

The Introduction of these basic machine learning algorithms allowed Coca-Cola to automate the data analysis and label creation process, thereby reducing the time required to launch these campaigns, which is a good return on investment for any company looking to break away from the familiar and predictable.

Not only was it a huge success for less than a year after it was released, Coca-Cola has seen more than a 2.5 percent increase in sales, it has also sold more than 250 million customized Coke bottles and cans for a nation that is just under 23 million people at the time. (studysmarter, n.d.)

3.3.2 Netflix

Netflix has had a long history with AI algorithms from the early days of Cinematch to individualistic and personalized thumbnails for movies, in this case study, emphasis will be put on the latter and how can thumbnails be personalized based on individual preferences and taste.

The decision by Netflix to abandon the star rating system, as highlighted in the analytic steps about "Netflix's use of AI algorithms" (Mathur, n.d.), aligns with the recognition that not every user wants to watch what others prefer and signals their transition towards a more personalized approach. This shift towards personalization is a defining characteristic of Netflix and has contributed to its distinct reputation in the streaming industry.

For some context in 2017, Netflix got rid of the star rating system since they noticed that movie ratings do not equal movie enjoyment since taste and enjoyment of a movie is more subjective than universal, and what someone might consider a five star movie is a 1 star movie in the eyes of another and in its place, in its stead they use an algorithm that takes into account the movies you've enjoyed and gives you a percentage that indicates the extent to which a title is a match for, and in early 2018, this idea bled into the making of the movie art or thumbnail (Biddle, 2022)**.**

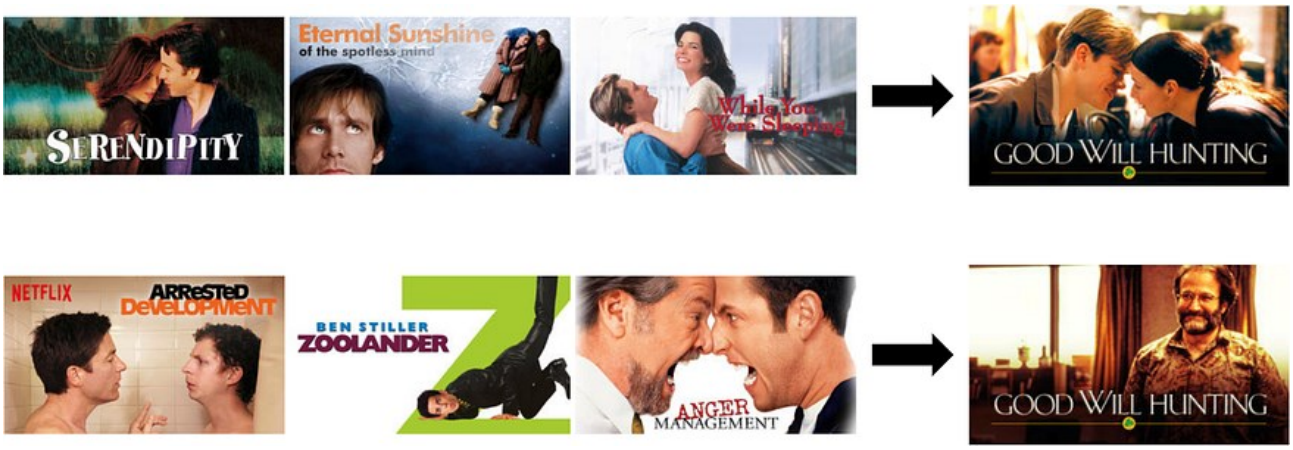
In The Netflix tech blog (Chandrashekar et al., 2017), they used the example of the movie Good Will Hunting, a 1997 drama film about a brilliant but troubled young man named Will

Hunting (Matt Damon) who seeks help from the therapist Sean Maguire (Robin Williams) and falls in love with the Harvard student Skylar (Minnie Driver).

So, in their example, if the user is a fan of romantic movies, the thumbnail will display Matt Damon and Minnie Driver and frame the movie as romantic to appeal to this user.

In the same vein if the user likes comedies the thumbnail will use Robin Williams, a well-established name in the comedy genre, as front and center painting the movies as comedy.

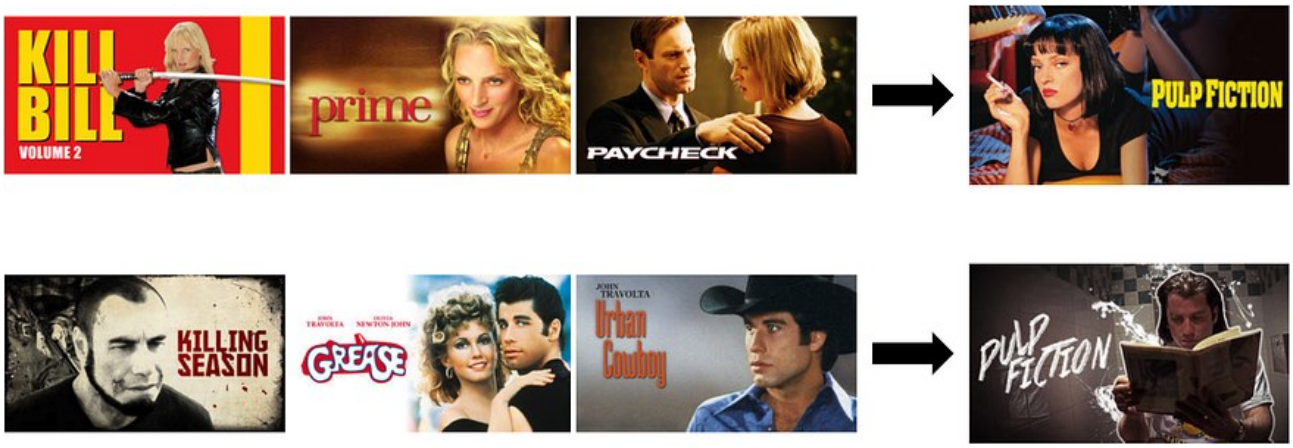
Figure 2 Netflix changing the thumbnail based on genre preference. (Chandrashekar et al., 2017).



This same concept applies to actor preference, let's take the movie Pulp Fiction, a Quentin Tarantino film where the characters, Vincent Vega (John Travolta) and Mia Wallace (Uma Thurman), navigate through intertwining tales of crime and redemption.

A fan of Uma Thurman would be more likely to watch the movie if she was in the thumbnail and similarly, fans of John Travolta would be more likely to watch if he was in the thumbnail.

Figure 3 Netflix changing the thumbnail based on Actor preference. (Chandrashekar et al., 2017)



Netflix uses machine learning to personalize its recommendations for users. The company's algorithm analyzes users' viewing history and singles out specific preferences for genre, actors, etc. And though this change was relatively recent, this has resulted in a meaningful improvement in how Netflix's members discover new content. (Chandrashekar et al., 2017)

3.3.3 Sephora

Augmented reality and Computer vision were beginning to make waves in the beauty community. However, in the early days of 2013, the idea of using facial recognition technologies was still a foreign concept for a lot of retailers, and few saw the potential; one of them was Sephora, and in 2016 their vision came to life in Sephora Virtual Artist app (Abukhadra, 2021), in partnership with AR company ModiFace.

The main objective of this app according to the site itself is:

- "You can get a virtual makeover, star in your own tutorials, and share your obsessions with friends more easily." (SEPHORA, n.d.)

but from a marketing standpoint, it was more so:

- Increase Sales.

- Appeal to Their target audience and speak to them on a personal level.

- Stand out from the competition and break away from the familiar and predictable.

So as far as the Technologies used are concerned Sephora launched a Virtual Artist app that uses a combination of AR and machine learning, it began by scanning the user's face and using an AI engine to select the most compatible shades and recommends products, it also allows you to try the products on using AR to decide for yourself which product you would like.

This application was well received with customers with over more than 5 million downloads as well as a 4.7. star rating (Shastri, n.d.) which proved that even though the two industries (AI industry and beauty industry), AI proved to be a useful tool in their marketing arsenal.

3.4 How to implement AI in the marketing strategy of a small business

The examples mentioned above are already household names in their respective industries, and although results have been observed through the implementation of AI techniques, it must be acknowledged that their brands could have survived without AI. However, consideration must be given to other lesser-known companies, perhaps owned by small business proprietors, and how AI could be employed by them to enhance their marketing strategy.

In the AI Marketing for Small Businesses guide, the Marketsplash highlights the necessity of planning an AI marketing strategy, by following these steps (Hops, 2023).

1. Identify your goals.
2. Identify your weakness.
3. Create customer profiles.
4. Determine how and where you're going to use AI technologies.
5. Choose the right software and apps to implement your AI marketing strategy.

To illustrate these steps, consider the example of a hypothetical company, this company would be a Unicycle Rental Agency that would operate online and offer customers a list of different types of unicycles with distinct brands and varying price pools to rent, and now it wants to implement AI in its marketing strategy,

3.4.1 Identify the goals

The main and pivotal goal is to broaden audience reach, and not be limited to circus performers and festival professionals. Through AI-driven solutions, the company intends to engage recreational users, thus diversifying its clientele.

3.4.2 Identify the weaknesses

Identifying weaknesses in this context involves recognizing issues within the marketing strategy that AI tools can address (Hops, 2023). For instance, this company aims to utilize various tools and showcase their implementation based on case studies. The identified weaknesses include ineffective targeting of potential customers and the challenge of retaining them, as well as the need to enhance customer service response time and understanding of customer preferences. AI solutions such as machine learning and Deep learning address the first weakness. For the second issue, Chatbots utilizing Natural language processing or machine learning (for budget constraints) are proposed. Additionally, customer skepticism regarding finding the right unicycle size can be resolved through an App utilizing Computer vision and AR, analyzing foot size to find the ideal match.

3.4.3 Create Customer Profiles

The way the articles explain this step is by collecting customer information to comprehend their needs, preferences, and behaviors. (Hops, 2023) This understanding enables businesses to customize their offerings, ensuring an enhanced experience for their customers.

Now this company's most consistent clientele would be circus performers or professionals in festivals. Then there are the outliers, people who may want to use it simply for recreational purposes those are the second less consistent customers, but they are still an important customer base to consider.

3.4.4 Choosing the right software

Having covered the details of how and where to implement AI technologies. The remaining and final step will focus on selecting appropriate software solutions.

The first weakness is Customer Retention. To remedy this, the company intends to employ Predictive Analytics. This involves developing AI tools capable of predicting customer behavior, identifying emerging trends, and anticipating customer needs. By harnessing this technology, the company gains the ability to proactively identify and address potential issues. This proactive approach not only enhances customer satisfaction but also contributes significantly to customer retention efforts, ensuring a seamless and satisfying experience for the clientele.

The second is Customer Targeting. To remedy this, the company plans to implement Recommendation Engines. These engines are essentially AI algorithms designed to analyze customer preferences and rental history. By doing so, they provide personalized unicycle recommendations tailored to individual customers. This approach aims to significantly improve customer engagement and promote repeat rentals by offering a more tailored and satisfying experience to each user.

The third is Customer Service, the company plans to enhance customer service on its official website by incorporating chatbots. These chatbots will offer immediate responses to customer inquiries and help regarding unicycle rentals. Alternatively, the company might consider employing a database of predefined responses with specific prompts, similar to the approach adopted by official websites like Migri. For instance, Migri utilizes a chatbot named KAMU to address various frequently asked questions (Migri, n.d.). This system ensures efficient and accurate customer support, improving the overall user experience on the platform.

3.4.5 Concrete Benefits of One-Wheel Odyssey

The first benefit we could expect from this approach is improved customer satisfaction, indeed by leveraging predictive analytics enables businesses to proactively anticipate and meet customer demands, ensuring precise availability of unicycles, especially during high-demand periods such as festivals (Cindex, n.d.). Additionally, the implementation of personalized recommendations and responsive chatbots enhances the overall customer experience in various ways, including speed and efficiency, as well as 24/7 availability that

surpasses traditional customer support. The inclusion of multilingual support further promotes global engagement, eliminating language barriers for a seamless customer experience. Moreover, the cost-effectiveness of handling substantial inquiry volumes leads to improved operational efficiency, significant cost savings, and increased revenue opportunities (Rafalski, 2023).

The second benefit is enhanced bookings since AI-driven personalized recommendations significantly elevate cross-selling and upselling opportunities. Tailored suggestions encourage customers to explore additional rental options or accessories, leading to heightened booking rates and increased revenue (Raitaluoto, 2023).

Finally, we also have enhanced operational efficiency and resource allocation for AI-driven predictive analytics at One-Wheel Odyssey optimize inventory management, mitigating overstocking and understocking issues, leading to lower operational costs and increased profitability. Additionally, leveraging predictive analytics across various touchpoints helps exceed customer expectations by streamlining shipping processes for accurate and expedited arrivals (Cindex, n.d.).

In conclusion, though this company is entirely fictional, implementing AI strategies tailored to the specific needs and goals of a small business like One-Wheel Odyssey can yield substantial benefits. These include improved customer satisfaction, increased bookings, and enhanced operational efficiency. By staying ahead of customer demands with predictive analytics, delivering personalized experiences through recommendation engines, and providing instant assistance via chatbots, small businesses can compete effectively in the market. It's crucial to recognize that AI levels the playing field, offering a competitive edge, provided it is integrated wisely into a well-planned marketing strategy aligned with the unique characteristics of the business.

3.5 The main challenges of implementing AI in their marketing strategy

Despite the numerous advantages of incorporating AI into marketing strategies, there are significant challenges that companies must surmount.

Firstly, they need to address the issue of data quality and integration, ensuring that their AI systems have access to high-quality data that can be seamlessly integrated. This often requires investments in data management tools and technologies to efficiently collect, store, and manage data (Bedoya, 2023).

Secondly, the critical concern of privacy and security arises as companies must safeguard their customers' data in compliance with data privacy regulations. This necessitates the use of secure technologies and protocols. (Raza, 2023)

Lastly, the technical expertise required for successful AI implementation in marketing can be a stumbling block for many organizations, leading to substantial financial investments in hiring the right experts and acquiring costly data management tools (Bedoya, 2023).

In essence, implementing AI in a company's marketing strategy can impose a substantial financial burden, particularly when considering both logistics and expert talent acquisition.

3.6 Future: Possible Uses for AI in the Future of Marketing

AI offers several valuable capabilities for marketers.

AI presents a myriad of valuable tools for marketers, with predictive analytics standing out as a powerful instrument. Through data analysis, marketers can anticipate customer behaviors, preferences, and needs, enabling the creation of personalized content and offers that genuinely resonate (*Mailchimp*, n.d.).

Expanding beyond mere personalization, AI delves deep into individual customer data, understanding unique preferences, behavioral patterns, and feedback. According to Afshar, the application of AI in hyper-personalization extends beyond basic segmentation. It involves a profound analysis of individual customer data, encompassing preferences, behavioral trends, and feedback. This advanced approach enables the creation of a customer experience tailored specifically to each individual. (Afshar, 2023)

Furthermore, AI facilitates real-time marketing, allowing marketers to send messages in the moment, pinpointing customers' current locations, behaviors, and preferences. This dynamic capability enables the creation of messages that are not only relevant but also timely, maximizing customer engagement and satisfaction, in a sort of natural evolution from what would be called Conversational AI marketing which is when marketers utilize AI and chatbots in order to engage with their customers more effectively. (*iovox*, n.d.)

In conclusion, AI's multifaceted capabilities empower marketers to enhance customer engagement and satisfaction. From predictive analytics to hyper-personalized experiences and real-time marketing, AI serves as a potent tool for deeper audience connections, ultimately driving success in today's competitive landscape.

4 Impact of AI on customer experience

Like the second chapter, to better dive into this topic let’s define what customer experience. The way Dave Dyson, who is a Community Engagement Manager and Customer Service Expert at Zendesk, puts it. “Customer experience involves every way a customer interacts with a company, at all stages of the customer journey.” (zendesk, 2023)

Now that Customer experience has been defined the next thing to tackle is the impact of Artificial Intelligence (AI) on customer experiences, focusing on the study conducted by the Journal of Data Acquisition and Processing or it will be referred to in this chapter as a Chen et al for simplicity. (Christian et al., 2023); this research aimed to assess AI's influence on customer experience and loyalty, specifically examining the mediating role of personalization.

Chen et al.'s study is at the forefront of this examination, revealing AI's substantial ability to enhance customer personalization, significantly improving customer satisfaction and promoting enduring brand loyalty. Building on the prior work of Prentice, Weaven, and Wong (Prentice et al., 2020), the chapter considers the transformative role of AI in customizing products and services to individual customer preferences.

Turning to the transformative influence of AI on customer experience, this chapter dives deep into the integration of AI-driven chatbots and virtual assistants. These technologies, informed by the principles outlined in Chen et al.'s research (Christian et al. 2023, p1944), enable seamless real-time interactions. By providing instant, accurate responses to customer queries, AI-driven chatbots bolster customer satisfaction and trust in the brand.

In summary, this chapter provides a detailed analysis of Chen et al.'s study (Christian et al., 2023) and its implications for AI's role in crafting highly personalized, predictive, and emotionally intelligent customer experiences. Through AI-driven personalization, predictive

analytics, and real-time interactions, businesses can cultivate enduring customer relationships and unwavering brand loyalty.

5 Results

The impact of personalization on marketing cannot be understated, as evidenced by a detailed analysis of case studies and industry practices. Personalization significantly enhances customer engagement, satisfaction, and overall marketing effectiveness. By tailoring content to individual preferences, businesses establish meaningful connections, fostering increased brand loyalty and positive customer experiences.

In the context of personalization AI has proven itself to be an invaluable tool enabling businesses to process vast data sets, ensuring more sophisticated and nuanced personalization. Automation and optimization through AI make marketing messages targeted, adaptive, and ultimately more effective in creating dynamic customer interactions.

The research contextualized AI across various timelines, exploring its historical uses and potential future trajectories. However, the primary focus was on the current landscape of AI techniques employed by companies in their marketing strategies. These techniques which are namely machine learning, deep learning, natural language processing, and computer vision, have diverse applications. Notably, companies leverage AI for data collection and predictive analytics, as evidenced by Coca-Cola's case. Additionally, recommendation engines, exemplified by Netflix's thumbnail selection, and chatbots are common applications. Moreover, companies like Sephora utilize AI-enforced facial recognition technologies. This wide array of applications collectively optimizes marketing campaigns which in turn enhances customer experiences and streamlines operations.

The research also gave detailed steps on implementing these techniques in small businesses that may not have as big of marketing funding as the current industry giants implementing AI, this involved goal identification, weakness analysis, customer profiling, and the selection of appropriate AI technologies. The potential outcomes for small businesses adopting AI

include improved customer satisfaction, increased bookings, and enhanced operational efficiency.

Before the research examined AI's potential future trajectories, it also looked at the various challenges faced by companies in implementing it in marketing which revealed key obstacles. Issues relating to data quality and integration, privacy and security concerns, and the need for technical expertise were identified, as well as the heavy financial burden associated with successful AI implementation, highlighting the importance of overcoming these challenges for companies seeking to harness the benefits of AI in marketing.

Finally, the research pivots to AI's future in marketing, foreseeing advanced predictive analytics and hyper-personalized experiences. This trajectory extends to real-time strategies, illustrated by conversational AI marketing, promising enhanced satisfaction, and strategic success through cutting-edge interactions.

6 Summary

This thesis explores the profound influence of artificial intelligence (AI) on personalization in marketing. AI has revolutionized the way companies connect with customers by enabling highly tailored experiences. By analyzing successful case studies such as Coca-Cola's "Share a Coke" campaign, Netflix's personalized content recommendations, and Sephora's Virtual Artist app, it becomes evident that AI-driven personalization creates meaningful connections, fosters loyalty, and drives business growth.

Moreover, it also delves into the AI techniques employed in marketing, such as machine learning, natural language processing (NLP), deep learning, and computer vision. These techniques allow marketers to analyze vast amounts of data, extract valuable insights, and automate personalized interactions, resulting in enhanced customer experiences and improved marketing outcomes. By embracing AI-powered personalization strategies, businesses, including small enterprises, can unlock new opportunities, better connect with their audience, and gain a competitive advantage in the customer-centric landscape.

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Annex 1: Material management plan

In adherence to HAMK's thesis guidelines for obtaining, processing, storing, and disposing of data., the author has, throughout this research, collected data from one primary source, it being a collection of existing research materials, publications, and reputable online sources.

The author first started by contextualizing AI within the realm of personalization, the focus naturally shifted towards the subsequent investigation into its impact on customer experience. This sequential progression allowed for a comprehensive understanding of the intricate relationship between AI, personalization, and ultimately, customer experience.

The methodology also focused on examining AI across various timelines including spanning its past, present, and potential future developments.